# Package 'MetaGxOvarian'

November 28, 2024

```
Type Package
Title Transcriptomic Ovarian Cancer Datasets
Version 1.26.0
Date `r Sys.date()`
Description A collection of Ovarian Cancer Transcriptomic Datasets that are
     part of the MetaGxData package compendium.
License Artistic-2.0
Depends Biobase, AnnotationHub, ExperimentHub, SummarizedExperiment, R
     (>= 3.6.0)
Imports stats, lattice, impute
Suggests testthat, xtable, rmarkdown, knitr, BiocStyle, markdown
Encoding UTF-8
VignetteBuilder knitr
NeedsCompilation no
biocViews ExpressionData, ExperimentHub, CancerData,
      Homo_sapiens_Data, ArrayExpress, GEO, NCI, MicroarrayData,
      ExperimentData
LazyData yes
RoxygenNote 7.1.1
git_url https://git.bioconductor.org/packages/MetaGxOvarian
git_branch RELEASE_3_20
git_last_commit 01219ab
git_last_commit_date 2024-10-29
Repository Bioconductor 3.20
Date/Publication 2024-11-28
Author Michael Zon [aut],
      Vandana Sandhu [aut],
      Christopher Eeles [ctb],
      Benjamin Haibe-Kains [aut, cre]
Maintainer Benjamin Haibe-Kains <br/> <br/>benjamin.haibe.kains@utoronto.ca>
```

2 attention

# **Contents**

attention

days\_to\_death

# Description

This is a note to inform package users that the days\_to\_death variable is also valid for living pateints. In this case, the value in days\_to\_death is the number of days since the last follow-up appointment.

# **Format**

A field included in various data files in the this package.

duplicates 3

duplicates	a list containing the names of patients that are believed to be dulicates across datasets
	across awasers

# Description

The object is a list where each element is a patient ID that is believed to be a duplicate of a patient in another dataset. Patients are designated as duplicated if they have Spearman correlations greater than or equal to 0.98 with other patient expression profiles

#### **Format**

A list with 130 elements, each of which is a patient ID.

E.MTAB.386 Angiogenic mRNA and microRNA gene expression signature predicts a novel subtype of serous ovarian cancer.

#### Description

Ovarian cancer is the fifth leading cause of cancer death for women in the U.S. and the seventh most fatal worldwide. Although ovarian cancer is notable for its initial sensitivity to platinum-based therapies, the vast majority of patients eventually develop recurrent cancer and succumb to increasingly platinum-resistant disease. Modern, targeted cancer drugs intervene in cell signaling, and identifying key disease mechanisms and pathways would greatly advance our treatment abilities. In order to shed light on the molecular diversity of ovarian cancer, we performed comprehensive transcriptional profiling on 129 advanced stage, high grade serous ovarian cancers. We implemented a, re-sampling based version of the ISIS class discovery algorithm (rISIS: robust ISIS) and applied it to the entire set of ovarian cancer transcriptional profiles. rISIS identified a previously undescribed patient stratification, further supported by micro-RNA expression profiles, and gene set enrichment analysis found strong biological support for the stratification by extracellular matrix, cell adhesion, and angiogenesis genes. The corresponding "angiogenesis signature" was validated in ten published independent ovarian cancer gene expression datasets and is significantly associated with overall survival. The subtypes we have defined are of potential translational interest as they may be relevant for identifying patients who may benefit from the addition of anti-angiogenic therapies that are now being tested in clinical trials.

#### **Format**

```
experimentData(eset):
Experiment data
Experimenter name: Bentink S, Haibe-Kains B, Risch T, Fan J-B, Hirsch MS, Holt
Laboratory: Bentink, Matulonis 2012
Contact information:
Title: Angiogenic mRNA and microRNA gene expression signature predicts a novel
URL:
PMIDs: 22348002
```

Abstract: A 212 word abstract is available. Use 'abstract' method.

```
Information is available on: preprocessing
    notes:
    platform_title:
       Illumina humanRef-8 v2.0 expression beadchip
    platform_shorttitle:
       Illumina humanRef-8 v2.0
    platform_summary:
       illuminaHumanv2
    platform_manufacturer:
       Illumina
    platform_distribution:
       commercial
    platform accession:
       GPL6104
    version:
       2015-09-22 19:06:44
  featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: ILMN_1343291 ILMN_1651228 ... ILMN_1815951 (12449
     total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
  assayData: 12449 features, 129 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
       n events median 0.95LCL 0.95UCL
         73.00
               3.51 2.68 4.13
   129.00
  Available sample meta-data:
  _____
  unique_patient_ID:
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          1 1 1 1 1 1 1
  DFCI.106 DFCI.107 DFCI.108 DFCI.109 DFCI.11 DFCI.110 DFCI.111 DFCI.112
       1
             1
                     1 1
                                    1
                                           1
                                               1
  DFCI.113 DFCI.114 DFCI.115 DFCI.116 DFCI.117 DFCI.118 DFCI.119 DFCI.12
       DFCI.120 DFCI.121 DFCI.122 DFCI.123 DFCI.124 DFCI.125 DFCI.126 DFCI.127
       DFCI.128 DFCI.129 DFCI.13 DFCI.130 DFCI.131 DFCI.132 DFCI.14 DFCI.15
                                              1
       1 1
                 1 1 1 1
   DFCI.16 DFCI.17 DFCI.18 DFCI.19 DFCI.2 DFCI.20 DFCI.21 DFCI.22
       1 1
                     1 1
                                    1 1 1 1
   DFCI.23 DFCI.24 DFCI.25 DFCI.26 DFCI.27 DFCI.28 DFCI.29 DFCI.3
```

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```
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                                           1
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             1 1
                            1 1 1
DFCI.46 DFCI.47 DFCI.48 DFCI.49 DFCI.50 DFCI.51 DFCI.52 DFCI.53
                                      1
          1
    1
             1
                      1
                        1
                               1
                                               1
DFCI.54 DFCI.55 DFCI.56 DFCI.57 DFCI.58 DFCI.59
                                     DFCI.6 DFCI.60
    1
          1
             1
                      1
                            1
                               1
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DFCI.61 DFCI.62 DFCI.63 DFCI.64 DFCI.65 DFCI.66 DFCI.67 DFCI.68
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DFCI.69 DFCI.7 DFCI.70 (Other)
    1 1 1 30
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tumor
129
histological_type:
129
primarysite:
OV
129
summarygrade:
high
129
summarystage:
early late
1 128
tumorstage:
 2 3 4
 1 109 19
substage:
 a b c NA's
  5 12 93 19
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 21.00 50.00 66.00 60.71 72.00 95.00
days_to_death:
 Min. 1st Qu. Median Mean 3rd Qu.
  3.9 516.9 917.1 1007.0 1401.0 2724.0
vital_status:
deceased living
```

73 56

debulking:

optimal suboptimal NA's 98 28 3

uncurated\_author\_metadata:

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Source.Name: DFCI-111//

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Source.Name: DFCI-12

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Source.Name: DFCI-

Source.Name: DFCI-

Source.Name: DFCI-

Source.Name: DF

Source.Name: DFCI-4

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Source.Name: DF

Source.Name: DFCI

Source.Name: DF

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Source.Name:

Source.Name: DFCI-

Source.Name: DFCI

#### Value

An expression set

GSE12418

Expression analysis of stage III serous ovarian adenocarcinoma distinguishes a sub-group of survivors.

#### **Description**

It is difficult to predict the clinical outcome for patients with ovarian cancer. However, the use of biomarkers as additional prognostic factors may improve the outcome for these patients. In order to find novel candidate biomarkers, differences in gene expressions were analysed in 54 stage III serous ovarian adenocarcinomas with oligonucleotide microarrays containing 27,000 unique probes. The microarray data was verified with quantitative real-time polymerase chain reaction for the genes TACC1, MUC5B and PRAME. Using hierarchical cluster analysis we detected a subgroup that included 60% of the survivors. The gene expressions in tumours from patients in this sub-group of survivors were compared with the remaining tumours, and 204 genes were found to be differently expressed. We conclude that the sub-group of survivors might represent patients with favourable tumour biology and sensitivity to treatment. A selection of the 204 genes might be used as a predictive model to distinguish patients within and outside of this group. Alternative chemotherapy strategies could then be offered as first-line treatment, which may lead to improvements in the clinical outcome for these patients.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Partheen K, Levan K, Osterberg L, Horvath G.Expression anal
 Laboratory: Partheen, Horvath 2006
  Contact information:
  Title: Expression analysis of stage III serous ovarian adenocarcinoma distingu
 PMIDs: 16996261
 Abstract: A 177 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      SWEGENE H_v2.1.1_27k
  platform_shorttitle:
      SWEGENE H_v2.1.1_27k
  platform_summary:
      PartheenMetaData
  platform_manufacturer:
      other
  platform_distribution:
      non-commercial
  platform_accession:
      GPL5886
   version:
```

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1 1

sample\_type:
tumor
 54

histological\_type:
ser
 54

primarysite:

1

1

summarystage:

late 54

ov 54

tumorstage:

3 54

substage:

b c

```
19 35
age_at_initial_pathologic_diagnosis:
  Min. 1st Qu. Median
                          Mean 3rd Qu.
                                           Max.
  35.00
        51.25
                 59.50
                        59.56 69.75
                                          84.00
pltx:
54
os_binary:
long short
   20
        34
debulking:
   optimal suboptimal
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```

#### Value

An expression set

GSE12470

Gene expression profiling of advanced-stage serous ovarian cancers distinguishes novel subclasses and implicates ZEB2 in tumor progression and prognosis.

# Description

To elucidate the mechanisms of rapid progression of serous ovarian cancer, gene expression profiles from 43 ovarian cancer tissues comprising eight early stage and 35 advanced stage tissues were carried out using oligonucleotide microarrays of 18,716 genes. By non-negative matrix factorization analysis using 178 genes, which were extracted as stage-specific genes, 35 advanced stage cases were classified into two subclasses with superior (n = 17) and poor (n = 18) outcome evaluated by progression-free survival (log rank test, P = 0.03). Of the 178 stage-specific genes, 112 genes were identified as showing different expression between the two subclasses. Of the 48 genes selected for biological function by gene ontology analysis or Ingenuity Pathway Analysis, five genes (ZEB2, CDH1, LTBP2, COL16A1, and ACTA2) were extracted as candidates for prognostic factors associated with progression-free survival. The relationship between high ZEB2 or low CDH1 expression and shorter progression-free survival was validated by real-time RT-PCR experiments of 37 independent advanced stage cancer samples. ZEB2 expression was negatively correlated with CDH1 expression in advanced stage samples, whereas ZEB2 knockdown in ovarian adenocarcinoma SKOV3 cells resulted in an increase in CDH1 expression. Multivariate analysis showed that

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high ZEB2 expression was independently associated with poor prognosis. Furthermore, the prognostic effect of E-cadherin encoded by CDH1 was verified using immunohistochemical analysis of an independent advanced stage cancer samples set (n = 74). These findings suggest that the expression of epithelial-mesenchymal transition-related genes such as ZEB2 and CDH1 may play important roles in the invasion process of advanced stage serous ovarian cancer.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Yoshihara K, Tajima A, Komata D, Yamamoto T, Kodama S, Fuji
 Laboratory: Yoshihara, Tanaka 2009
 Contact information:
 Title: Gene expression profiling of advanced-stage serous ovarian cancers dist
  URL:
 PMIDs: 19486012
  Abstract: A 253 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
 notes:
  platform_title:
      Agilent-012097 Human 1A Microarray (V2) G4110B (Feature Number version)
  platform_shorttitle:
      Agilent G4110B
  platform_summary:
      hgug4110b
  platform_manufacturer:
      Agilent
  platform_distribution:
      commercial
  platform_accession:
      GPL887
   version:
      2015-09-22 19:08:17
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 3 5 ... 22571 (15999 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

### **Details**

Advanced	serous	ovarian	cancer	15 1	Advanced	serous	ovarian	cancer	17 1
Advanced	serous	ovarian	cancer	18	Advanced	l serous	s ovariam	n cance	r 2 1
Advanced	serous	ovarian	cancer	20	Advanced	serous	ovarian	cancer	23
Advanced	serous	ovarian	cancer	24	Advanced	serous	ovarian	cancer	25 1
Advanced	serous	ovarian	cancer	27 1	Advanced	serous	ovarian	cancer	36 1
Advanced	serous	ovarian	cancer	37 1	Advanced	serous	ovarian	cancer	38 1
Advanced	serous	ovarian	cancer	39 1	Advanced	serous	ovarian	cancer	42 1
Advanced	serous	ovarian	cancer	43 1	Advanced	serous	ovarian	cancer	45 1
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Advanced	serous	ovarian	cancer	54 1	Advanced	serous	ovarian	cancer	55 1
Advanced	serous	ovarian	cancer	56 1	Advanced	serous	ovarian	cancer	57 1
Advanced	serous	ovarian	cancer	58 1	Advanced	l serous	s ovariam	n cancer	r 6 1
Advanced	serous	ovarian	cancer	60 1	Advanced	serous	ovarian	cancer	61 1
				1	Advanced				1
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Early	serous	ovarian	cancer	32 1	Early	serous	ovarian	cancer	33 1
Early	serous	ovarian	cancer	35 1	Early	serous	s ovariam	n cancei	r 5 1
Early	serous	ovarian	cancer	65 1	Early	serous	s ovariam	n cancei	r 8 1
Early	y serous	s ovariam	n cance:	r 9 1		Pei	ritoneum	normal	12 1
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```
sample_type:
healthy
        tumor
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            43
histological_type:
 ser NA's
  43
     10
primarysite:
ΟV
53
summarystage:
early late NA's
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```

```
title: Early serous ovarian cancer 9///geo_accession: GSM312179///statitle: Peritoneum normal 12///geo_accession: ditle: Peritoneum normal 15///geo_accession: title: Peritoneum normal 16///geo_accession: ditle: Peritoneum normal 16///geo_accession: ditle: Peritoneum normal 18///geo_accession: ditle: Peritoneum normal 21///geo_accession: ditle: Peritoneum normal 23///geo_accession: ditle: Peritoneum normal 30///geo_accession: ditle: Peritoneum normal 3///geo_accession: ditle: Peritoneum normal 3///geo_
```

title: Early serous ovarian cancer 8///geo\_accession: GSM312178///sta

# Value

An expression set

GSE13876

Survival-related profile, pathways, and transcription factors in ovarian cancer.

### **Description**

Ovarian cancer has a poor prognosis due to advanced stage at presentation and either intrinsic or acquired resistance to classic cytotoxic drugs such as platinum and taxoids. Recent large clinical trials with different combinations and sequences of classic cytotoxic drugs indicate that further significant improvement in prognosis by this type of drugs is not to be expected. Currently a large number of drugs, targeting dysregulated molecular pathways in cancer cells have been developed and are introduced in the clinic. A major challenge is to identify those patients who will benefit from drugs targeting these specific dysregulated pathways. The aims of our study were (1) to develop a

gene expression profile associated with overall survival in advanced stage serous ovarian cancer, (2) to assess the association of pathways and transcription factors with overall survival, and (3) to validate our identified profile and pathways/transcription factors in an independent set of ovarian cancers. According to a randomized design, profiling of 157 advanced stage serous ovarian cancers was performed in duplicate using approximately 35,000 70-mer oligonucleotide microarrays. A continuous predictor of overall survival was built taking into account well-known issues in microarray analysis, such as multiple testing and overfitting. A functional class scoring analysis was utilized to assess pathways/transcription factors for their association with overall survival. The prognostic value of genes that constitute our overall survival profile was validated on a fully independent, publicly available dataset of 118 well-defined primary serous ovarian cancers. Furthermore, functional class scoring analysis was also performed on this independent dataset to assess the similarities with results from our own dataset. An 86-gene overall survival profile discriminated between patients with unfavorable and favorable prognosis (median survival, 19 versus 41 mo, respectively; permutation p-value of log-rank statistic = 0.015) and maintained its independent prognostic value in multivariate analysis. Genes that composed the overall survival profile were also able to discriminate between the two risk groups in the independent dataset. In our dataset 17/167 pathways and 13/111 transcription factors were associated with overall survival, of which 16 and 12, respectively, were confirmed in the independent dataset. Our study provides new clues to genes, pathways, and transcription factors that contribute to the clinical outcome of serous ovarian cancer and might be exploited in designing new treatment strategies.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Crijns AP, Fehrmann RS, de Jong S, Gerbens F, Meersma GJ, K
  Laboratory: Crijns, van der Zee 2009
  Contact information:
  Title: Survival-related profile, pathways, and transcription factors in ovaria
  URL:
  PMIDs: 19192944
  Abstract: A 371 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      Operon human v3 ~35K 70-mer two-color oligonucleotide microarrays
  platform_shorttitle:
      Operon v3 two-color
  platform_summary:
      OperonHumanV3
  platform_manufacturer:
      other
  platform_distribution:
      non-commercial
  platform accession:
      GPL7759
   version:
      2015-09-22 19:11:43
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1 2 ... 37629 (20939 total)
```

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```
varLabels: probeset gene EntrezGene.ID best_probe
varMetadata: labelDescription
```

#### **Details**

```
assayData: 20939 features, 157 samples
Platform type:
Overall survival time-to-event summary (in years):
Call: survfit(formula = Surv(time, cens) ~ -1)
     n events median 0.95LCL 0.95UCL
 157.00 113.00 2.05 1.56 2.71
Available sample meta-data:
alt_sample_name:
151 NA's
  1 156
unique patient ID:
  Min. 1st Qu. Median Mean 3rd Qu.
                                     Max.
    1 40 79 79 118 157
sample_type:
tumor
 157
histological_type:
ser
157
primarysite:
OV
157
summarygrade:
high low NA's
 85 59 13
summarystage:
late
157
grade:
    2 3 4 NA's
45 82 3 13
  1
 14
age_at_initial_pathologic_diagnosis:
  Min. 1st Qu. Median Mean 3rd Qu.
                                      Max.
 21.00 50.00 60.00 57.95 67.00 84.00
```

 ${\tt uncurated\_author\_metadata:}$ 

title: Ovarian tumor sample 105 / Ovarian tumor sample 106///geo\_accession

title: Ovarian tumor sample 10 / Ovarian tumor sample 11///geo\_accessic title: Ovarian tumor sample 111 / Ovarian tumor sample 112///geo\_accessic title: Ovarian tumor sample 115 / Ovarian tumor sample 117///geo\_accessic

title: Ovarian tumor sample 126 / Ovarian tumor sample 127///geo\_accession

title: Ovarian tumor sample 13 / Ovarian tumor sample 14///geo\_accession



title: Ovarian tumor sample 237 / Ovarian tumor sample 238///geo\_accession

title: Ovarian tumor sample 230 / Ovarian tumor sample 231///geo\_accessi

title: Ovarian tumor sample 250 / Ovarian tumor sample 251///geo\_accession: GSM4

title: Ovarian tumor sample 258 / Ovarian tumor sample 259///geo\_accession

GSE13876 25

title: Ovarian tumor sample 273 / Ovarian tumor sample 274///geo\_accession
title: Ovarian tumor sample 284 / Ovarian tumor sample 285///geo\_accession

title: Ovarian tumor sample 313 / Ovarian tumor sample 314///geo\_accession

#### Value

An expression set

GSE14764

A prognostic gene expression index in ovarian cancer - validation across different independent data sets.

# **Description**

Ovarian carcinoma has the highest mortality rate among gynaecological malignancies. In this project, we investigated the hypothesis that molecular markers are able to predict outcome of ovarian cancer independently of classical clinical predictors, and that these molecular markers can be validated using independent data sets. We applied a semi-supervised method for prediction of patient survival. Microarrays from a cohort of 80 ovarian carcinomas (TOC cohort) were used for the development of a predictive model, which was then evaluated in an entirely independent cohort of 118 carcinomas (Duke cohort). A 300-gene ovarian prognostic index (OPI) was generated and validated in a leave-one-out approach in the TOC cohort (Kaplan-Meier analysis, p = 0.0087). In a second validation step, the prognostic power of the OPI was confirmed in an independent data set (Duke cohort, p = 0.0063). In multivariate analysis, the OPI was independent of the post-operative residual tumour, the main clinico-pathological prognostic parameter with an adjusted hazard ratio of 6.4 (TOC cohort, CI 1.8-23.5, p = 0.0049) and 1.9 (Duke cohort, CI 1.2-3.0, p = 0.0068). We constructed a combined score of molecular data (OPI) and clinical parameters (residual tumour), which was able to define patient groups with highly significant differences in survival. The integrated analysis of gene expression data as well as residual tumour can be used for optimized assessment of the prognosis of platinum-taxol-treated ovarian cancer. As traditional treatment options are limited, this analysis may be able to optimize clinical management and to identify those patients who would be candidates for new therapeutic strategies.

#### Format

Affymetrix HG-U133A

```
experimentData(eset):
Experiment data
   Experimenter name: Denkert C, Budczies J, Darb-Esfahani S, Gy??rffy B et al. A
   Laboratory: Denkert, Lage 2009
   Contact information:
   Title: A prognostic gene expression index in ovarian cancer - validation acros
   URL:
   PMIDs: 19294737

Abstract: A 254 word abstract is available. Use 'abstract' method.
   Information is available on: preprocessing
   notes:
    platform_title:
        [HG-U133A] Affymetrix Human Genome U133A Array
    platform_shorttitle:
```

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```
platform summary:
        hqu133a
      platform_manufacturer:
        Affymetrix
      platform_distribution:
        commercial
      platform_accession:
        GPL96
      version:
        2015-09-22 19:13:08
   featureData(eset):
   An object of class 'AnnotatedDataFrame'
     featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
       (20967 total)
    varLabels: probeset gene EntrezGene.ID best_probe
     varMetadata: labelDescription
Details
   assayData: 20967 features, 80 samples
  Platform type:
   Overall survival time-to-event summary (in years):
   Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
     80.00 21.00 4.52 4.19 NA
   ______
   Available sample meta-data:
   alt_sample_name:
     Min. 1st Qu. Median Mean 3rd Qu. Max. 1.00 20.75 40.50 40.50 60.25 80.00
   sample_type:
   tumor
     80
   histological_type:
                                                mix
                                                              other
         clearcell
                              endo
                               6
                                                  1
               ser undifferentiated
                68
   primarysite:
   ΟV
   80
   summarygrade:
   high low
```

54 26

summarystage:
early late
 9 71

```
tumorstage:
1 2 3 4
8 1 69 2
substage:
  a b c NA's
   4 6 32 38
grade:
1 2 3
 3 23 54
recurrence_status:
norecurrence recurrence
                                NA's
        50
                26
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu.
210 660 1050 1011 1328
                                           2190
vital_status:
deceased living
     21
              59
batch:
2004 - 09 - 29 \ 2004 - 09 - 30 \ 2004 - 10 - 01 \ 2005 - 01 - 21 \ 2005 - 01 - 25 \ 2005 - 01 - 26 \ 2005 - 01 - 28
                   2
                             6
                                         4
                                                    7
                                                               8 10
2005 - 03 - 02 \ 2006 - 07 - 26 \ 2006 - 07 - 27 \ 2006 - 07 - 28 \ 2006 - 08 - 11 \ 2006 - 08 - 18 \ 2006 - 08 - 19
               4 6 4 10 3
2006-08-21
        5
uncurated_author_metadata:
             title: ovarian cancer: 010///geo_accession: GSM368670///status: Pu
              title: ovarian cancer: O11///geo_accession: GSM368671///status: Pu
            title: ovarian cancer: 012///geo_accession: GSM368672///status: Publ
              title: ovarian cancer: 013///geo_accession: GSM368673///status: Pu
               title: ovarian cancer: 014///geo_accession: GSM368674///status: F
             title: ovarian cancer: 015///geo_accession: GSM368675///status: Pub
           title: ovarian cancer: 016///geo_accession: GSM368676///status: Publi
```

GSE14764 29

```
title: ovarian cancer: 017///geo_accession: GSM368677///status: Pu
              title: ovarian cancer: 018///geo_accession: GSM368678///status: Pu
              title: ovarian cancer: 019///geo_accession: GSM368679///status: Pu
                title: ovarian cancer: 01///geo_accession: GSM368661///status: F
               title: ovarian cancer: 020///geo_accession: GSM368680///status: F
              title: ovarian cancer: 021///geo_accession: GSM368681///status: Pu
              title: ovarian cancer: 022///geo_accession: GSM368682///status: Pu
              title: ovarian cancer: 023///geo_accession: GSM368683///status: Pu
          title: ovarian cancer: 024///geo_accession: GSM368684///status: Public
              title: ovarian cancer: 025///geo_accession: GSM368685///status: Pu
title: ovarian cancer: 026///geo_accession: GSM368686///status: Public on Feb 09
            title: ovarian cancer: 027///geo_accession: GSM368687///status: Publ
            title: ovarian cancer: 028///geo_accession: GSM368688///status: Publ
             title: ovarian cancer: 029///geo_accession: GSM368689///status: Pub
               title: ovarian cancer: 02///geo_accession: GSM368662///status: Pu
              title: ovarian cancer: 030///geo_accession: GSM368690///status: Pu
              title: ovarian cancer: O31///geo_accession: GSM368691///status: Pu
              title: ovarian cancer: 032///geo_accession: GSM368692///status: Pu
               title: ovarian cancer: 033///geo_accession: GSM368693///status: F
              title: ovarian cancer: 034///geo_accession: GSM368694///status: Pu
              title: ovarian cancer: 035///geo_accession: GSM368695///status: Pu
               title: ovarian cancer: 036///geo_accession: GSM368696///status: F
               title: ovarian cancer: 037///geo_accession: GSM368697///status: F
             title: ovarian cancer: 038///geo_accession: GSM368698///status: Pub
              title: ovarian cancer: 039///geo_accession: GSM368699///status: Pu
      title: ovarian cancer: 03///geo_accession: GSM368663///status: Public on F
```

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title: ovarian cancer: 041///geo_accession: GSM368701///status: F
title: ovarian cancer: 042///geo_accession: GSM368702///status: Pub
title: ovarian cancer: 043///geo_accession: GSM368703///status: Pu
 title: ovarian cancer: 044///geo_accession: GSM368704///status: F
  title: ovarian cancer: 045///geo_accession: GSM368705///status:
   title: ovarian cancer: 046///geo_accession: GSM368706///status:
 title: ovarian cancer: 047///geo_accession: GSM368707///status: F
   title: ovarian cancer: 048///geo_accession: GSM368708///status:
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 title: ovarian cancer: 04///geo_accession: GSM368664///status: Pu
 title: ovarian cancer: 050///geo_accession: GSM368710///status: F
  title: ovarian cancer: O51///geo_accession: GSM368711///status:
title: ovarian cancer: 052///geo_accession: GSM368712///status: Pu
  title: ovarian cancer: 053///geo_accession: GSM368713///status:
 title: ovarian cancer: 054///geo_accession: GSM368714///status: F
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 title: ovarian cancer: 058///geo_accession: GSM368718///status: F
  title: ovarian cancer: 059///geo_accession: GSM368719///status:
 title: ovarian cancer: 05///geo_accession: GSM368665///status: Pu
 title: ovarian cancer: 060///geo_accession: GSM368720///status: F
 title: ovarian cancer: 061///geo_accession: GSM368721///status: F
 title: ovarian cancer: 062///geo_accession: GSM368722///status: F
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title: ovarian cancer: 063///geo\_accession: GSM368723///status: F

title: ovarian cancer: 040///geo\_accession: GSM368700///status: Pu

GSE14764 31

```
title: ovarian cancer: 064///geo_accession: GSM368724///status: F
               title: ovarian cancer: 065///geo_accession: GSM368725///status: F
               title: ovarian cancer: O66///geo_accession: GSM368726///status:
                title: ovarian cancer: O67///geo_accession: GSM368727///status:
               title: ovarian cancer: 068///geo_accession: GSM368728///status: F
               title: ovarian cancer: 069///geo_accession: GSM368729///status:
               title: ovarian cancer: O6///geo_accession: GSM368666///status: F
                title: ovarian cancer: 070///geo_accession: GSM368730///status:
               title: ovarian cancer: O71///geo_accession: GSM368731///status:
               title: ovarian cancer: 072///geo_accession: GSM368732///status: F
    title: ovarian cancer: 073///geo_accession: GSM368733///status: Public on F
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               title: ovarian cancer: 076///geo_accession: GSM368736///status: F
               title: ovarian cancer: 077///geo_accession: GSM368737///status: F
               title: ovarian cancer: 078///geo accession: GSM368738///status:
               title: ovarian cancer: 079///geo_accession: GSM368739///status:
               title: ovarian cancer: 07///geo_accession: GSM368667///status: Pu
               title: ovarian cancer: 080///geo_accession: GSM368740///status:
               title: ovarian cancer: 08///geo_accession: GSM368668///status: Pu
               title: ovarian cancer: 09///geo_accession: GSM368669///status: Pu
duplicates:
GSE14764.GSE14764_GSM368667 GSE14764.GSE14764_GSM368668
```

NA's

#### Value

An expression set

GSE17260

Gene expression profile for predicting survival in advanced-stage serous ovarian cancer across two independent datasets.

#### **Description**

Advanced-stage ovarian cancer patients are generally treated with platinum/taxane-based chemotherapy after primary debulking surgery. However, there is a wide range of outcomes for individual patients. Therefore, the clinicopathological factors alone are insufficient for predicting prognosis. Our aim is to identify a progression-free survival (PFS)-related molecular profile for predicting survival of patients with advanced-stage serous ovarian cancer. Advanced-stage serous ovarian cancer tissues from 110 Japanese patients who underwent primary surgery and platinum/taxane-based chemotherapy were profiled using oligonucleotide microarrays. We selected 88 PFS-related genes by a univariate Cox model (p<0.01) and generated the prognostic index based on 88 PFS-related genes after adjustment of regression coefficients of the respective genes by ridge regression Cox model using 10-fold cross-validation. The prognostic index was independently associated with PFS time compared to other clinical factors in multivariate analysis [hazard ratio (HR), 3.72; 95% confidence interval (CI), 2.66-5.43; p<0.0001]. In an external dataset, multivariate analysis revealed that this prognostic index was significantly correlated with PFS time (HR, 1.54; 95% CI, 1.20-1.98; p = 0.0008). Furthermore, the correlation between the prognostic index and overall survival time was confirmed in the two independent external datasets (log rank test, p = 0.0010 and 0.0008). The prognostic ability of our index based on the 88-gene expression profile in ridge regression Cox hazard model was shown to be independent of other clinical factors in predicting cancer prognosis across two distinct datasets. Further study will be necessary to improve predictive accuracy of the prognostic index toward clinical application for evaluation of the risk of recurrence in patients with advanced-stage serous ovarian cancer.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Yoshihara K, Tajima A, Yahata T, Kodama S, Fujiwara H, Suzu
 Laboratory: Yoshihara, Tanaka 2010
  Contact information:
  Title: Gene expression profile for predicting survival in advanced-stage serou
  URL:
  PMIDs: 20300634
 Abstract: A 257 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      Agilent-012391 Whole Human Genome Oligo Microarray G4112A
  platform_shorttitle:
      Agilent G4112A
  platform_summary:
      hgug4112a
```

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```
platform manufacturer:
         Agilent
      platform_distribution:
         commercial
      platform_accession:
        GPL6848
      version:
        2015-09-22 19:16:49
   featureData(eset):
   An object of class 'AnnotatedDataFrame'
     featureNames: A_23_P100001 A_23_P100011 ... A_32_P99902 (30936 total)
     varLabels: probeset gene EntrezGene.ID best probe
     varMetadata: labelDescription
Details
   assayData: 30936 features, 110 samples
   Platform type:
   Overall survival time-to-event summary (in years):
   Call: survfit(formula = Surv(time, cens) ~ -1)
         n events median 0.95LCL 0.95UCL
    110.00 46.00 4.44 4.03 NA
   Available sample meta-data:
   alt_sample_name:
   Serous ovarian cancer 10 Serous ovarian cancer 100 Serous ovarian cancer 104
                          1
                                                    1
   Serous ovarian cancer 106 Serous ovarian cancer 107 Serous ovarian cancer 108
                          1
                                                    1
   Serous ovarian cancer 109 Serous ovarian cancer 11 Serous ovarian cancer 110
                          1
                                                    1
   Serous ovarian cancer 111 Serous ovarian cancer 112 Serous ovarian cancer 113
   Serous ovarian cancer 114 Serous ovarian cancer 115 Serous ovarian cancer 116
                                                   1
   Serous ovarian cancer 117 Serous ovarian cancer 118 Serous ovarian cancer 119
                          1
                                                    1
    Serous ovarian cancer 12 Serous ovarian cancer 120 Serous ovarian cancer 122
                          1
                                                   1
   Serous ovarian cancer 123 Serous ovarian cancer 127 Serous ovarian cancer 129
                                                    1
   Serous ovarian cancer 130 Serous ovarian cancer 131 Serous ovarian cancer 132
                          1
                                                    1
   Serous ovarian cancer 134 Serous ovarian cancer 136 Serous ovarian cancer 137
                          1
                                                   1
   Serous ovarian cancer 139 Serous ovarian cancer 140 Serous ovarian cancer 143
```

```
Serous ovarian cancer 144 Serous ovarian cancer 145 Serous ovarian cancer 146
Serous ovarian cancer 148 Serous ovarian cancer 149
                                                     Serous ovarian cancer 15
Serous ovarian cancer 150 Serous ovarian cancer 151 Serous ovarian cancer 154
Serous ovarian cancer 156 Serous ovarian cancer 157
                                                     Serous ovarian cancer 16
Serous ovarian cancer 160 Serous ovarian cancer 17 Serous ovarian cancer 171
                                                  1
Serous ovarian cancer 172 Serous ovarian cancer 173 Serous ovarian cancer 174
                        1
                                                  1
Serous ovarian cancer 176 Serous ovarian cancer 178 Serous ovarian cancer 18
Serous ovarian cancer 182 Serous ovarian cancer 183 Serous ovarian cancer 184
                                                  1
Serous ovarian cancer 185 Serous ovarian cancer 186
                                                       Serous ovarian cancer 2
                        1
                                                  1
 Serous ovarian cancer 20
                           Serous ovarian cancer 22
                                                      Serous ovarian cancer 23
 Serous ovarian cancer 25
                           Serous ovarian cancer 27
                                                      Serous ovarian cancer 31
 Serous ovarian cancer 36
                           Serous ovarian cancer 37
                                                      Serous ovarian cancer 38
  Serous ovarian cancer 4
                           Serous ovarian cancer 41
                                                      Serous ovarian cancer 42
                                                  1
 Serous ovarian cancer 43
                           Serous ovarian cancer 44
                                                      Serous ovarian cancer 45
 Serous ovarian cancer 49
                           Serous ovarian cancer 50
                                                      Serous ovarian cancer 51
                                                  1
                                                                             1
 Serous ovarian cancer 52
                           Serous ovarian cancer 53
                                                      Serous ovarian cancer 54
 Serous ovarian cancer 55
                           Serous ovarian cancer 56
                                                      Serous ovarian cancer 57
                        1
 Serous ovarian cancer 58
                            Serous ovarian cancer 6
                                                      Serous ovarian cancer 60
 Serous ovarian cancer 61
                           Serous ovarian cancer 62
                                                      Serous ovarian cancer 64
 Serous ovarian cancer 66
                           Serous ovarian cancer 67
                                                      Serous ovarian cancer 68
 Serous ovarian cancer 69
                            Serous ovarian cancer 7
                                                      Serous ovarian cancer 72
                        1
                                                  1
 Serous ovarian cancer 77
                           Serous ovarian cancer 79
                                                     Serous ovarian cancer 80
                  (Other)
```

sample\_type:
tumor

110

histological\_type:

11

GSE17260 35

ser

```
110
primarysite:
110
summarygrade:
high low
 43 67
summarystage:
late
110
tumorstage:
3 4
93 17
substage:
 a b c NA's
  6 18 69 17
grade:
1 2 3
26 41 43
pltx:
У
110
tax:
 У
110
days_to_tumor_recurrence:
   Min. 1st Qu. Median Mean 3rd Qu. Max. 30.0 285.0 510.0 673.9 870.0 2250.0
recurrence_status:
norecurrence recurrence
       34
days_to_death:
   Min. 1st Qu. Median Mean 3rd Qu. Max. 30 660 915 1086 1530 2430
vital_status:
deceased living
     46
           64
debulking:
```

optimal suboptimal 57 53

uncurated\_author\_metadata:

title: Serous ovarian cancer 100///geo\_accession: GS

title: Serous ovarian cancer 104///geo\_accession: GSM432

title: Serous ovarian cancer  $106///geo\_accession$ : GSM432223///status: Public on

title: Serous ovarian cancer 107///geo\_accession: GSM432

title: Serous ovarian cancer 108///geo\_accession: GSM432225///status: Public

title: Serous ovarian cancer 109///geo\_accession: GSM432226///status: Public or

title: Serous ovarian cancer 10///geo\_accession: GS

title: Serous ovarian cancer  $110///geo\_accession$ : GSM432228///status: Public on

title: Serous ovarian cancer  $111///geo\_accession$ : GSM432229///status: Public on

title: Serous ovarian cancer 112///geo\_accession: GS

title: Serous ovarian cancer 113///geo\_accession: GSM432

title: Serous ovarian cancer 114///geo\_accession: GSM43

title: Serous ovarian cancer 115///geo\_accession: GSM432

title: Serous ovarian cancer 116///geo\_accession: GSM432

title: Serous ovarian cancer 117///geo\_accession: GS

title: Serous ovarian cancer 118///geo\_accession: GSM43

title: Serous ovarian cancer 119///geo\_accession: GS

title: Serous ovarian cancer 11///geo\_accession: GS

title: Serous ovarian cancer 120///geo\_accession: GSM

title: Serous ovarian cancer 122///geo\_accession: GSM43

title: Serous ovarian cancer 123///geo\_accession: GSM432

title: Serous ovarian cancer 127///geo\_accession: GSM432

title: Serous ovarian cancer 129///geo\_accession: GS

title: Serous ovarian cancer 12///geo\_accession: @

GSE17260 37

```
title: Serous ovarian cancer 134///geo_accession: GS
    title: Serous ovarian cancer 136///geo_accession: GS
   title: Serous ovarian cancer 137///geo_accession: GS
   title: Serous ovarian cancer 139///geo_accession: GS
 title: Serous ovarian cancer 140///geo_accession: GSM4
 title: Serous ovarian cancer 143///geo_accession: GSM43
 title: Serous ovarian cancer 144///geo_accession: GSM4
title: Serous ovarian cancer 145///geo_accession: GSM432
title: Serous ovarian cancer 146///geo_accession: GSM432
   title: Serous ovarian cancer 148///geo_accession: GS
   title: Serous ovarian cancer 149///geo_accession: GS
title: Serous ovarian cancer 150///geo_accession: GSM432
    title: Serous ovarian cancer 151///geo_accession: GS
     title: Serous ovarian cancer 154///geo_accession:
    title: Serous ovarian cancer 156///geo_accession: GS
   title: Serous ovarian cancer 157///geo_accession: GS
    title: Serous ovarian cancer 15///geo_accession: GS
title: Serous ovarian cancer 160///geo_accession: GSM432
     title: Serous ovarian cancer 16///geo_accession: GS
 title: Serous ovarian cancer 171///geo_accession: GSM43
 title: Serous ovarian cancer 172///geo_accession: GSM43
 title: Serous ovarian cancer 173///geo_accession: GSM43
      title: Serous ovarian cancer 174///geo_accession:
```

title: Serous ovarian cancer 130///geo accession: GSM432

title: Serous ovarian cancer 131///geo\_accession: GS

title: Serous ovarian cancer 132///geo\_accession: GS

```
title: Serous ovarian cancer 178///geo_accession:
    title: Serous ovarian cancer 17///geo_accession: GS
 title: Serous ovarian cancer 182///geo_accession: GSM4
title: Serous ovarian cancer 183///geo_accession: GSM432
   title: Serous ovarian cancer 184///geo_accession: GS
   title: Serous ovarian cancer 185///geo_accession: GS
   title: Serous ovarian cancer 186///geo_accession: GS
    title: Serous ovarian cancer 18///geo_accession: GS
    title: Serous ovarian cancer 20///geo_accession: GS
 title: Serous ovarian cancer 22///geo_accession: GSM432
  title: Serous ovarian cancer 23///geo_accession: GSM4
    title: Serous ovarian cancer 25///geo_accession: GS
 title: Serous ovarian cancer 27///geo_accession: GSM43
 title: Serous ovarian cancer 2///geo_accession: GSM432
       title: Serous ovarian cancer 31///geo_accession:
      title: Serous ovarian cancer 36///geo_accession:
    title: Serous ovarian cancer 37///geo_accession: GS
    title: Serous ovarian cancer 38///geo_accession: GS
    title: Serous ovarian cancer 41///geo_accession: GS
title: Serous ovarian cancer 42///geo_accession: GSM432
 title: Serous ovarian cancer 43///geo_accession: GSM43
 title: Serous ovarian cancer 44///geo_accession: GSM43
     title: Serous ovarian cancer 45///geo_accession: GS
 title: Serous ovarian cancer 49///geo_accession: GSM432
  title: Serous ovarian cancer 4///geo_accession: GSM43
```

title: Serous ovarian cancer 176///geo accession: GSM

GSE17260 39

```
title: Serous ovarian cancer 50///geo_accession: 6
title: Serous ovarian cancer 51///geo_accession: GSM432
   title: Serous ovarian cancer 52///geo_accession: GSM
   title: Serous ovarian cancer 53///geo_accession: GSM
   title: Serous ovarian cancer 54///geo_accession: GS
   title: Serous ovarian cancer 55///geo_accession: GS
title: Serous ovarian cancer 56///geo_accession: GSM432
    title: Serous ovarian cancer 57///geo_accession: GS
   title: Serous ovarian cancer 58///geo_accession: GS
  title: Serous ovarian cancer 60///geo_accession: GSM4
title: Serous ovarian cancer 61///geo_accession: GSM432
title: Serous ovarian cancer 62///geo_accession: GSM432
    title: Serous ovarian cancer 64///geo_accession: GS
    title: Serous ovarian cancer 66///geo_accession: GS
   title: Serous ovarian cancer 67///geo_accession: GS
    title: Serous ovarian cancer 68///geo_accession: GS
   title: Serous ovarian cancer 69///geo_accession: GS
    title: Serous ovarian cancer 6///geo_accession: GS
    title: Serous ovarian cancer 72///geo_accession: GS
  title: Serous ovarian cancer 77///geo_accession: GSM4
   title: Serous ovarian cancer 79///geo_accession: GS
    title: Serous ovarian cancer 7///geo_accession: GS
```

title: Serous ovarian cancer 80///geo\_accession: GSM432

## Value

An expression set

GSE18520

A gene signature predictive for outcome in advanced ovarian cancer identifies a survival factor: microfibril-associated glycoprotein 2.

## Description

Advanced stage papillary serous tumors of the ovary are responsible for the majority of ovarian cancer deaths, yet the molecular determinants modulating patient survival are poorly characterized. Here, we identify and validate a prognostic gene expression signature correlating with survival in a series of microdissected serous ovarian tumors. Independent evaluation confirmed the association of a prognostic gene microfibril-associated glycoprotein 2 (MAGP2) with poor prognosis, whereas in vitro mechanistic analyses demonstrated its ability to prolong tumor cell survival and stimulate endothelial cell motility and survival via the alpha(V)beta(3) integrin receptor. Increased MAGP2 expression correlated with microvessel density suggesting a proangiogenic role in vivo. Thus, MAGP2 may serve as a survival-associated target.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Mok SC, Bonome T, Vathipadiekal V, Bell A, Johnson ME, Wond
 Laboratory: Mok, Birrer 2009
  Contact information:
  Title: A gene signature predictive for outcome in advanced ovarian cancer iden
  PMIDs: 19962670
 Abstract: A 110 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
  platform_shorttitle:
      Affymetrix HG-U133Plus2
  platform_summary:
      hqu133plus2
  platform_manufacturer:
      Affymetrix|Operon
  platform_distribution:
      commercial|non-commercial
  platform_accession:
      GPL570|GPL9216
  version:
      2015-09-22 19:21:25
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (42447 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

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## **Details**

```
assayData: 42447 features, 63 samples
Platform type:
Overall survival time-to-event summary (in years):
Call: survfit(formula = Surv(time, cens) ~ -1)
   10 observations deleted due to missingness
     n events median 0.95LCL 0.95UCL
  53.00 41.00 2.05 1.48 3.70
Available sample meta-data:
alt_sample_name:
  Min. 1st Qu. Median Mean 3rd Qu. Max. 312.0 395.0 694.0 893.3 1040.0 2237.0
sample_type:
healthy tumor
    10
            53
histological_type:
ser NA's
 53 10
primarysite:
OV
63
summarygrade:
high NA's
 53 10
summarystage:
late NA's
 53 10
tumorstage:
  3 NA's
  53 10
grade:
  3 NA's
  53 10
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
   150 450 630 1212 1440 4500 10
```

vital status:

```
deceased living NA's
            12
     41
                      10
debulking:
optimal
     63
percent_normal_cells:
63
percent_stromal_cells:
63
percent_tumor_cells:
100
63
batch:
2004 - 03 - 12\ 2004 - 04 - 08\ 2004 - 04 - 09\ 2004 - 07 - 20\ 2004 - 08 - 12\ 2004 - 08 - 13\ 2004 - 09 - 30
                               9
                                          11
                                                     10
                                                                  1
uncurated_author_metadata:
                                                  title: Normal Ovary, 2008///geo_
                                                  title: Normal Ovary, 2061///geo_
                                                  title: Normal Ovary, 2064///geo_
                                                  title: Normal Ovary, 2085///geo_
                                                  title: Normal Ovary, 2225///geo_
                                                  title: Normal Ovary, 2226///geo_
                                                  title: Normal Ovary, 2228///geo_
                                                  title: Normal Ovary, 2230///geo_
                                                  title: Normal Ovary, 2234///geo_
                                                  title: Normal Ovary, 2237///geo_
title: Ovarian Tumor, 1109///geo_accession: GSM461390///status: Public on Oct 17
    title: Ovarian Tumor, 1214///geo_accession: GSM461391///status: Public on Oc
    title: Ovarian Tumor, 1231///geo_accession: GSM461367///status: Public on Oc
title: Ovarian Tumor, 1562///geo_accession: GSM461368///status: Public on Oct 17
```

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```
title: Ovarian Tumor, 1660///geo_accession: GSM461369///status: Public on Oct 17
title: Ovarian Tumor, 1993///geo_accession: GSM461400///status: Public on Oct 17
      title: Ovarian Tumor, 312///geo_accession: GSM461379///status: Public on C
 title: Ovarian Tumor, 317///geo_accession: GSM461348///status: Public on Oct 17
      title: Ovarian Tumor, 321///geo_accession: GSM461380///status: Public on C
      title: Ovarian Tumor, 324///geo_accession: GSM461373///status: Public on C
      title: Ovarian Tumor, 332///geo_accession: GSM461349///status: Public on
      title: Ovarian Tumor, 345///geo_accession: GSM461392///status: Public on C
 title: Ovarian Tumor, 349///geo_accession: GSM461350///status: Public on Oct 17
 title: Ovarian Tumor, 351///geo_accession: GSM461351///status: Public on Oct 17
      title: Ovarian Tumor, 358///geo_accession: GSM461393///status: Public on C
      title: Ovarian Tumor, 367///geo_accession: GSM461381///status: Public on C
      title: Ovarian Tumor, 377///geo_accession: GSM461374///status: Public on C
      title: Ovarian Tumor, 380///geo_accession: GSM461375///status: Public on C
      title: Ovarian Tumor, 386///geo_accession: GSM461352///status: Public on C
 title: Ovarian Tumor, 388///geo_accession: GSM461353///status: Public on Oct 17
      title: Ovarian Tumor, 389///geo_accession: GSM461354///status: Public on C
      title: Ovarian Tumor, 394///geo_accession: GSM461382///status: Public on C
      title: Ovarian Tumor, 396///geo_accession: GSM461376///status: Public on C
       title: Ovarian Tumor, 402///geo_accession: GSM461355///status: Public on
 title: Ovarian Tumor, 410///geo_accession: GSM461356///status: Public on Oct 17
     title: Ovarian Tumor, 412///geo_accession: GSM461357///status: Public on Oc
     title: Ovarian Tumor, 434///geo_accession: GSM461358///status: Public on C
     title: Ovarian Tumor, 443///geo_accession: GSM461377///status: Public on Oc
     title: Ovarian Tumor, 461///geo_accession: GSM461394///status: Public on C
      title: Ovarian Tumor, 467///geo_accession: GSM461359///status: Public on C
```

```
title: Ovarian Tumor, 477///geo_accession: GSM461383///status: Public on C
    title: Ovarian Tumor, 486///geo_accession: GSM461395///status: Public on C
title: Ovarian Tumor, 629///geo_accession: GSM461360///status: Public on Oct 1
    title: Ovarian Tumor, 631///geo_accession: GSM461396///status: Public on C
    title: Ovarian Tumor, 656///geo_accession: GSM461384///status: Public on C
    title: Ovarian Tumor, 662///geo_accession: GSM461370///status: Public on C
    title: Ovarian Tumor, 692///geo_accession: GSM461397///status: Public on C
    title: Ovarian Tumor, 694///geo_accession: GSM461385///status: Public on C
    title: Ovarian Tumor, 702///geo_accession: GSM461361///status: Public on C
    title: Ovarian Tumor, 714///geo_accession: GSM461362///status: Public on
    title: Ovarian Tumor, 715///geo_accession: GSM461386///status: Public on C
    title: Ovarian Tumor, 718///geo_accession: GSM461398///status: Public on C
    title: Ovarian Tumor, 744///geo_accession: GSM461378///status: Public on C
    title: Ovarian Tumor, 765///geo_accession: GSM461363///status: Public on C
    title: Ovarian Tumor, 778///geo_accession: GSM461399///status: Public on C
    title: Ovarian Tumor, 780///geo_accession: GSM461364///status: Public on C
title: Ovarian Tumor, 786///geo_accession: GSM461387///status: Public on Oct 1
    title: Ovarian Tumor, 794///geo_accession: GSM461388///status: Public on C
    title: Ovarian Tumor, 799///geo_accession: GSM461365///status: Public on
    title: Ovarian Tumor, 800///geo_accession: GSM461371///status: Public on C
    title: Ovarian Tumor, 872///geo_accession: GSM461366///status: Public on
title: Ovarian Tumor, 934///geo_accession: GSM461372///status: Public on Oct 1
    title: Ovarian Tumor, 970///geo_accession: GSM461389///status: Public on C
```

duplicates:

GSE18520.GSE18520\_GSM462649

GSE18520.GSE18520\_GSM462649///GSE18520.GSE18520\_GSM462650

GSE19829 45

```
1
GSE18520.GSE18520_GSM462650
1
NA's
60
```

#### Value

An expression set

GSE19829

Gene expression profile of BRCAness that correlates with responsiveness to chemotherapy and with outcome in patients with epithelial ovarian cancer.

## **Description**

To define a gene expression profile of BRCAness that correlates with chemotherapy response and outcome in epithelial ovarian cancer (EOC). A publicly available microarray data set including 61 patients with EOC with either sporadic disease or BRCA(1/2) germline mutations was used for development of the BRCAness profile. Correlation with platinum responsiveness was assessed in platinum-sensitive and platinum-resistant tumor biopsy specimens from six patients with BRCA germline mutations. Association with poly-ADP ribose polymerase (PARP) inhibitor responsiveness and with radiation-induced RAD51 foci formation (a surrogate of homologous recombination) was assessed in Capan-1 cell line clones. The BRCAness profile was validated in 70 patients enriched for sporadic disease to assess its association with outcome. The BRCAness profile accurately predicted platinum responsiveness in eight out of 10 patient-derived tumor specimens, and between PARP-inhibitor sensitivity and resistance in four out of four Capan-1 clones. [corrected] When applied to the 70 patients with sporadic disease, patients with the BRCA-like (BL) profile had improved disease-free survival (34 months v 15 months; log-rank P = .013) and overall survival (72 months v 41 months; log-rank P = .006) compared with patients with a non-BRCA-like (NBL) profile, respectively. The BRCAness profile maintained independent prognostic value in multivariate analysis, which controlled for other known clinical prognostic factors. The BRCAness profile correlates with responsiveness to platinum and PARP inhibitors and identifies a subset of sporadic patients with improved outcome. Additional evaluation of this profile as a predictive tool in patients with sporadic EOC is warranted.

Information is available on: preprocessing

# **Format**

```
experimentData(eset):
Experiment data
   Experimenter name: Konstantinopoulos PA, Spentzos D, Karlan BY, Taniguchi T et
   Laboratory: Konstantinopoulos, Cannistra 2010 hgu95
   Contact information:
   Title: Gene expression profile of BRCAness that correlates with responsiveness
   URL:
   PMIDs: 20547991

Abstract: A 241 word abstract is available. Use 'abstract' method.
```

notes:

```
platform_title:
         [HG_U95Av2] Affymetrix Human Genome U95 Version 2 Array
      platform_shorttitle:
        Affymetrix HG_U95Av2
      platform_summary:
        hgu95av2
      platform_manufacturer:
         Affymetrix
      platform_distribution:
         commercial
      platform_accession:
        GPL570|GPL8300
      version:
         2015-09-22 19:26:29
   featureData(eset):
   An object of class 'AnnotatedDataFrame'
     featureNames: 1007_s_at 1053_at ... AFFX-MurIL4_at (54253 total)
     varLabels: probeset gene EntrezGene.ID best_probe
     varMetadata: labelDescription
Details
   assayData: 54253 features, 70 samples
   Platform type:
   Overall survival time-to-event summary (in years):
   Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
     70.00 40.00 3.78 2.96 5.92
   Available sample meta-data:
   alt_sample_name:
    Ovarian cancer_sample 1 Ovarian cancer_sample 10 Ovarian cancer_sample 11
                                                  1
   Ovarian cancer_sample 12 Ovarian cancer_sample 13 Ovarian cancer_sample 14
   Ovarian cancer_sample 15 Ovarian cancer_sample 16 Ovarian cancer_sample 17
                         1
                                                  1
   Ovarian cancer_sample 18 Ovarian cancer_sample 19 Ovarian cancer_sample 2
   Ovarian cancer_sample 20 Ovarian cancer_sample 21 Ovarian cancer_sample 22
                         1
   Ovarian cancer_sample 23 Ovarian cancer_sample 24 Ovarian cancer_sample 25
                                                  1
   Ovarian cancer_sample 26 Ovarian cancer_sample 27 Ovarian cancer_sample 28
                         1
   Ovarian cancer_sample 29 Ovarian cancer_sample 3 Ovarian cancer_sample 30
```

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```
Ovarian cancer_sample 31 Ovarian cancer_sample 32 Ovarian cancer_sample 33
Ovarian cancer_sample 34 Ovarian cancer_sample 35 Ovarian cancer_sample 36
Ovarian cancer_sample 37 Ovarian cancer_sample 38 Ovarian cancer_sample 39
Ovarian cancer_sample 4 Ovarian cancer_sample 40 Ovarian cancer_sample 41
                                                1
Ovarian cancer_sample 42 Ovarian cancer_sample 43 Ovarian cancer_sample 44
                                               1
Ovarian cancer_sample 45 Ovarian cancer_sample 46 Ovarian cancer_sample 47
Ovarian cancer_sample 48 Ovarian cancer_sample 49 Ovarian cancer_sample 5
Ovarian cancer_sample 50 Ovarian cancer_sample 51 Ovarian cancer_sample 52
Ovarian cancer_sample 53 Ovarian cancer_sample 54 Ovarian cancer_sample 55
Ovarian cancer_sample 56 Ovarian cancer_sample 57 Ovarian cancer_sample 58
Ovarian cancer_sample 59 Ovarian cancer_sample 6 Ovarian cancer_sample 60
Ovarian cancer_sample 61 Ovarian cancer_sample 62 Ovarian cancer_sample 63
                                                1
Ovarian cancer_sample 64 Ovarian cancer_sample 65 Ovarian cancer_sample 66
                                               1
Ovarian cancer_sample 67 Ovarian cancer_sample 68 Ovarian cancer_sample 69
 Ovarian cancer_sample 7 Ovarian cancer_sample 70 Ovarian cancer_sample 8
 Ovarian cancer sample 9
batch:
2001-09-14 2001-12-14 2002-08-20 2003-09-09 2003-09-18 2009-08-14
                   4
                                        13
                             14
days_to_death:
   Min. 1st Qu. Median
                         Mean 3rd Qu.
                                         Max.
        667.5 1125.0 1170.0 1522.0 3450.0
primarysite:
ov
70
sample_type:
tumor
  70
uncurated_author_metadata:
            title: Ovarian cancer_sample 10///geo_accession: GSM495148///status:
```

title: Ovarian cancer\_sample 11///geo\_accession: GSM495149///status:

```
title: Ovarian cancer_sample 12///geo_accession: GSM495150///st
           title: Ovarian cancer_sample 13///geo_accession: GSM495151///status:
           title: Ovarian cancer_sample 14///geo_accession: GSM495152///status:
           title: Ovarian cancer_sample 15///geo_accession: GSM495153///status:
           title: Ovarian cancer_sample 16///geo_accession: GSM495154///status:
           title: Ovarian cancer_sample 17///geo_accession: GSM495155///status:
           title: Ovarian cancer_sample 18///geo_accession: GSM495156///status:
                title: Ovarian cancer_sample 19///geo_accession: GSM495157///st
           title: Ovarian cancer_sample 1///geo_accession: GSM495139///status:
           title: Ovarian cancer_sample 20///geo_accession: GSM495158///status:
           title: Ovarian cancer_sample 21///geo_accession: GSM495159///status:
                title: Ovarian cancer_sample 22///geo_accession: GSM495160///st
                title: Ovarian cancer_sample 23///geo_accession: GSM495161///st
                title: Ovarian cancer_sample 24///geo_accession: GSM495162///st
                title: Ovarian cancer_sample 25///geo_accession: GSM495163///st
               title: Ovarian cancer_sample 26///geo_accession: GSM495164///sta
           title: Ovarian cancer_sample 27///geo_accession: GSM495165///status:
                 title: Ovarian cancer_sample 28///geo_accession: GSM495166///s
title: Ovarian cancer_sample 29///geo_accession: GSM495167///status: Public on
           title: Ovarian cancer_sample 2///geo_accession: GSM495140///status:
    title: Ovarian cancer_sample 30///geo_accession: GSM495168///status: Publi
    title: Ovarian cancer_sample 31///geo_accession: GSM495169///status: Publi
title: Ovarian cancer_sample 32///geo_accession: GSM495170///status: Public or
title: Ovarian cancer_sample 33///geo_accession: GSM495171///status: Public on
    title: Ovarian cancer_sample 34///geo_accession: GSM495172///status: Publi
```

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```
title: Ovarian cancer_sample 35///geo_accession: GSM495173///status: Public on
 title: Ovarian cancer_sample 36///geo_accession: GSM495174///status: Public on
 title: Ovarian cancer_sample 37///geo_accession: GSM495175///status: Public on
 title: Ovarian cancer_sample 38///geo_accession: GSM495176///status: Public on
 title: Ovarian cancer_sample 39///qeo_accession: GSM495177///status: Public on
                 title: Ovarian cancer_sample 3///geo_accession: GSM495141///sta
      title: Ovarian cancer_sample 40///geo_accession: GSM495178///status: Publi
 title: Ovarian cancer_sample 41///geo_accession: GSM495179///status: Public on
      title: Ovarian cancer_sample 42///geo_accession: GSM495180///status: Publi
title: Ovarian cancer_sample 43///geo_accession: GSM495181///status: Public on 3
     title: Ovarian cancer_sample 44///geo_accession: GSM495182///status: Public
     title: Ovarian cancer_sample 45///geo_accession: GSM495183///status: Public
title: Ovarian cancer_sample 46///geo_accession: GSM495184///status: Public on 3
     title: Ovarian cancer_sample 47///geo_accession: GSM495185///status: Public
title: Ovarian cancer_sample 48///geo_accession: GSM495186///status: Public on 3
     title: Ovarian cancer_sample 49///geo_accession: GSM495187///status: Public
                 title: Ovarian cancer_sample 4///geo_accession: GSM495142///sta
title: Ovarian cancer_sample 50///geo_accession: GSM495188///status: Public on 3
     title: Ovarian cancer_sample 51///geo_accession: GSM495189///status: Public
     title: Ovarian cancer_sample 52///geo_accession: GSM495190///status: Public
     title: Ovarian cancer_sample 53///geo_accession: GSM495191///status: Public
     title: Ovarian cancer_sample 54///geo_accession: GSM495192///status: Public
title: Ovarian cancer_sample 55///geo_accession: GSM495193///status: Public on 3
   title: Ovarian cancer_sample 56///geo_accession: GSM495194///status: Public of
   title: Ovarian cancer_sample 57///geo_accession: GSM495195///status: Public of
  title: Ovarian cancer_sample 58///geo_accession: GSM495196///status: Public or
```

```
title: Ovarian cancer_sample 59///geo_accession: GSM495197///status: Publ
             title: Ovarian cancer_sample 5///geo_accession: GSM495143///status:
  title: Ovarian cancer_sample 60///geo_accession: GSM495198///status: Public or
      title: Ovarian cancer_sample 61///geo_accession: GSM495199///status: Publ
  title: Ovarian cancer_sample 62///geo_accession: GSM495200///status: Public or
      title: Ovarian cancer_sample 63///geo_accession: GSM495201///status: Publi
 title: Ovarian cancer_sample 64///geo_accession: GSM495202///status: Public on
     title: Ovarian cancer_sample 65///geo_accession: GSM495203///status: Publi
     title: Ovarian cancer_sample 66///geo_accession: GSM495204///status: Publi
  title: Ovarian cancer_sample 67///geo_accession: GSM495205///status: Public or
  title: Ovarian cancer_sample 68///geo_accession: GSM495206///status: Public or
  title: Ovarian cancer_sample 69///geo_accession: GSM495207///status: Public or
             title: Ovarian cancer_sample 6///geo_accession: GSM495144///status:
      title: Ovarian cancer_sample 70///geo_accession: GSM495208///status: Publ
                  title: Ovarian cancer_sample 7///geo_accession: GSM495145///st
             title: Ovarian cancer_sample 8///geo_accession: GSM495146///status:
              title: Ovarian cancer_sample 9///geo_accession: GSM495147///status
vital_status:
```

# Value

An expression set

deceased

40

living

30

GSE20565

A genomic and transcriptomic approach for a differential diagnosis between primary and secondary ovarian carcinomas in patients with a previous history of breast cancer. GSE20565 51

#### **Description**

The distinction between primary and secondary ovarian tumors may be challenging for pathologists. The purpose of the present work was to develop genomic and transcriptomic tools to further refine the pathological diagnosis of ovarian tumors after a previous history of breast cancer. Sixteen paired breast-ovary tumors from patients with a former diagnosis of breast cancer were collected. The genomic profiles of paired tumors were analyzed using the Affymetrix GeneChip Mapping 50 K Xba Array or Genome-Wide Human SNP Array 6.0 (for one pair), and the data were normalized with ITALICS (ITerative and Alternative normaLIzation and Copy number calling for affymetrix Snp arrays) algorithm or Partek Genomic Suite, respectively. The transcriptome of paired samples was analyzed using Affymetrix GeneChip Human Genome U133 Plus 2.0 Arrays, and the data were normalized with gc-Robust Multi-array Average (gcRMA) algorithm. A hierarchical clustering of these samples was performed, combined with a dataset of well-identified primary and secondary ovarian tumors. In 12 of the 16 paired tumors analyzed, the comparison of genomic profiles confirmed the pathological diagnosis of primary ovarian tumor (n = 5) or metastasis of breast cancer (n = 7). Among four cases with uncertain pathological diagnosis, genomic profiles were clearly distinct between the ovarian and breast tumors in two pairs, thus indicating primary ovarian carcinomas, and showed common patterns in the two others, indicating metastases from breast cancer. In all pairs, the result of the transcriptomic analysis was concordant with that of the genomic analysis. In patients with ovarian carcinoma and a previous history of breast cancer, SNP array analysis can be used to distinguish primary and secondary ovarian tumors. Transcriptomic analysis may be used when primary breast tissue specimen is not available.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Meyniel JP, Cottu PH, Decraene C, Stern MH, Couturier J, Le
 Laboratory: Meyniel, Sastre-Garau 2010
  Contact information:
  Title: A genomic and transcriptomic approach for a differential diagnosis betw
  URL:
  PMIDs: 20492709
  Abstract: A 277 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
  platform_shorttitle:
      Affymetrix HG-U133Plus2
  platform_summary:
      hgu133plus2
  platform_manufacturer:
      Affymetrix
  platform distribution:
      commercial
  platform_accession:
      GPL570|GPL2005|GPL6801
   version:
      2015-09-22 19:33:01
featureData(eset):
```

```
An object of class 'AnnotatedDataFrame' featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at (42447 total) varLabels: probeset gene EntrezGene.ID best_probe varMetadata: labelDescription
```

## **Details**

```
assayData: 42447 features, 140 samples
Platform type:
Available sample meta-data:
alt_sample_name:
Breast metastasis in the ovary_OC01_ARN0016 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0017 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0020 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0029 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0035 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0046 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0051 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0053 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0055 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0060 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0069 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0073 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0077 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0079 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0081 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0083 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0092 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0097 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0098 [HG-U133_Plus_2]
```

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```
Breast metastasis in the ovary_OC01_ARN0099 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0102 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0104 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0112 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0120 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0121 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0123 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0126 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0141 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0142 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0143 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0145 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0146 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0153 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0162 [HG-U133_Plus_2]
Breast metastasis in the ovary_OC01_ARN0201 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0001 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0002 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0004 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0005 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0007 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0008 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0009 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0010 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0011 [HG-U133_Plus_2]
             Ovarian carcinoma_OC01_ARN0012 [HG-U133_Plus_2]
```

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Ovarian carcinoma OC01 ARN0013 [HG-U133 Plus 2]
Ovarian carcinoma_OC01_ARN0015 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0022 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0023 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0025 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0028 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0030 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0032 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0034 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0036 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0037 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0038 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0039 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0041 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0042 [HG-U133_Plus_2]
Ovarian carcinoma OC01 ARN0045 [HG-U133 Plus 2]
Ovarian carcinoma_OC01_ARN0049 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0057 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0058 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0061 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0062 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0063 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0064 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0066 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0067 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0070 [HG-U133_Plus_2]
```

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Ovarian carcinoma_OC01_ARN0072 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0075 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0076 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0080 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0084 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0085 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0089 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0091 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0093 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0095 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0096 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0100 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0101 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0103 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0105 [HG-U133_Plus_2]
Ovarian carcinoma OC01 ARN0106 [HG-U133 Plus 2]
Ovarian carcinoma_OC01_ARN0107 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0108 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0109 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0111 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0113 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0114 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0115 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0116 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0118 [HG-U133_Plus_2]
Ovarian carcinoma_OC01_ARN0119 [HG-U133_Plus_2]
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           Ovarian carcinoma_OC01_ARN0125 [HG-U133_Plus_2]
                                               (Other)
                                                  41
sample_type:
tumor
 140
histological_type:
clearcell endo mucinous other ser 6 6 7 6 71
                                              NA's
                                                44
primarysite:
other ov
 44
      96
summarygrade:
high low NA's
 63 33 44
summarystage:
early late NA's
 27 67 46
tumorstage:
 1 2 3 4 NA's
 18
      9 52 15 46
substage:
 a b c NA's
 14 10 55 61
grade:
      2
          3 NA's
 1
  6 27 63 44
batch:
2006-06-01 2006-06-27 2006-06-28 2006-06-29 2006-06-30 2006-07-20 2008-03-06
     21 18 37 20 36 7 1
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GSE20565 57

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                                                    title: Ovarian carcinoma_OCC
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                                                   title: Ovarian carcinoma_OC01
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                                                     title: Ovarian carcinoma_OCO
                                                 title: Ovarian carcinoma_OC01_AF
                                                     title: Ovarian carcinoma_OCO
                                                     title: Ovarian carcinoma_OCO
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title: Ovarian carcinoma\_OC01\_

GSE20565 59

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title: Ovarian carcinoma_OC01_ARN00
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      title: Ovarian carcinoma_OC01_
      title: Ovarian carcinoma_OC01_
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       title: Ovarian carcinoma_OC01_
      title: Ovarian carcinoma_OC01_
      title: Ovarian carcinoma_OC01_
       title: Ovarian carcinoma_OC01
      title: Ovarian carcinoma_OC01_
title: Ovarian carcinoma_OC01_ARN0076
      title: Ovarian carcinoma_OC01_
      title: Ovarian carcinoma_OC01_
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      title: Ovarian carcinoma_OC01_
title: Ovarian carcinoma_OC01_ARN0091
      title: Ovarian carcinoma_OC01_
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title: Ovarian carcinoma\_OC01\_

title: Ovarian carcinoma\_OC01\_

title: Ovarian carcinoma\_OC01\_

title: Ovarian carcinoma\_OC01\_AF

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                                                   title: Ovarian carcinoma_OC01_
                                                   title: Ovarian carcinoma_OC01_
                                               title: Ovarian carcinoma_OC01_ARNO
                                                   title: Ovarian carcinoma_OC01_
                                              title: Ovarian carcinoma_OC01_ARN01
                                           title: Ovarian carcinoma_OC01_ARN0114
                                               title: Ovarian carcinoma_OC01_ARNO
                                                     title: Ovarian carcinoma_OCC
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                                                   title: Ovarian carcinoma_OC01_
duplicates:
GSE20565.GSE20565_GSM516722 GSE20565.GSE20565_GSM516741
                       NA's
                        138
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## Value

An expression set

GSE2109

IGC EXpression Project for Oncology

GSE2109 61

#### **Description**

EXpression Project for Oncology, International Genomics Consortium, www.intgen.org

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: EXpression Project for Oncology, International Genomics Cor
 Laboratory: exp0, IGC 2005
 Contact information:
  Title: IGC EXpression Project for Oncology
  URL:
  PMIDs: PMID unknown
  Abstract: A 8 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
   platform_shorttitle:
      Affymetrix HG-U133Plus2
   platform_summary:
      hgu133plus2
   platform_manufacturer:
      Affymetrix
   platform_distribution:
      commercial
   platform_accession:
     GPL570
   version:
      2015-09-22 19:40:35
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (42447 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

## **Details**

1		1
Omentum - 8240	Ovary -	
Ovary - 101109	Ovary -	101120
Ovary - 101150	Ovary	- 1018 1
Ovary - 1040	Ovary	- 1057 1
Ovary - 112866	Ovary -	112867
Ovary - 118662 1	Ovary -	118671 1
Ovary - 1241 1	Ovary	- 1270 1
Ovary - 129660 1	Ovary -	129669
Ovary - 1311 1	Ovary	- 1313 1
Ovary - 1323 1	Ovary -	133643
Ovary - 133651 1	Ovary	- 1351 1
Ovary - 151614 1	Ovary -	151622 1
Ovary - 161465	Ovary -	161524 1
Ovary - 161525	Ovary -	161534 1
Ovary - 1636 1	Ovary	- 1639 1
Ovary - 1643 1	Ovary -	170809 1
Ovary - 174931 1	Ovary -	174936 1
Ovary - 180953	Ovary -	184837 1
Ovary - 187243 1	Ovary -	187246 1
Ovary - 187251 1	Ovary -	187253 1
Ovary - 191413 1	Ovary -	191424
Ovary - 195198 1	Ovary -	1
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Ovary - 20307	Ovary -	- 20315

GSE2109 63

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Ovary - 20326
Ovary - 207532
                        Ovary - 209699
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Ovary - 209709
                         Ovary - 209714
Ovary - 209718
                         Ovary - 211371
          1
Ovary - 211372
                         Ovary - 211395
Ovary - 211409
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Ovary - 219571
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Ovary - 219590
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Ovary - 21981
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Ovary - 228537
                         Ovary - 228549
Ovary - 231863
                         Ovary - 234328
Ovary - 234329
                         Ovary - 235691
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                        Ovary - 235695
Ovary - 235692
        1
                                 1
Ovary - 23862
                         Ovary - 23884
         1
Ovary - 23904
                         Ovary - 23930
         1
                                  1
Ovary - 23934
                         Ovary - 23936
           1
                        Ovary - 241181
Ovary - 23938
                         Ovary - 241196
Ovary - 241187
Ovary - 241198
                         Ovary - 241199
Ovary - 242929
                                (Other)
                                    105
```

sample\_type:
tumor
204

histological\_type:
 clearcell

arcell endo mucinous other

```
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                                 11
                                             59
                               NA's
         ser undifferentiated
                2
                                10
primarysite:
other ov NA's
 23 178 3
summarygrade:
high low NA's
91 31 82
summarystage:
early late NA's
 37 87 80
tumorstage:
 1 2 3 4 NA's
 20 14 58 18 94
substage:
 a b c NA's
   22 79 86
 17
grade:
 1
    2
        3 4 NA's
 11 20 83 8 82
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max.
 25.00 45.00 55.00 58.82 65.00 85.00
batch:
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                    1 1
                                    1 1 1
             3
2005-03-15 2005-03-16 2005-03-17 2005-03-19 2005-03-22 2005-04-13 2005-04-26
                     2
                                            1
             1
                            4
                                    2.
2005-04-29 2005-05-10 2005-06-01 2005-06-03 2005-06-08 2005-06-17 2005-08-05
             2 5
                            3
                                    3 6
2005-08-09 2005-08-11 2005-09-07 2005-09-09 2005-09-13 2005-11-02 2005-11-04
     1 6 1 3 3 6 3
2005-11-15 2005-11-18 2005-12-02 2006-01-24 2006-01-26 2006-02-07 2006-02-28
     3 1 4 2 1 1 1
2006-03-06 2006-03-14 2006-04-18 2006-04-20 2006-05-16 2006-06-08 2006-07-26
     2 2 1 2 3 1 2
2006-07-28 2006-09-12 2006-09-14 2006-10-10 2006-10-24 2006-10-31 2006-11-09
     1 2 1 1 9 5 10
2006-11-21 2006-11-30 2006-12-07 2007-01-12 2007-02-09 2007-03-07 2007-03-09
     1 6 3 1 1 8 1
2007-03-15 2007-05-01 2007-05-03 2007-05-15 2007-05-18 2007-05-30 2007-06-12
     4 2 3 4 2 2 1
2007-07-27 2007-09-05 2007-09-07 2007-09-11 2007-09-12 2008-02-15 2008-02-21
```

GSE2109 65

uncurated\_author\_metadata:

title: Omentu

title: Ovary - 170809///geo\_accession: GSM137917///status: Public on Sep 28 2006

GSE2109 67

GSE26193 69

1 202

#### Value

An expression set

GSE26193

miR-141 and miR-200a act on ovarian tumorigenesis by controlling oxidative stress response.

## **Description**

Although there is evidence that redox regulation has an essential role in malignancies, its impact on tumor prognosis remains unclear. Here we show crosstalk between oxidative stress and the miR-200 family of microRNAs that affects tumorigenesis and chemosensitivity. miR-141 and miR-200a target p38?? and modulate the oxidative stress response. Enhanced expression of these microR-NAs mimics p38?? deficiency and increases tumor growth in mouse models, but it also improves the response to chemotherapeutic agents. High-grade human ovarian adenocarcinomas that accumulate miR-200a have low concentrations of p38?? and an associated oxidative stress signature. The miR200a-dependent stress signature correlates with improved survival of patients in response to treatment. Therefore, the role of miR-200a in stress could be a predictive marker for clinical outcome in ovarian cancer. In addition, although oxidative stress promotes tumor growth, it also sensitizes tumors to treatment, which could account for the limited success of antioxidants in clinical trials.

# **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Mateescu B, Batista L, Mariani O, Meyniel J, Cottu PH, Sast
  Laboratory: Mateescu, Mechta-Grigoriou 2011
  Contact information:
  Title: miR-141 and miR-200a act on ovarian tumorigenesis by controlling oxidat
  URL:
  PMIDs: 22101765
  Abstract: A 149 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
  platform_shorttitle:
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  platform_summary:
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  platform_manufacturer:
      Affymetrix
  platform_distribution:
      commercial
  platform_accession:
```

```
GPL570
     platform_technology:
        in situ oligonucleotide
     version:
        2015-09-22 19:44:56
   featureData(eset):
   An object of class 'AnnotatedDataFrame'
     featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
       (42447 total)
    varLabels: probeset gene EntrezGene.ID best_probe
     varMetadata: labelDescription
Details
   assayData: 42447 features, 107 samples
  Platform type:
   Overall survival time-to-event summary (in years):
   Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
   107.00 76.00 3.05 2.50 4.56
   Available sample meta-data:
   alt_sample_name:
    Ovarian carcinoma 1 Ovarian carcinoma 10 Ovarian carcinoma 100
   Ovarian carcinoma 101 Ovarian carcinoma 102 Ovarian carcinoma 103
                                           1
                     1
   Ovarian carcinoma 104 Ovarian carcinoma 105 Ovarian carcinoma 106
                      1
                                           1
   Ovarian carcinoma 107 Ovarian carcinoma 11 Ovarian carcinoma 12
                     1
                                           1
    Ovarian carcinoma 13 Ovarian carcinoma 14 Ovarian carcinoma 15
                                           1
                      1
    Ovarian carcinoma 16 Ovarian carcinoma 17 Ovarian carcinoma 18
                                           1
                      1
    Ovarian carcinoma 19 Ovarian carcinoma 2 Ovarian carcinoma 20
                      1
                                           1
    Ovarian carcinoma 21 Ovarian carcinoma 22 Ovarian carcinoma 23
                                          1
                     1
    Ovarian carcinoma 24 Ovarian carcinoma 25 Ovarian carcinoma 26
                     1
                                           1
    Ovarian carcinoma 27 Ovarian carcinoma 28 Ovarian carcinoma 29
                                           1
    Ovarian carcinoma 3 Ovarian carcinoma 30 Ovarian carcinoma 31
                                           1
    Ovarian carcinoma 32 Ovarian carcinoma 33 Ovarian carcinoma 34
                                           1
```

GSE26193 71

Ovarian carcinoma	35	Ovarian	carcinoma	36	Ovarian	carcinoma	37
0	1	0		1	0		1
Ovarian carcinoma	38 1	Ovarian	carcinoma	39 1	Ovariai	n carcinoma	1
Ovarian carcinoma	40 1	Ovarian	carcinoma	41 1	Ovarian	carcinoma	42 1
Ovarian carcinoma	43 1	Ovarian	carcinoma	44	Ovarian	carcinoma	45 1
Ovarian carcinoma	46 1	Ovarian	carcinoma	47 1	Ovarian	carcinoma	48
Ovarian carcinoma	49 1	Ovarian	n carcinoma	a 5 1	Ovarian	carcinoma	50 1
Ovarian carcinoma	51 1	Ovarian	carcinoma	52 1	Ovarian	carcinoma	53 1
Ovarian carcinoma	54	Ovarian	carcinoma	55 1	Ovarian	carcinoma	56
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	n carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	
Ovarian carcinoma	_	Ovarian	n carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	_
Ovarian carcinoma		Ovarian	carcinoma		Ovarian	carcinoma	
Ovarian carcinoma	_	Ovarian	carcinoma	_	Ovarian	carcinoma	91
(Othe	_			Т			1
	8						
<pre>sample_type: tumor 107</pre>							
histological_type:							
clearcell endo	o m:	ucinous 8	other 6		ser 79		

summarygrade:
high low
67 40

```
summarystage:
early late 31 76
tumorstage:
1 2 3 4
20 11 59 17
substage:
 a b c NA's
 16 12 62 17
grade:
1 2 3
7 33 67
days_to_tumor_recurrence:
  Min. 1st Qu. Median Mean 3rd Qu.
       340.5 584.0 1108.0 1525.0 7386.0
recurrence_status:
norecurrence recurrence
        27
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu.
    Mean 3rd Qu. Max. 3 668 1096 1520 2220 7386
                                        7386
vital_status:
deceased living
    76 31
batch:
2006 - 06 - 01 \ 2006 - 06 - 27 \ 2006 - 06 - 28 \ 2006 - 06 - 29 \ 2006 - 06 - 30 \ 2006 - 07 - 20 \ 2008 - 03 - 06
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      15
           14
2009-03-18 2009-03-19
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GSE26193 73

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GSE26193 75

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## Value

An expression set

GSE26712 A gene signature predicting for survival in suboptimally debulked patients with ovarian cancer.

## **Description**

Despite the existence of morphologically indistinguishable disease, patients with advanced ovarian tumors display a broad range of survival end points. We hypothesize that gene expression profiling can identify a prognostic signature accounting for these distinct clinical outcomes. To resolve

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survival-associated loci, gene expression profiling was completed for an extensive set of 185 (90 optimal/95 suboptimal) primary ovarian tumors using the Affymetrix human U133A microarray. Cox regression analysis identified probe sets associated with survival in optimally and suboptimally debulked tumor sets at a P value of <0.01. Leave-one-out cross-validation was applied to each tumor cohort and confirmed by a permutation test. External validation was conducted by applying the gene signature to a publicly available array database of expression profiles of advanced stage suboptimally debulked tumors. The prognostic signature successfully classified the tumors according to survival for suboptimally (P = 0.0179) but not optimally debulked (P = 0.144) patients. The suboptimal gene signature was validated using the independent set of tumors (odds ratio, 8.75; P = 0.0146). To elucidate signaling events amenable to therapeutic intervention in suboptimally debulked patients, pathway analysis was completed for the top 57 survival-associated probe sets. For suboptimally debulked patients, confirmation of the predictive gene signature supports the existence of a clinically relevant predictor, as well as the possibility of novel therapeutic opportunities. Ultimately, the prognostic classifier defined for suboptimally debulked tumors may aid in the classification and enhancement of patient outcome for this high-risk population.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Bonome T, Levine DA, Shih J, Randonovich M, Pise-Masison CA
 Laboratory: Bonome, Birrer 2008
  Contact information:
  Title: A gene signature predicting for survival in suboptimally debulked patie
  URT:
  PMIDs: 18593951
 Abstract: A 238 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  platform_title:
      [HG-U133A] Affymetrix Human Genome U133A Array
  platform_shorttitle:
      Affymetrix HG-U133A
  platform_summary:
      hqu133a
  platform_manufacturer:
      Affymetrix
  platform_distribution:
      commercial
  platform_accession:
      GPL96
  version:
      2015-09-22 19:46:24
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (20967 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

### **Details**

assayData: 20967 features, 195 samples Platform type: Overall survival time-to-event summary (in years): Call: survfit (formula = Surv(time, cens) ~ -1) 10 observations deleted due to missingness n events median 0.95LCL 0.95UCL 185.00 129.00 3.83 3.24 4.83 Available sample meta-data: alt\_sample\_name: Normal HOSE2008 Normal HOSE2061 Normal HOSE2064 1 1 Normal HOSE2085 Normal HOSE2225 Normal HOSE2226 1 1 Normal HOSE2228 Normal HOSE2230 1 1 1

1 Normal HOSE2234 Normal HOSE2237 Ovarian Cancer SO10 Ovarian Cancer SO100 Ovarian Cancer SO103 Ovarian Cancer SO106 Ovarian Cancer SO108 Ovarian Cancer SO11 Ovarian Cancer SO113 Ovarian Cancer SO115 Ovarian Cancer SO116 Ovarian Cancer SO117 Ovarian Cancer SO118 Ovarian Cancer SO12 Ovarian Cancer SO121 Ovarian Cancer SO122 1 Ovarian Cancer S0124 Ovarian Cancer S0129 Ovarian Cancer S013 Ovarian Cancer SO131 Ovarian Cancer SO134 Ovarian Cancer SO135 1 1 Ovarian Cancer SO137 Ovarian Cancer SO141 Ovarian Cancer SO143 Ovarian Cancer SO148 Ovarian Cancer SO154 Ovarian Cancer SO16 Ovarian Cancer S0166 Ovarian Cancer S017 Ovarian Cancer S0173 Ovarian Cancer S0174 Ovarian Cancer S018 Ovarian Cancer S0181 1 1 Ovarian Cancer SO184 Ovarian Cancer SO185 Ovarian Cancer SO187 Ovarian Cancer S0189 Ovarian Cancer S0190 Ovarian Cancer S0193 Ovarian Cancer SO194 Ovarian Cancer SO196 Ovarian Cancer SO197 Ovarian Cancer SO2 Ovarian Cancer SO200 Ovarian Cancer SO201 1 Ovarian Cancer SO203 Ovarian Cancer SO205 Ovarian Cancer SO21

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Ovarian Cancer SO211 Ovarian Cancer SO214 Ovarian Cancer SO216
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Ovarian Cancer SO217 Ovarian Cancer SO218 Ovarian Cancer SO224
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         185
histological_type:
 ser NA's
185 10
primarysite:
OV
195
summarygrade:
high NA's
185 10
summarystage:
late NA's
185 10
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tumorstage:
 3 4 NA's
146 36 13
substage:
 b c NA's
  9 137 49
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 26.00 52.00 63.00 61.54 70.00 84.00 13
recurrence status:
norecurrence recurrence
       42 153
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
  21.9 660.6 1164.0 1429.0 1880.0 4982.0 10
vital status:
deceased living NA's 129 56 10
debulking:
  optimal suboptimal NA's 90 95 10
percent_normal_cells:
20-
195
percent_stromal_cells:
20-
195
percent_tumor_cells:
80+
195
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2003-12-23 2003-12-24 2004-04-20 2004-04-21 2004-04-27 2004-09-28 2005-07-27
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#### Value

An expression set

GSE30009

Multidrug resistance-linked gene signature predicts overall survival of patients with primary ovarian serous carcinoma.

## **Description**

This study assesses the ability of multidrug resistance (MDR)-associated gene expression patterns to predict survival in patients with newly diagnosed carcinoma of the ovary. The scope of this research differs substantially from that of previous reports, as a very large set of genes was evaluated whose expression has been shown to affect response to chemotherapy. We applied a customized TaqMan low density array, a highly sensitive and specific assay, to study the expression profiles of 380 MDR-linked genes in 80 tumor specimens collected at initial surgery to debulk primary serous carcinoma. The RNA expression profiles of these drug resistance genes were correlated with clinical outcomes.Leave-one-out cross-validation was used to estimate the ability of MDR gene expression to predict survival. Although gene expression alone does not predict overall survival (OS; P = 0.06), four covariates (age, stage, CA125 level, and surgical debulking) do (P = 0.03). When gene expression was added to the covariates, we found an 11-gene signature that provides a major improvement in OS prediction (log-rank statistic P < 0.003). The predictive power of this 11-gene signature was confirmed by dividing high- and low-risk patient groups, as defined by their clinical covariates, into four specific risk groups on the basis of expression levels. This study reveals an 11-gene signature that allows a more precise prognosis for patients with serous cancer of the ovary treated with carboplatin- and paclitaxel-based therapy. These 11 new targets offer opportunities for new therapies to improve clinical outcome in ovarian cancer.

### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Gillet JP, Calcagno AM, Varma S, Davidson B et al. Multidru
 Laboratory: Gillet, Gottesman 2012
  Contact information:
  Title: Multidrug resistance-linked gene signature predicts overall survival of
  URL:
  PMIDs: 22492981
  Abstract: A 244 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      TagMan gRT-PCR Homo sapiens Low-Density Array 380
  platform_shorttitle:
      TaqMan qRT-PCR
  platform_summary:
  platform_manufacturer:
      TaqMan
  platform_distribution:
```

custom

```
platform_accession:
        GPL13728
     version:
        2015-09-22 19:46:26
   featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: 5 6 ... 380 (363 total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
  assayData: 363 features, 103 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
   103.00 57.00 3.42 2.92 5.34
  Available sample meta-data:
  alt_sample_name:
   Norwegian patient 1 Norwegian patient 10 Norwegian patient 11
  Norwegian patient 12 Norwegian patient 13 Norwegian patient 14
  Norwegian patient 15 Norwegian patient 16 Norwegian patient 17
  Norwegian patient 18 Norwegian patient 19 Norwegian patient 2
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                                        1
  Norwegian patient 20 Norwegian patient 21 Norwegian patient 22
  Norwegian patient 23 Norwegian patient 3 Norwegian patient 4
   Norwegian patient 5 Norwegian patient 6 Norwegian patient 7
   Norwegian patient 8 Norwegian patient 9
                                                US Patient 1
                    1
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         US Patient 10
                           US Patient 11
                                              US Patient 12
                   1
         US Patient 13 US Patient 14 US Patient 15
                   1
                                       1
         US Patient 16 US Patient 17 US Patient 18
                    1
         US Patient 19 US Patient 2 US Patient 20
                    1
                                       1
         US Patient 21 US Patient 22 US Patient 23
```

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1		1	1
US Patient 24 1	US Patient 2	25 US 1	Patient 26
US Patient 27	US Patient 2	28 US	Patient 29
1 US Patient 3	US Patient 3	1 30 US	Patient 31
1 US Patient 32	US Patient 3	1 33 US	Patient 34
1 US Patient 35	US Patient 3	1 36 US	1 Patient 37
1 US Patient 38		1	1 S Patient 4
1		1	1
US Patient 40 1	US Patient 4	41 US 1	Patient 42
US Patient 43	US Patient 4	44 US 1	Patient 45
US Patient 46	US Patient 4	47 US	Patient 48
US Patient 49	US Patient	5 US	Patient 50
1 US Patient 51	US Patient !	1 52 US	Patient 53
1 US Patient 54	US Patient !	1 55 US	1 Patient 56
1 US Patient 57	US Patient !	1 58 US	1 Patient 59
1		1	1
US Patient 6 1	US Patient (	60 US 1	Patient 61
US Patient 62 1	US Patient (	63 US 1	Patient 64
US Patient 65 1	US Patient (	66 US 1	Patient 67
US Patient 68	US Patient (	69 US 1	S Patient 7
US Patient 70	US Patient	71 US	Patient 72
1 US Patient 73	US Patient	1 74 US	1 Patient 75
1 US Patient 76	US Patient ´	1 77 US	1 Patient 78
1		1	1
(Other)			
4			
e_type:			

sample\_type:
tumor
103

histological\_type: clearcell ser 1 102

```
high low NA's
92 9 2
summarystage:
late
103
tumorstage:
3 4
82 21
substage:
  b c NA's
  2 60 41
grade:
  1 2 3 NA's
      5 92 2
  4
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. 30.00 56.00 61.00 62.45 71.50 87.00
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max.
    24 598 1053 1156 1568 4748
vital_status:
deceased living
    57 46
debulking:
  optimal suboptimal
       81
           22
uncurated_author_metadata:
```

summarygrade:

GSE30009 89

title: US F

GSE30009 91

title:

title: US Patier

title: US Patient  $51///geo\_accession$ : GSM742615///status: Public on Apr 19 2012/

title: US Patient 54///geo\_accession: GSM7

title: US Patient 57///geo\_accession: GSM742621///status: Publi

title: US Patient 59///geo\_accession: GSM742623///status: Publi

title: US Patient 63///geo\_acces

title: US Patie

title: US Patient 66///geo\_accession: GSM742630///sta

title: US Patient 70///geo\_accession: GSM742634///status: Public on Apr 19

title: US Pat

title: US Patient 75///geo\_accession: GSM7

titl

title: US Patient 77///ged

title: US Patient 78

title: US Patient 79/

## Value

An expression set

GSE30161

Multi-gene expression predictors of single drug responses to adjuvant chemotherapy in ovarian carcinoma: predicting platinum resistance.

## **Description**

Despite advances in radical surgery and chemotherapy delivery, ovarian cancer is the most lethal gynecologic malignancy. Standard therapy includes treatment with platinum-based combination chemotherapies yet there is no biomarker model to predict their responses to these agents. We here have developed and independently tested our multi-gene molecular predictors for forecasting patients' responses to individual drugs on a cohort of 55 ovarian cancer patients. To independently validate these molecular predictors, we performed microarray profiling on FFPE tumor samples of 55 ovarian cancer patients (UVA-55) treated with platinum-based adjuvant chemotherapy. Genomewide chemosensitivity biomarkers were initially discovered from the in vitro drug activities and genomic expression data for carboplatin and paclitaxel, respectively. Multivariate predictors were trained with the cell line data and then evaluated with a historical patient cohort. For the UVA-55

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cohort, the carboplatin, taxol, and combination predictors significantly stratified responder patients and non-responder patients (p = 0.019, 0.04, 0.014) with sensitivity = 91%, 96%, 93 and NPV = 57%, 67%, 67% in pathologic clinical response. The combination predictor also demonstrated a significant survival difference between predicted responders and non-responders with a median survival of 55.4 months vs. 32.1 months. Thus, COXEN single- and combination-drug predictors successfully stratified platinum resistance and taxane response in an independent cohort of ovarian cancer patients based on their FFPE tumor samples.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Ferriss JS, Kim Y, Duska L, Birrer M, Levine DA, Moskaluk C
  Laboratory: Ferriss, Lee 2012
  Contact information:
  Title: Multi-gene expression predictors of single drug responses to adjuvant of
  URL:
  PMIDs: 22348014
  Abstract: A 215 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
   platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
   platform_shorttitle:
      Affymetrix HG-U133Plus2
   platform_summary:
      hgu133plus2
   platform_manufacturer:
      Affymetrix
   platform_distribution:
      commercial
   platform accession:
      GPL570
   version:
      2015-09-22 19:50:24
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (42447 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

## **Details**

```
assayData: 42447 features, 58 samples
Platform type:
Overall survival time-to-event summary (in years):
Call: survfit(formula = Surv(time, cens) ~ -1)

n events median 0.95LCL 0.95UCL
```

58.00 36.00 4.19 2.70 6.17

```
Available sample meta-data:
alt_sample_name:
OV_FFPE_1 OV_FFPE_11 OV_FFPE_12 OV_FFPE_13 OV_FFPE_14 OV_FFPE_15
    OV_FFPE_16 OV_FFPE_17 OV_FFPE_18 OV_FFPE_19 OV_FFPE_2 OV_FFPE_20 OV_FFPE_21
   1 1 1 1 1 1 1
OV_FFPE_22 OV_FFPE_23 OV_FFPE_24 OV_FFPE_25 OV_FFPE_26 OV_FFPE_27 OV_FFPE_28
    1 1 1 1 1 1 1
OV_FFPE_35 OV_FFPE_36 OV_FFPE_37 OV_FFPE_38 OV_FFPE_39 OV_FFPE_4 OV_FFPE_40
    OV_FFPE_41 OV_FFPE_42 OV_FFPE_43 OV_FFPE_44 OV_FFPE_45 OV_FFPE_46 OV_FFPE_47
    OV_FFPE_48 OV_FFPE_49 OV_FFPE_5 OV_FFPE_50 OV_FFPE_51 OV_FFPE_52 OV_FFPE_53
          1
                 1 1
                          1
OV_FFPE_54 OV_FFPE_55 OV_FFPE_56 OV_FFPE_57 OV_FFPE_58 OV_FFPE_6 OV_FFPE_7
    1 1 1 1 1 1
OV_FFPE_8 OV_FFPE_9
sample_type:
tumor
 58
histological_type:
            endo mucinous
1 1
   clearcell
                              other
       ser undifferentiated
                          NA's
       47
                          2
              1
summarygrade:
high low NA's
33 21 4
summarystage:
late
58
tumorstage:
3 4
53 5
substage:
a b c
9 11 38
```

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```
grade:
  1
     2 3 NA's
  2 19 33 4
age_at_initial_pathologic_diagnosis:
  Min. 1st Qu. Median Mean 3rd Qu.
                                    Max.
 38.00 53.50 62.00 62.57 72.00 85.00
pltx:
У
58
tax:
n y
4 54
neo:
n
58
days_to_tumor_recurrence:
  Min. 1st Qu. Median Mean 3rd Qu.
  12.0 255.2 386.0 742.1 768.2 4208.0
recurrence_status:
                            NA's
norecurrence recurrence
             48
      6
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max.
  49.0 585.2 1010.0 1375.0 2131.0 4208.0
vital_status:
deceased living
    36
         22
debulking:
  optimal suboptimal NA's
          30
      26
2009-10-07 2009-10-08 2009-10-09 2009-10-20
      28 18 8 4
uncurated_author_metadata:
          title: OV_FFPE_10///geo_accession: GSM746870///status: Public on Aug
 title: OV_FFPE_11///geo_accession: GSM746871///status: Public on Aug 21 2012//
   title: OV_FFPE_12///geo_accession: GSM746872///status: Public on Aug 21 2012
```

title: OV\_FFPE\_13///geo\_accession: GSM746873///status: Public on Aug 21 2012

title: OV\_FFPE\_14///geo\_accession: GSM746874///status: Public on Aug 21 2012/

```
title: OV_FFPE_15///geo_accession: GSM746875///status:
     title: OV_FFPE_16///geo_accession: GSM746876///status: Public on Aug 21 20
      title: OV_FFPE_17///geo_accession: GSM746877///status: Public on Aug 21 2
                                          title: OV_FFPE_18///geo_accession: GSM
                                                           title: OV_FFPE_19///c
      title: OV_FFPE_1///geo_accession: GSM746861///status: Public on Aug 21 20
  title: OV_FFPE_20///geo_accession: GSM746880///status: Public on Aug 21 2012//
                      title: OV_FFPE_21///geo_accession: GSM746881///status: Pub
                                            title: OV_FFPE_22///geo_accession: G
         title: OV_FFPE_23///geo_accession: GSM746883///status: Public on Aug 2
       title: OV_FFPE_24///geo_accession: GSM746884///status: Public on Aug 21
      title: OV_FFPE_25///geo_accession: GSM746885///status: Public on Aug 21 2
    title: OV_FFPE_26///geo_accession: GSM746886///status: Public on Aug 21 201
  title: OV_FFPE_27///geo_accession: GSM746887///status: Public on Aug 21 2012/
                                title: OV_FFPE_28///geo_accession: GSM746888///s
     title: OV_FFPE_29///geo_accession: GSM746889///status: Public on Aug 21 20
     title: OV_FFPE_2///geo_accession: GSM746862///status: Public on Aug 21 201
           title: OV_FFPE_30///geo_accession: GSM746890///status: Public on Aug
      title: OV_FFPE_31///geo_accession: GSM746891///status: Public on Aug 21 2
title: OV_FFPE_32//geo_accession: GSM746892//status: Public on Aug 21 2012///
title: OV_FFPE_33///geo_accession: GSM746893///status: Public on Aug 21 2012///s
         title: OV_FFPE_34///geo_accession: GSM746894///status: Public on Aug 2
 title: OV_FFPE_35///geo_accession: GSM746895///status: Public on Aug 21 2012//
     title: OV_FFPE_36///geo_accession: GSM746896///status: Public on Aug 21 20
                                  title: OV_FFPE_37///geo_accession: GSM746897//
```

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title: OV\_FFPE\_38///geo\_accession: GSM746898///status: Public on Aug 21 2012///

```
title: OV_FFPE_39///geo_accession: GSM746899///status: Public on Aug 21 201
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    title: OV_FFPE_40///geo_accession: GSM746900///status: Public on Aug 21 201
                                          title: OV_FFPE_41///geo_accession: GS
 title: OV_FFPE_42///geo_accession: GSM746902///status: Public on Aug 21 2012//
                              title: OV_FFPE_43///geo_accession: GSM746903///st
title: OV_FFPE_44///geo_accession: GSM746904///status: Public on Aug 21 2012///
title: OV_FFPE_45///geo_accession: GSM746905///status: Public on Aug 21 2012///
    title: OV_FFPE_46///geo_accession: GSM746906///status: Public on Aug 21 201
    title: OV_FFPE_47///geo_accession: GSM746907///status: Public on Aug 21 201
                         title: OV_FFPE_48///geo_accession: GSM746908///status:
     title: OV_FFPE_49///geo_accession: GSM746909///status: Public on Aug 21 20
          title: OV_FFPE_4///geo_accession: GSM746864///status: Public on Aug 2
     title: OV_FFPE_50///geo_accession: GSM746910///status: Public on Aug 21 20
       title: OV_FFPE_51///geo_accession: GSM746911///status: Public on Aug 21
       title: OV_FFPE_52///geo_accession: GSM746912///status: Public on Aug 21
    title: OV_FFPE_53///geo_accession: GSM746913///status: Public on Aug 21 201
    title: OV_FFPE_54///geo_accession: GSM746914///status: Public on Aug 21 201
     title: OV_FFPE_55///geo_accession: GSM746915///status: Public on Aug 21 20
 title: OV_FFPE_56///geo_accession: GSM746916///status: Public on Aug 21 2012//
                                          title: OV_FFPE_57///geo_accession: GS
    title: OV_FFPE_58///geo_accession: GSM746918///status: Public on Aug 21 201
       title: OV_FFPE_5///geo_accession: GSM746865///status: Public on Aug 21 2
      title: OV_FFPE_6///geo_accession: GSM746866///status: Public on Aug 21 2
      title: OV_FFPE_7///geo_accession: GSM746867///status: Public on Aug 21 20
```

```
title: OV_FFPE_8///geo_accession: GSM746868///status: Public on Aug 21 2 title: OV_FFPE_9///geo_accession: GSM746869///status: Public on Aug 21 201
```

### Value

An expression set

GSE32062

High-risk ovarian cancer based on 126-gene expression signature is uniquely characterized by downregulation of antigen presentation pathway.

## Description

High-grade serous ovarian cancers are heterogeneous not only in terms of clinical outcome but also at the molecular level. Our aim was to establish a novel risk classification system based on a gene expression signature for predicting overall survival, leading to suggesting novel therapeutic strategies for high-risk patients. In this large-scale cross-platform study of six microarray data sets consisting of 1,054 ovarian cancer patients, we developed a gene expression signature for predicting overall survival by applying elastic net and 10-fold cross-validation to a Japanese data set A (n = 260) and evaluated the signature in five other data sets. Subsequently, we investigated differences in the biological characteristics between high- and low-risk ovarian cancer groups. An elastic net analysis identified a 126-gene expression signature for predicting overall survival in patients with ovarian cancer using the Japanese data set A (multivariate analysis, P = 4 ?? 10(-20)). We validated its predictive ability with five other data sets using multivariate analysis (Tothill's data set, P = 1 ?? 10(-5); Bonome's data set, P = 0.0033; Dressman's data set, P = 0.0016; TCGA data set, P = 0.0027; Japanese data set B, P = 0.021). Through gene ontology and pathway analyses, we identified a significant reduction in expression of immune-response-related genes, especially on the antigen presentation pathway, in high-risk ovarian cancer patients. This risk classification based on the 126-gene expression signature is an accurate predictor of clinical outcome in patients with advanced stage high-grade serous ovarian cancer and has the potential to develop new therapeutic strategies for high-grade serous ovarian cancer patients.

### **Format**

```
experimentData(eset):
Experiment data
   Experimenter name: Yoshihara K, Tsunoda T, Shigemizu D, Fujiwara H et al. High
   Laboratory: Yoshihara, Tanaka 2012
   Contact information:
   Title: High-risk ovarian cancer based on 126-gene expression signature is uniq
   URL:
   PMIDs: 22241791

Abstract: A 255 word abstract is available. Use 'abstract' method.
   Information is available on: preprocessing
   notes:
```

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Agilent-014850 Whole Human Genome Microarray 4x44K G4112F (Probe Name vers

platform title:

```
platform_shorttitle:
           Agilent G4112F
        platform_summary:
           hgug4112a
        platform_manufacturer:
            Agilent
        platform_distribution:
           commercial
        platform_accession:
           GPL6480
        version:
            2015-09-22 19:55:29
    featureData(eset):
    An object of class 'AnnotatedDataFrame'
      featureNames: A_23_P100001 A_23_P100011 ... A_32_P99902 (30936 total)
      varLabels: probeset gene EntrezGene.ID best_probe
      varMetadata: labelDescription
Details
    assayData: 30936 features, 260 samples
    Platform type:
    Overall survival time-to-event summary (in years):
    Call: survfit(formula = Surv(time, cens) ~ -1)
            n events median 0.95LCL 0.95UCL
     260.00 121.00 4.93 4.11 6.58
    Available sample meta-data:
    alt_sample_name:
         10d 115d 116d 117d 119d 11d 120d 122d 123d 125Rd
                  1
                                                                                                           1
          1
                              1
                                         1
                                                    1
                                                                 1
                                                                           1
                                                                                      1
                                                                                                  1
        129d
                  12d 130d 132d 134d 139d 140d 143d 144d 145d
                                                              1
                    1
                              1
                                         1
                                                    1
                                                                           1
                                                                                       1
                                                                                                  1

    1
    1
    1
    1
    1
    1
    1
    1
    1

    146d
    148d
    150d
    155d
    156d
    15d
    160d
    16d
    171d
    173d

    1
    1
    1
    1
    1
    1
    1
    1
    1
    1

    174d
    178d
    17d
    183d
    184d
    185d
    186d
    18d
    20d
    22d

    1
    1
    1
    1
    1
    1
    1
    1
    1
    1

    23d
    249d
    257d
    25d
    260d
    262d
    264d
    266d
    267d
    268d

    1
    1
    1
    1
    1
    1
    1
    1
    1

    269d
    27d
    299d
    2d
    300d
    301d
    302d
    303d
    304d
    305d2

    1
    1
    1
    1
    1
    1
    1
    1
    1
    1

    306d
    307d
    310d
    318d
    319d
    320d2
    323d
    327d
    330d
    331d

                                                                                                           331d
        306d 307d 310d 318d 319d 320d2 323d 327d 330d
                   1
                              1
                                         1
                                                                           1
                                                                                     1
                                                                                                 1
          1
                                                    1 1
                                                                                                             1
                 335d 337d 340d 342d 346d 347d 348d2 350d 352d
       333d2
```

```
1 1 1 1 1 1 1 1
353d 355d 356d 357d 358d 360d 362d
                                           1 1
365d 366d
1 1
                                     1
363d
  1
      1 1 1
                      1
                           1
                                1
                                      1
                                 43d
  367d 368d2
            36d
                 38d
                      41d2R
                                      44d 456d (Other)
                            42d
  1
      1
            1
                  1
                      1
                                 1
                                       1
                                            1 161
                            1
sample_type:
tumor
260
```

histological\_type:

ser 260

summarygrade:

high low 129 131

summarystage:

late 260

tumorstage:

3 4 204 56

substage:

a b c NA's 4 20 180 56

grade:

2 3 131 129

pltx:

У 260

tax:

у 260

days\_to\_death:

Min. 1st Qu. Median Mean 3rd Qu. Max. 30 810 1245 1344 1710 3840

vital\_status:

deceased living 121 139

debulking:

optimal suboptimal

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103 157

uncurated\_author\_metadata:

title: serous ovarian cancer 10d///geo\_accession: GSM794865///status: Publi title: serous ovarian cancer 115d///geo\_accession: GSM794867///status: Public or title: serous ovarian cancer 116d///geo\_accession: GSM794868///status: Public or title: serous ovarian cancer 117d///geo\_accession: GSM794869///status: Public title: serous ovarian cancer 119d///geo\_accession: GSM794870///status: Public title: serous ovarian cancer 11d///geo\_accession: GSM794866///status: Publi title: serous ovarian cancer 120d///geo\_accession: GSM794872///status: Public title: serous ovarian cancer 122d///geo\_accession: GSM794873///status: Public of title: serous ovarian cancer 123d///geo\_accession: GSM794874///status: Public or title: serous ovarian cancer 125Rd///geo\_accession: GSM794875///status: Public of title: serous ovarian cancer 129d///geo\_accession: GSM794876///status: Public title: serous ovarian cancer 12d///geo\_accession: GSM794871///status: Publ title: serous ovarian cancer 130d///geo\_accession: GSM794877///status: Public or title: serous ovarian cancer 132d///geo\_accession: GSM794878///status: Public title: serous ovarian cancer 134d///geo\_accession: GSM794879///status: Public title: serous ovarian cancer 139d///geo\_accession: GSM794880///status: Public title: serous ovarian cancer 140d///geo\_accession: GSM794881///status: Public title: serous ovarian cancer 143d///geo\_accession: GSM794882///status: Public o title: serous ovarian cancer 144d///geo\_accession: GSM794883///status: Public title: serous ovarian cancer 145d///geo\_accession: GSM794884///status: Public or title: serous ovarian cancer 146d///geo\_accession: GSM794885///status: Public or title: serous ovarian cancer 148d///geo\_accession: GSM794886///status: Public title: serous ovarian cancer 150d///geo\_accession: GSM794888///status: Public or title: serous ovarian cancer 155d///geo\_accession: GSM794889///status: Public

title: serous ovarian cancer 156d///geo\_accession: GSM794890///status: Public

title: serous ovarian cancer 15d///geo\_accession: GSM794887///status: Publi

```
title: serous ovarian cancer 160d///geo_accession: GSM794892///status: Public or
     title: serous ovarian cancer 16d///geo_accession: GSM794891///status: Publi
 title: serous ovarian cancer 171d///geo_accession: GSM794894///status: Public of
 title: serous ovarian cancer 173d///geo_accession: GSM794895///status: Public of
     title: serous ovarian cancer 174d///geo_accession: GSM794896///status: Publ
     title: serous ovarian cancer 178d///geo_accession: GSM794897///status: Publ
    title: serous ovarian cancer 17d///geo_accession: GSM794893///status: Publi
title: serous ovarian cancer 183d///geo_accession: GSM794899///status: Public on
   title: serous ovarian cancer 184d///geo_accession: GSM794900///status: Public
   title: serous ovarian cancer 185d///geo_accession: GSM794901///status: Public
   title: serous ovarian cancer 186d///geo_accession: GSM794902///status: Public
    title: serous ovarian cancer 18d///geo_accession: GSM794898///status: Publi
   title: serous ovarian cancer 20d///geo_accession: GSM794904///status: Public
  title: serous ovarian cancer 22d///geo_accession: GSM794905///status: Public of
   title: serous ovarian cancer 23d///geo_accession: GSM794906///status: Public
   title: serous ovarian cancer 249d///geo_accession: GSM794907///status: Public
title: serous ovarian cancer 257d///geo_accession: GSM794909///status: Public or
     title: serous ovarian cancer 25d///geo_accession: GSM794908///status: Publi
 title: serous ovarian cancer 260d///geo_accession: GSM794910///status: Public of
title: serous ovarian cancer 262d///geo_accession: GSM794911///status: Public or
title: serous ovarian cancer 264d///geo_accession: GSM794912///status: Public or
title: serous ovarian cancer 266d///geo_accession: GSM794913///status: Public or
   title: serous ovarian cancer 267d///geo_accession: GSM794914///status: Public
  title: serous ovarian cancer 268d///geo_accession: GSM794915///status: Public
title: serous ovarian cancer 269d///geo_accession: GSM794916///status: Public or
```

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title: serous ovarian cancer 27d///geo\_accession: GSM794917///status: Public title: serous ovarian cancer 299d///geo\_accession: GSM794918///status: Publi title: serous ovarian cancer 2d///geo\_accession: GSM794903///status: Public title: serous ovarian cancer 300d///geo\_accession: GSM794919///status: Public title: serous ovarian cancer 301d///geo\_accession: GSM794920///status: Public or title: serous ovarian cancer 302d///geo\_accession: GSM794921///status: Public title: serous ovarian cancer 303d///geo\_accession: GSM794922///status: Public title: serous ovarian cancer 304d///geo\_accession: GSM794923///status: Public or title: serous ovarian cancer 305d2///geo\_accession: GSM794924///status: Public title: serous ovarian cancer 306d///geo\_accession: GSM794925///status: Public on title: serous ovarian cancer 307d///geo\_accession: GSM794926///status: Public or title: serous ovarian cancer 310d///geo\_accession: GSM794927///status: Publ title: serous ovarian cancer 318d///geo\_accession: GSM794928///status: Public of title: serous ovarian cancer 319d///geo\_accession: GSM794929///status: Public or title: serous ovarian cancer 320d2///geo\_accession: GSM794930///status: Public title: serous ovarian cancer 323d///geo\_accession: GSM794931///status: Public title: serous ovarian cancer 327d///geo\_accession: GSM794932///status: Public title: serous ovarian cancer 330d///geo\_accession: GSM794933///status: Public title: serous ovarian cancer 331d///geo\_accession: GSM794934///status: Public or title: serous ovarian cancer 333d2///geo\_accession: GSM794935///status: Public title: serous ovarian cancer 335d///geo\_accession: GSM794936///status: Public title: serous ovarian cancer 337d///geo\_accession: GSM794937///status: Public title: serous ovarian cancer 340d///geo\_accession: GSM794938///status: Public title: serous ovarian cancer 342d///geo\_accession: GSM794939///status: Public title: serous ovarian cancer 346d///geo\_accession: GSM794940///status: Public

title: serous ovarian cancer 347d///geo\_accession: GSM794941///status: Public or

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title: serous ovarian cancer 348d2///geo_accession: GSM794942///status: Public
 title: serous ovarian cancer 350d///geo_accession: GSM794943///status: Public of
title: serous ovarian cancer 352d///geo_accession: GSM794944///status: Public or
    title: serous ovarian cancer 353d///geo_accession: GSM794945///status: Publ
   title: serous ovarian cancer 355d///geo_accession: GSM794946///status: Public
    title: serous ovarian cancer 356d///geo_accession: GSM794947///status: Publ
title: serous ovarian cancer 357d///geo_accession: GSM794948///status: Public or
   title: serous ovarian cancer 358d///geo_accession: GSM794949///status: Public
title: serous ovarian cancer 360d///geo_accession: GSM794951///status: Public or
title: serous ovarian cancer 362d///geo_accession: GSM794952///status: Public or
   title: serous ovarian cancer 363d///geo_accession: GSM794953///status: Public
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duplicates:

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GSE32063 105

258

### Value

An expression set

GSE32063

High-risk ovarian cancer based on 126-gene expression signature is uniquely characterized by downregulation of antigen presentation pathway.

# **Description**

High-grade serous ovarian cancers are heterogeneous not only in terms of clinical outcome but also at the molecular level. Our aim was to establish a novel risk classification system based on a gene expression signature for predicting overall survival, leading to suggesting novel therapeutic strategies for high-risk patients. In this large-scale cross-platform study of six microarray data sets consisting of 1,054 ovarian cancer patients, we developed a gene expression signature for predicting overall survival by applying elastic net and 10-fold cross-validation to a Japanese data set A (n = 260) and evaluated the signature in five other data sets. Subsequently, we investigated differences in the biological characteristics between high- and low-risk ovarian cancer groups. An elastic net analysis identified a 126-gene expression signature for predicting overall survival in patients with ovarian cancer using the Japanese data set A (multivariate analysis, P = 4 ?? 10(-20)). We validated its predictive ability with five other data sets using multivariate analysis (Tothill's data set, P = 1 ?? 10(-5); Bonome's data set, P = 0.0033; Dressman's data set, P = 0.0016; TCGA data set, P = 0.0027; Japanese data set B, P = 0.021). Through gene ontology and pathway analyses, we identified a significant reduction in expression of immune-response-related genes, especially on the antigen presentation pathway, in high-risk ovarian cancer patients. This risk classification based on the 126-gene expression signature is an accurate predictor of clinical outcome in patients with advanced stage high-grade serous ovarian cancer and has the potential to develop new therapeutic strategies for high-grade serous ovarian cancer patients.

# **Format**

```
experimentData(eset):
Experiment data
    Experimenter name: Yoshihara K, Tsunoda T, Shigemizu D, Fujiwara H et al. High
    Laboratory: Yoshihara, Tanaka 2012
    Contact information:
    Title: High-risk ovarian cancer based on 126-gene expression signature is unique.
    URL:
    PMIDs: 22241791

Abstract: A 255 word abstract is available. Use 'abstract' method.
    Information is available on: preprocessing
    notes:
        platform_title:
            Agilent-014850 Whole Human Genome Microarray 4x44K G4112F (Probe Name version)
            platform_shorttitle:
```

```
Agilent G4112F
     platform_summary:
       hgug4112a
     platform_manufacturer:
       Agilent
     platform_distribution:
       commercial
     platform_accession:
       GPL6480
     version:
       2015-09-22 19:58:23
  featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: A_23_P100001 A_23_P100011 ... A_32_P99902 (30936 total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
  assayData: 30936 features, 40 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
       n events median 0.95LCL 0.95UCL
    40.00 22.00 4.44 3.29
  Available sample meta-data:
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   106 108 109R 110 111R 192 195R 196 197 198 200 203 205 206 207 213
    1 1 1 1 1 1 1
                                     1 1 1 1 1 1 1
                                                                     1
   222 224 226 229 230 231 274 277 278 280 281 282 283 284 285 286
    1 1 1 1 1 1 1
                                      1 1
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                                                                    1
   287 288 289 291 292 294 297R 298R
        1 1
                 1 1 1
     1
                              1
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  tumor
     40
  histological_type:
  ser
   40
  summarygrade:
  high low
    17 23
```

GSE32063 107

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summarystage:
late
 40
tumorstage:
3 4
31 9
substage:
  b c NA's
  3
      28
grade:
2 3
23 17
pltx:
У
40
tax:
40
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu.
                                        Max.
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                          1346 1792
                                          3330
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debulking:
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                 21
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GSE44104 109

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title: serous ovarian cancer 292///geo_accession: G

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title: serous ovarian cancer 297R///geo_accession: GSM7
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title: serous ovarian cancer 289///geo\_accession: @

# Value

An expression set

GSE44104

COL11A1 promotes tumor progression and predicts poor clinical outcome in ovarian cancer.

# **Description**

Biomarkers that predict disease progression might assist the development of better therapeutic strategies for aggressive cancers, such as ovarian cancer. Here, we investigated the role of collagen type XI alpha 1 (COL11A1) in cell invasiveness and tumor formation and the prognostic impact of COL11A1 expression in ovarian cancer. Microarray analysis suggested that COL11A1 is a disease progression-associated gene that is linked to ovarian cancer recurrence and poor survival. Small interference RNA-mediated specific reduction in COL11A1 protein levels suppressed the invasive ability and oncogenic potential of ovarian cancer cells and decreased tumor formation and lung colonization in mouse xenografts. A combination of experimental approaches, including realtime RT-PCR, casein zymography and chromatin immunoprecipitation (ChIP) assays, showed that COL11A1 knockdown attenuated MMP3 expression and suppressed binding of Ets-1 to its putative MMP3 promoter-binding site, suggesting that the Ets-1-MMP3 axis is upregulated by COL11A1. Transforming growth factor (TGF)-beta (TGF-??1) treatment triggers the activation of smad2 signaling cascades, leading to activation of COL11A1 and MMP3. Pharmacological inhibition of MMP3 abrogated the TGF-??1-triggered, COL11A1-dependent cell invasiveness. Furthermore, the NF-YA-binding site on the COL11A1 promoter was identified as the major determinant of TGF-??1-dependent COL11A1 activation. Analysis of 88 ovarian cancer patients indicated that high COL11A1 mRNA levels are associated with advanced disease stage. The 5-year recurrence-free and overall survival rates were significantly lower (P=0.006 and P=0.018, respectively) among patients with high expression levels of tissue COL11A1 mRNA compared with those with low expression. We conclude that COL11A1 may promote tumor aggressiveness via the TGF-??1-MMP3 axis and that COL11A1 expression can predict clinical outcome in ovarian cancer patients.

# **Format**

```
experimentData(eset):
Experiment data
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Experimenter name: Wu Y, Chang T, Huang Y, Huang H, Chou C

Laboratory: Wu, Chou 2013

```
Contact information:
    Title: COL11A1 promotes tumor progression and predicts poor clinical outcome i
    PMIDs: 23934190
    Abstract: A 260 word abstract is available. Use 'abstract' method.
    Information is available on: preprocessing
    notes:
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       [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
    platform shorttitle:
       Affymetrix HG-U133Plus2
    platform_summary:
       hgu133plus2
    platform_manufacturer:
       Affymetrix
    platform_distribution:
       commercial
    platform_accession:
       GPL570
    platform_technology:
       in situ oligonucleotide
    version:
       2015-09-22 20:02:05
  featureData(eset):
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    featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
     (42447 total)
    varLabels: probeset gene EntrezGene.ID best probe
    varMetadata: labelDescription
Details
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  Platform type:
  _____
  Available sample meta-data:
  _____
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  Tc_113 Tc_48 Tc_49 Tc_51 Tc_56 Tc_59 Tc_61 Tc_63 Tc_64 Tc_65 Tc_74
     1 1 1 1 1 1 1 1 1 1 1
   Tc_94 Te_69 Te_77 Te_78 Te_79 Te_84 Te_87 Te_89 Te_90 Te_91 Te_92
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                                     1 1 1 1 1
   Te_93 Tm_101 Tm_102 Tm_106 Tm_107 Tm_110
                                     Tm_95 Tm_96 Tm_97
                                                       Tm_98 Ts_11
                                      1
                                                             1
     1 1
              1
                    1 1 1
                                           1
                                                 1
                                                       1
   Ts_14 Ts_15 Ts_17 Ts_19
                          Ts_2 Ts_20 Ts_21 Ts_23 Ts_24
                                                       Ts_26 Ts_28
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                          1 1
                                     1 1 1 1 1
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GSE44104 111

1 1 1 1

1 1

1

1

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histological_type:
clearcell endo mucinous
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      12
               11
                     9
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summarystage:
early late
  25
      35
tumorstage:
1 2 3 4
17 8 30 5
recurrence_status:
norecurrence recurrence
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                 20
os_binary:
long short
  44 16
relapse_binary:
 long short
  40
      20
batch:
2010-09-07 2010-09-08 2010-10-14 2010-12-10 2010-12-14
                         18
                               16
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                  2
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GSE44104 113

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   60 character character
```

#### Value

An expression set

GSE49997

Validating the impact of a molecular subtype in ovarian cancer on outcomes: a study of the OVCAD Consortium.

# Description

Most patients with epithelial ovarian cancer (EOC) are diagnosed at advanced stage and have a poor prognosis. However, a small proportion of these patients will survive, whereas others will die very quickly. Clinicopathological factors do not allow precise identification of these subgroups. Thus, we have validated a molecular subclassification as new prognostic factor in EOC. One hundred and ninety-four patients with Stage II-IV EOC were characterized by whole-genome expression profiling of tumor tissues and were classified using a published 112 gene set, derived from an International Federation of Gynecology and Obstetrics (FIGO) stage-directed supervised classification approach. The 194 tumor samples were classified into two subclasses comprising 95 (Subclass 1) and 99 (Subclass 2) tumors. All nine FIGO II tumors were grouped in Subclass 1 (P = 0.001). Subclass 2 (54% of advanced-stage tumors) was significantly correlated with peritoneal carcinomatosis and non-optimal debulking. Patients with Subclass 2 tumors had a worse overall survival for both serous and non-serous histological subtypes, as revealed by univariate analysis (hazard ratios [HR] of 3.17 and 17.11, respectively; P??? 0.001) and in models corrected for relevant clinicopathologic parameters (HR 2.87 and 12.42, respectively; P ??? 0.023). Significance analysis of microarrays revealed 2082 genes that were differentially expressed in advanced-grade serous tumors of both subclasses and the focal adhesion pathway as the most deregulated pathway. In the present validation study, we have shown that, in advanced-stage serous ovarian cancer, two approximately equally large molecular subtypes exist, independent of classical clinocopathological parameters and presenting with highly different whole-genome expression profiles and a markedly different overall survival. Similar results were obtained in a small cohort of patients with non-serous tumors.?? 2012 Japanese Cancer Association.

#### **Format**

```
experimentData(eset):
Experiment data
Experimenter name: Pils D1, Hager G, Tong D, Aust S, Heinze G, Kohl M, Schuste Laboratory: Pils, Zeilinger 2012
Contact information:
Title: Validating the impact of a molecular subtype in ovarian cancer on outco URL:
PMIDs: 22497737
Abstract: A 276 word abstract is available. Use 'abstract' method.
```

GSE49997 115

```
Information is available on: preprocessing
    notes:
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       ABI Human Genome Survey Microarray Version 2
     platform_shorttitle:
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     platform_summary:
     platform_manufacturer:
       Applied Biosystems
     platform_distribution:
       commercial
     platform accession:
       GPL2986
     platform_technology:
       in situ oligonucleotide
     version:
       2015-09-22 20:04:13
  featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: 100027 100036 ... 10715781 (18439 total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
  assayData: 18439 features, 204 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
     10 observations deleted due to missingness
       n events median 0.95LCL 0.95UCL
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       1 1
                      1 1
                                     1 1 1 1
  EOC P017 EOC P018 EOC P019 EOC P020 EOC P021 EOC P022 EOC P023 EOC P024
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tumor
204
histological type:
other ser NA's
 23 171 10
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high low NA's
143 50 11
summarystage:
early late NA's
 9 185 10
tumorstage:
 2 3 4 NA's
  9 154 31 10
grade:
 2 3 NA's
 50 143 11
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu.
                           Max. NA's
 26.00 50.00 57.00 57.66 67.00 85.00
days_to_tumor_recurrence:
  Min. 1st Qu. Median
                 Mean 3rd Qu.
                           Max.
  30.0 335.0 487.0 580.1 722.5 1461.0 10
recurrence_status:
norecurrence recurrence NA's
          124
                      10
```

GSE49997 117

days\_to\_death:

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Mean 3rd Qu.
                                                 NA's
  Min. 1st Qu. Median
                                         Max.
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                                                    10
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deceased
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debulking:
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                           NA's
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GSE49997 119

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GSE51088 121

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#### Value

An expression set

GSE51088

POSTN/TGFBI-associated stromal signature predicts poor prognosis in serous epithelial ovarian cancer.

# **Description**

To identify molecular prognosticators and therapeutic targets for high-grade serous epithelial ovarian cancers (EOCs) using genetic analyses driven by biologic features of EOC pathogenesis. Ovarian tissue samples (n = 172; 122 serous EOCs, 30 other EOCs, 20 normal/benign) collected prospectively from sequential patients undergoing gynecologic surgery were analyzed using RNA expression microarrays. Samples were classified based on expression of genes with potential relevance in ovarian cancer. Gene sets were defined using Rosetta Similarity Search Tool (ROAST) and analysis of variance (ANOVA). Gene copy number variations were identified by array comparative genomic hybridization. No distinct subgroups of EOC could be identified by unsupervised clustering, however, analyses based on genes correlated with periostin (POSTN) and estrogen receptoralpha (ESR1) yielded distinct subgroups. When 95 high-grade serous EOCs were grouped by genes based on ANOVA comparing ESR1/WT1 and POSTN/TGFBI samples, overall survival (OS) was significantly shorter for 43 patients with tumors expressing genes associated with POSTN/TGFBI compared to 52 patients with tumors expressing genes associated with ESR1/WT1 (median 30 versus 49 months, respectively; P = 0.022). Several targets with the rapeutic potential were identified within each subgroup. BRCA germline mutations were more frequent in the ESR1/WT1 subgroup. Proliferation-associated genes and TP53 status (mutated or wild-type) did not correlate with survival. Findings were validated using independent ovarian cancer datasets. Two distinct molecular subgroups of high-grade serous EOCs based on POSTN/TGFBI and ESR1/WT1 expressions were identified with significantly different OS. Specific differentially expressed genes between these subgroups provide potential prognostic and therapeutic targets. Copyright ?? 2013 Elsevier Inc. All rights reserved.

#### **Format**

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experimentData(eset):
Experiment data
Experimenter name: Karlan BY, Dering J, Walsh C, Orsulic S, Lester J, Anderson Laboratory: Karlan, Slamon 2014
Contact information:
Title: POSTN/TGFBI-associated stromal signature predicts poor prognosis in ser URL:
PMIDs: 24368280
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Abstract: A 250 word abstract is available. Use 'abstract' method.

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Information is available on: preprocessing
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                         15 17
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                                             ser
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119 30 23
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 a b
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 17 22
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GSE51088 127

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GSE6008 129

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# Value

An expression set

GSE6008

Lysophosphatidic acid-induced transcriptional profile represents serous epithelial ovarian carcinoma and worsened prognosis.

#### **Description**

Lysophosphatidic acid (LPA) governs a number of physiologic and pathophysiological processes. Malignant ascites fluid is rich in LPA, and LPA receptors are aberrantly expressed by ovarian cancer cells, implicating LPA in the initiation and progression of ovarian cancer. However, there is an absence of systematic data critically analyzing the transcriptional changes induced by LPA in ovarian cancer.In this study, gene expression profiling was used to examine LPA-mediated transcription by exogenously adding LPA to human epithelial ovarian cancer cells for 24 h to mimic long-term stimulation in the tumor microenvironment. The resultant transcriptional profile comprised a 39-gene signature that closely correlated to serous epithelial ovarian carcinoma. Hierarchical clustering of ovarian cancer patient specimens demonstrated that the signature is associated with worsened prognosis. Patients with LPA-signature-positive ovarian tumors have reduced disease-specific and progression-free survival times. They have a higher frequency of stage IIIc serous carcinoma and a greater proportion is deceased. Among the 39-gene signature, a group of seven genes associated with cell adhesion recapitulated the results. Out of those seven, claudin-1, an adhesion molecule and phenotypic epithelial marker, is the only independent biomarker of serous epithelial ovarian carcinoma. Knockdown of claudin-1 expression in ovarian cancer cells reduces LPA-mediated cellular adhesion, enhances suspended cells and reduces LPA-mediated migration. The data suggest that transcriptional events mediated by LPA in the tumor microenvironment influence tumor progression through modulation of cell adhesion molecules like claudin-1 and, for the first time, report an LPA-mediated expression signature in ovarian cancer that predicts a worse prognosis.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Murph MM, Liu W, Yu S, Lu Y, Hall H, Hennessy BT, Lahad J,
 Laboratory: Murph, Mills 2009
  Contact information:
  Title: Lysophosphatidic acid-induced transcriptional profile represents serous
  PMIDs: 19440550
  Abstract: A 247 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
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      [HG-U133A] Affymetrix Human Genome U133A Array
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      hgu133a
  platform_manufacturer:
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  platform distribution:
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  platform_accession:
      GPL96
   version:
      2015-09-22 20:07:11
featureData(eset):
An object of class 'AnnotatedDataFrame'
```

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```
featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
  (20967 total)
varLabels: probeset gene EntrezGene.ID best_probe
varMetadata: labelDescription
```

# **Details**

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assayData: 20967 features, 103 samples
Platform type:
Available sample meta-data:
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   Ovarian_Tumor_ClearCell_CHTN-OC-028
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                                            Ovarian_Tumor_ClearCell_KU-OC-005
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     Ovarian_Tumor_ClearCell_KU-OC-006
                                            Ovarian_Tumor_ClearCell_KU-OC-007
Ovarian Tumor Endometrioid CHTN-OE-005 Ovarian Tumor Endometrioid CHTN-OE-011
Ovarian_Tumor_Endometrioid_CHTN-OE-014 Ovarian_Tumor_Endometrioid_CHTN-OE-017
Ovarian_Tumor_Endometrioid_CHTN-OE-018 Ovarian_Tumor_Endometrioid_CHTN-OE-019
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Ovarian_Tumor_Endometrioid_CHTN-OE-023 Ovarian_Tumor_Endometrioid_CHTN-OE-029
Ovarian_Tumor_Endometrioid_CHTN-OE-033 Ovarian_Tumor_Endometrioid_CHTN-OE-035
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                                     1
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Ovarian_Tumor_Endometrioid_CHTN-OE-042 Ovarian_Tumor_Endometrioid_CHTN-OE-046
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                                     1
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Ovarian_Tumor_Endometrioid_KU-OE-004	Ovarian_Tumor_Endometrioid_KU-OE-007
Ovarian_Tumor_Endometrioid_UM-OE-1T 1	Ovarian_Tumor_Mucinous_CHTN-OM-007
Ovarian_Tumor_Mucinous_CHTN-OM-017	Ovarian_Tumor_Mucinous_CHTN-OM-023
Ovarian_Tumor_Mucinous_CHTN-OM-029	Ovarian_Tumor_Mucinous_CHTN-OM-032
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Ovarian Tumor Serous KU-OS-015

Ovarian Tumor Serous KU-OS-018

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       Ovarian_Tumor_Serous_UM-OS-09
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        99
    4
histological_type:
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                                   NA's
            37 13
      8
                            41
primarysite:
OV
103
summarygrade:
high low NA's
38 36 29
summarystage:
early late NA's
  42
     53 8
tumorstage:
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         3
             4 NA's
 3.5
     11
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             9 4
substage:
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             d NA's
         С
      2
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             1 27
 19
grade:
     2
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 19
     17
         38 29
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NA's 100

# Value

An expression set

GSE6822

Classification of ovarian tumor samples

# **Description**

Ouellet V, Provencher DM, Maugard CM, Le Page C, Ren F, Lussier C, Novak J, Ge B, Hudson TJ, Tonin PN, Mes-Masson A-M: Discrimination between serous low malignant potential and invasive epithelial ovarian tumors using molecular profiling. Oncogene 2005, 24:4672-4687.

# **Format**

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experimentData(eset):
Experiment data
  Experimenter name: Ouellet V, Provencher DM, Maugard CM, Le Page C, Ren F, Lus
  Laboratory: Ouellet, Mes-Masson 2005
  Contact information:
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  URL:
  PMIDs: PMID unknown
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  Information is available on: preprocessing
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   platform_manufacturer:
      Affymetrix
   platform_distribution:
      commercial
   platform_accession:
      GPL80
   version:
      2015-09-22 20:07:22
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: A28102_at AB000114_at ... Z97074_at (6407 total)
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  varMetadata: labelDescription
```

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assayData: 6407 features, 66 samples

#### **Details**

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Ovarian tumor AM196 Ovarian tumor AM198 Ovarian tumor AM200 Ovarian tumor AM201
Ovarian tumor AM202 Ovarian tumor AM203 Ovarian tumor AM204 Ovarian tumor AM207
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                 1
                                     1
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Ovarian tumor AM253 Ovarian tumor AM255 Ovarian tumor AM256 Ovarian tumor AM259
Ovarian tumor AM261 Ovarian tumor AM263 Ovarian tumor AM268 Ovarian tumor AM269
Ovarian tumor AM287 Ovarian tumor AM288 Ovarian tumor AM289 Ovarian tumor AM290
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Ovarian tumor AM313 Ovarian tumor AM315 Ovarian tumor AM317 Ovarian tumor AM333
Ovarian tumor AM335 Ovarian tumor AM339 Ovarian tumor AM341 Ovarian tumor AM344
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Ovarian tumor AM354 Ovarian tumor AM364 Ovarian tumor AM367 Ovarian tumor AM368
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Ovarian tumor AM381 Ovarian tumor AM382 Ovarian tumor AM398 Ovarian tumor AM429
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                                                         1
Ovarian tumor AM431 Ovarian tumor AM438
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             ser undifferentiated
             41
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OV

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      15
  40
grade:
       2
            3 NA's
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           40 11
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                           title: Ovarian tumor AM289///geo_accession
                           title: Ovarian tumor AM290///geo_accession
title: Ovarian tumor AM292///geo_accession: GSM157273///status: Publ
```

```
title: Ovarian tumor AM293///geo accession
                                        title: Ovarian tumor AM294///geo_accession
                                 title: Ovarian tumor AM311///geo_accession: GSM
                                      title: Ovarian tumor AM313///geo_accession:
                                     title: Ovarian tumor AM315///geo_accession:
                                    title: Ovarian tumor AM317///geo_accession: @
                                    title: Ovarian tumor AM333///geo_accession: @
                                        title: Ovarian tumor AM335///geo_accession
                                       title: Ovarian tumor AM339///geo_accession
                                       title: Ovarian tumor AM341///geo_accession
                                  title: Ovarian tumor AM344///geo_accession: GS
                                        title: Ovarian tumor AM345///geo_accession
             title: Ovarian tumor AM347///geo_accession: GSM157286///status: Pub
                                        title: Ovarian tumor AM348///geo_accession
                                        title: Ovarian tumor AM349///geo_accession
                                    title: Ovarian tumor AM354///geo_accession: G
                            title: Ovarian tumor AM364///geo_accession: GSM15729
                                        title: Ovarian tumor AM367///geo_accession
                                        title: Ovarian tumor AM368///geo_accession
                                        title: Ovarian tumor AM381///geo_accession
                                        title: Ovarian tumor AM382///geo_accession
  title: Ovarian tumor AM398///geo_accession: GSM157295///status: Public on Dec
    title: Ovarian tumor AM429///geo_accession: GSM157296///status: Public on De
                                        title: Ovarian tumor AM431///geo_accession
                                         title: Ovarian tumor AM438///geo_accessi
duplicates:
```

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```
Length Class Mode 66 character character
```

#### Value

An expression set

GSE8842

Analysis of gene expression in early-stage ovarian cancer.

#### **Description**

Gene expression profile was analyzed in 68 stage I and 15 borderline ovarian cancers to determine if different clinical features of stage I ovarian cancer such as histotype, grade, and survival are related to differential gene expression. Tumors were obtained directly at surgery and immediately frozen in liquid nitrogen until analysis. Glass arrays containing 16,000 genes were used in a dualcolor assay labeling protocol. Unsupervised analysis identified eight major patient partitions, one of which was statistically associated to overall survival, grading, and histotype and another with grading and histotype. Supervised analysis allowed detection of gene profiles clearly associated to histotype or to degree of differentiation. No difference was found between borderline and grade 1 tumors. As to recurrence, a subset of genes able to differentiate relapsers from nonrelapsers was identified. Among these, cyclin E and minichromosome maintenance protein 5 were found particularly relevant, as their expression was inversely correlated to progression-free survival (P = 0.00033 and 0.017, respectively). Specific molecular signatures define different histotypes and prognosis of stage I ovarian cancer. Mucinous and clear cells histotypes can be distinguished from the others regardless of tumor grade. Cyclin E and minichromosome maintenance protein 5, whose expression was found previously to be related to a bad prognosis of advanced ovarian cancer, appear to be potential prognostic markers in stage I ovarian cancer too, independent of other pathologic and clinical variables.

#### **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Marchini S, Mariani P, Chiorino G, Marrazzo E, Bonomi R, Fr
 Laboratory: Marchini, D'Incalci 2008
  Contact information:
  Title: Analysis of gene expression in early-stage ovarian cancer.
  URL:
  PMIDs: 19047114
 Abstract: A 225 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      Agilent Human 1 cDNA Microarray (G4100A)
  platform shorttitle:
      Agilent G4100A cDNA
  platform_summary:
      hgug4100a
```

```
platform manufacturer:
         Agilent
      platform_distribution:
         custom-commerical
      platform_accession:
        GPL5689
      platform_technology:
         spotted DNA/cDNA
      version:
         2015-09-22 20:07:40
   featureData(eset):
   An object of class 'AnnotatedDataFrame'
     featureNames: 1 2 ... 8864 (7809 total)
     varLabels: probeset gene EntrezGene.ID best_probe
     varMetadata: labelDescription
Details
   assayData: 7809 features, 83 samples
   Platform type:
   Overall survival time-to-event summary (in years):
   Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
                    NA 12 NA
        83
            15
   Available sample meta-data:
   alt_sample_name:
   p0102bis sample_Ovarian tumor p0103bis sample_Ovarian tumor
   p0112bis sample_Ovarian tumor p0114bis sample_Ovarian tumor
   p0125bis sample_Ovarian tumor p0128bis sample_Ovarian tumor
   p0143bis sample_Ovarian tumor p0146bis sample_Ovarian tumor
   p0188bis sample_Ovarian tumor p0208bis sample_Ovarian tumor
   p0210bis sample_Ovarian tumor p0217bis sample_Ovarian tumor
    p057bis sample Ovarian tumor p070bis sample Ovarian tumor
    p080bis sample_Ovarian tumor p091bis sample_Ovarian tumor
                                 p13bis sample_Ovarian tumor
    p139bis sample_Ovarian tumor
    p141bis sample_Ovarian tumor p166bis sample_Ovarian tumor
```

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p171bis	sample_Ovarian	tumor 1	p17bis	sample_Ovarian	tumor 1
p183bis	sample_Ovarian	tumor	p209bis	sample_Ovarian	tumor
p212bis	sample_Ovarian		p213bis	sample_Ovarian	
p243bis	sample_Ovarian		p246bis	sample_Ovarian	
p261bis	sample_Ovarian	1 tumor	p284bis	sample_Ovarian	1 tumor
p293bis	sample_Ovarian	1 tumor	p310bis	sample_Ovarian	1 tumor
p31bis	sample_Ovarian	1 tumor	p320bis	sample_Ovarian	1 tumor
p331bis	sample_Ovarian	1 tumor	p336bis	sample_Ovarian	1 tumor
-	sample_Ovarian	1	-	sample Ovarian	1
-		1	-		1
p382bis	sample_Ovarian	tumor 1	p383bis	sample_Ovarian	tumor 1
p386bis	sample_Ovarian	tumor 1	p388bis	sample_Ovarian	tumor 1
p398bis	sample_Ovarian	tumor 1	p39bis	sample_Ovarian	tumor 1
p401bis	sample_Ovarian	tumor 1	p414bis	sample_Ovarian	tumor 1
p421bis	sample_Ovarian	tumor	p429bis	sample_Ovarian	tumor 1
p433bis	sample_Ovarian	_	p448bis	sample_Ovarian	_
p455bis	sample_Ovarian	_	p459bis	sample_Ovarian	_
p462bis	sample_Ovarian		p482bis	sample_Ovarian	_
p487bis	sample_Ovarian	tumor	p497bis	sample_Ovarian	tumor
p502bis	sample_Ovarian		p540bis	sample_Ovarian	
p541bis	sample_Ovarian	_	p549bis	sample_Ovarian	
p550bis	sample_Ovarian	tumor	p567bis	sample_Ovarian	
p56bis	sample_Ovarian	1 tumor	p573bis	sample_Ovarian	1 tumor
p586bis	sample_Ovarian	1 tumor	p597bis	sample_Ovarian	1 tumor
p616bis	sample_Ovarian	1 tumor	p63bis	sample_Ovarian	1 tumor
p646bis	sample_Ovarian	1 tumor	p66bis	sample_Ovarian	1 tumor
	sample_Ovarian	1	_	sample_Ovarian	1
L OOD TO	Jampio_Ovarian	1	POSONTS	Jampie_Ovarian	1

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p692bis sample\_Ovarian tumor p725bis sample\_Ovarian tumor

```
p73bis sample_Ovarian tumor p760bis sample_Ovarian tumor
p770bis sample_Ovarian tumor p772bis sample_Ovarian tumor
p775bis sample_Ovarian tumor p793bis sample_Ovarian tumor
 p79bis sample_Ovarian tumor
                             p84bis sample_Ovarian tumor
 p90bis sample_Ovarian tumor
sample_type:
borderline
              tumor
       15
                68
histological_type:
      clearcell
                                       mucinous
                                                          other
                           endo
                            17
                                          17
                                                              1
            ser undifferentiated
             31
primarysite:
οv
83
summarygrade:
high low NA's
 35
     33 15
summarystage:
earlv
  83
tumorstage:
1
83
substage:
a b c
25 5 53
grade:
      2
           3 NA's
  1
      20
           35 15
 13
age_at_initial_pathologic_diagnosis:
  Min. 1st Qu. Median Mean 3rd Qu.
                                        Max.
  21.00 43.00 50.00 51.25 61.00
                                        87.00
recurrence_status:
```

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```
norecurrence recurrence
          62
days_to_death:
   Min. 1st Qu. Median
                          Mean 3rd Qu.
                                           Max.
          1192
                  2248
                          2273
                                  3048
                                           5824
vital_status:
         living
deceased
     15
uncurated_author_metadata:
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 title: p0103bis sample_Ovarian tumor///geo_accession: GSM214078///status: Publ
              title: p0112bis sample_Ovarian tumor///geo_accession: GSM214040///
                       title: p0114bis sample_Ovarian tumor///geo_accession: GSM
          title: p0125bis sample_Ovarian tumor///geo_accession: GSM214009///stat
                title: p0128bis sample_Ovarian tumor///geo_accession: GSM214030/
          title: p0143bis sample_Ovarian tumor///geo_accession: GSM214012///stat
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                 title: p0188bis sample_Ovarian tumor///geo_accession: GSM214041
           title: p0208bis sample_Ovarian tumor///geo_accession: GSM214011///sta
         title: p0210bis sample_Ovarian tumor///geo_accession: GSM214031///statu
              title: p0217bis sample_Ovarian tumor///geo_accession: GSM214008///
      title: p057bis sample_Ovarian tumor///geo_accession: GSM214064///status: F
            title: p070bis sample_Ovarian tumor///geo_accession: GSM214032///sta
         title: p080bis sample_Ovarian tumor///geo_accession: GSM214017///status
          title: p091bis sample_Ovarian tumor///geo_accession: GSM214024///statu
            title: p139bis sample_Ovarian tumor///geo_accession: GSM214047///sta
            title: p13bis sample_Ovarian tumor///geo_accession: GSM214043///stat
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```

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```
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 title: p209bis sample_Ovarian tumor///geo_accession: GSM214090///status: Public
     title: p212bis sample_Ovarian tumor///geo_accession: GSM214065///status: F
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         title: p243bis sample_Ovarian tumor///geo_accession: GSM214042///status
    title: p246bis sample_Ovarian tumor///geo_accession: GSM214055///status: Pu
          title: p261bis sample_Ovarian tumor///geo_accession: GSM214034///stat
                         title: p284bis sample_Ovarian tumor///geo_accession: GS
    title: p293bis sample_Ovarian tumor///geo_accession: GSM214035///status: Pu
title: p310bis sample_Ovarian tumor///geo_accession: GSM214083///status: Public
         title: p31bis sample_Ovarian tumor///geo_accession: GSM214019///status
          title: p320bis sample_Ovarian tumor///geo_accession: GSM214020///statu
     title: p331bis sample_Ovarian tumor///geo_accession: GSM214021///status: F
           title: p336bis sample_Ovarian tumor///geo_accession: GSM214056///stat
    title: p350bis sample_Ovarian tumor///geo_accession: GSM214036///status: Pu
    title: p375bis sample_Ovarian tumor///geo_accession: GSM214048///status: Pu
           title: p382bis sample_Ovarian tumor///geo_accession: GSM214037///stat
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          title: p386bis sample_Ovarian tumor///geo_accession: GSM214038///stat
          title: p388bis sample_Ovarian tumor///geo_accession: GSM214059///stat
          title: p398bis sample_Ovarian tumor///geo_accession: GSM214066///statu
 title: p39bis sample_Ovarian tumor///geo_accession: GSM214076///status: Public
         title: p401bis sample_Ovarian tumor///geo_accession: GSM214022///status
    title: p414bis sample_Ovarian tumor///geo_accession: GSM214051///status: Pu
```

GSE8842 149

```
title: p421bis sample_Ovarian tumor///geo_accession: GSM214023///sta
               title: p429bis sample_Ovarian tumor///geo_accession: GSM214067///
title: p433bis sample_Ovarian tumor///geo_accession: GSM214079///status: Public
         title: p448bis sample_Ovarian tumor///geo_accession: GSM214068///status
            title: p455bis sample_Ovarian tumor///geo_accession: GSM214069///sta
     title: p459bis sample_Ovarian tumor///geo_accession: GSM214025///status: Pu
title: p462bis sample_Ovarian tumor///geo_accession: GSM214084///status: Public
         title: p482bis sample_Ovarian tumor///geo_accession: GSM214050///status
      title: p487bis sample_Ovarian tumor///geo_accession: GSM214026///status: F
             title: p497bis sample_Ovarian tumor///geo_accession: GSM214052///st
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   title: p540bis sample_Ovarian tumor///geo_accession: GSM214085///status: Publ
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title: p549bis sample_Ovarian tumor///geo_accession: GSM214086///status: Public
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     title: p567bis sample_Ovarian tumor///geo_accession: GSM214054///status: Pu
            title: p56bis sample_Ovarian tumor///geo_accession: GSM214044///stat
      title: p573bis sample_Ovarian tumor///geo_accession: GSM214060///status: F
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  title: p646bis sample_Ovarian tumor///geo_accession: GSM214087///status: Publi
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           title: p690bis sample_Ovarian tumor///geo_accession: GSM214072///stat
```

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```
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title: p725bis sample_Ovarian tumor///geo_accession: GSM214057///status:

title: p73bis sample_Ovarian tumor///geo_accession: GSM214028///status: Putitle: p760bis sample_Ovarian tumor///geo_accession: GSM214062///status:

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title: p79bis sample_Ovarian tumor///geo_accession: GSM214063///status: Putitle: p84bis sample_Ovarian tumor///geo_accession: GSM214039///status: Futitle: p90bis sample_Ovarian tumor///geo_accession: GSM214077///status: Public
```

### Value

An expression set

GSE9891

Novel molecular subtypes of serous and endometrioid ovarian cancer linked to clinical outcome.

### **Description**

The study aim to identify novel molecular subtypes of ovarian cancer by gene expression profiling with linkage to clinical and pathologic features. Microarray gene expression profiling was done on 285 serous and endometrioid tumors of the ovary, peritoneum, and fallopian tube. K-means clustering was applied to identify robust molecular subtypes. Statistical analysis identified differentially expressed genes, pathways, and gene ontologies. Laser capture microdissection, pathology review, and immunohistochemistry validated the array-based findings. Patient survival within kmeans groups was evaluated using Cox proportional hazards models. Class prediction validated k-means groups in an independent dataset. A semisupervised survival analysis of the array data was used to compare against unsupervised clustering results. Optimal clustering of array data identified six molecular subtypes. Two subtypes represented predominantly serous low malignant potential and low-grade endometrioid subtypes, respectively. The remaining four subtypes represented higher grade and advanced stage cancers of serous and endometrioid morphology. A novel subtype of high-grade serous cancers reflected a mesenchymal cell type, characterized by overexpression of N-cadherin and P-cadherin and low expression of differentiation markers, including CA125 and MUC1. A poor prognosis subtype was defined by a reactive stroma gene expression signature, correlating with extensive desmoplasia in such samples. A similar poor prognosis signature could be GSE9891 151

found using a semisupervised analysis. Each subtype displayed distinct levels and patterns of immune cell infiltration. Class prediction identified similar subtypes in an independent ovarian dataset with similar prognostic trends. Gene expression profiling identified molecular subtypes of ovarian cancer of biological and clinical importance.

# **Format**

```
experimentData(eset):
Experiment data
 Experimenter name: Tothill RW, Tinker AV, George J, Brown R, Fox SB, Lade S, S
 Laboratory: Tothill, Bowtell 2008
 Contact information:
 Title: Novel molecular subtypes of serous and endometrioid ovarian cancer link
 PMIDs: 18698038
 Abstract: A 243 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
 notes:
  platform_title:
      [HG-U133_Plus_2] Affymetrix Human Genome U133 Plus 2.0 Array
  platform_shorttitle:
      Affymetrix HG-U133Plus2
  platform_summary:
      hqu133plus2
  platform_manufacturer:
      Affymetrix
  platform_distribution:
      commercial
  platform_accession:
      GPL570
  version:
      2015-09-22 20:16:32
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (42447 total)
 varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

# **Details**

```
assayData: 42447 features, 285 samples
Platform type:
Overall survival time-to-event summary (in years):
Call: survfit(formula = Surv(time, cens) ~ -1)

7 observations deleted due to missingness
    n events median 0.95LCL 0.95UCL
278.00 113.00 3.95 3.53 5.01
```

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Available sample meta-data: alt\_sample\_name: X129 X146 X152 X20019 X20025 X20027 X20031 X20032 X20041 X20046 1 1 1 1 1 1 1 1 X20074 X22002 X22012 X22013 X22020 X22023 X22027 X22029 X22031 X22037 1 1 1 1 1 1 1 1 1 X22046 X22047 X22048 X22057 X22058 X2219 X2227 X23026 X23030 X23036 1 1 1 1 1 1 1 1 1 1 X23043 X23052 X23053 X23055 X23066 X23070 X23074 X23077 X23084 X23098 X23102 X23106 X23116 X23128 X23139 X23143 X23162 X23165 X23167 X23170 1 1 1 1 1 1 1 1 1 1 X23172 X23177 X23178 X23182 X23187 X23197 X23202 X23204 X23210 X23212 X23213 X23221 X26047 1 1 1 1 1 1 1 1 1 1 X32048 X32049 X32054 X32055 X32089 X32098 X32103 X32117 X34019 X34049 1 1 1 1 1 1 1 1 X34066 X34078 X34080 X34085 X34086 X34090 X34102 X34103 X34111 X34113 1 1 1 1 1 1 1 1 X34117 X34125 X34165 X34168 X34172 X34186 X34202 X34207 X34801 (Other) 1 1 1 1 1 1 1 186 sample\_type: tumor 285 histological\_type: endo other ser 20 1 264 primarysite: ft other OV 8 34 243 arrayedsite: ft other OV 2 83 200

1 1

1 1

summarystage: early late NA's 42 240 3 tumorstage: 1 2 3 4 NA's

summarygrade: high low NA's 163 116 6 GSE9891 153

```
24 18 218 22 3
substage:
 a b c NA's
 26 19 212 28
grade:
1 2 3 NA's
 19 97 163 6
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
 22.00 53.00 59.00 59.62 68.00 80.00 3
pltx:
 n y NA's
 39 243 3
tax:
 n y NA's
 87 195 3
neo:
 n y NA's
264 18 3
days_to_tumor_recurrence:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
   0.0 300.0 450.0 618.9 810.0 4980.0 10
recurrence_status:
norecurrence recurrence NA's
      94
           188
days_to_death:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
  0.0 547.5 855.0 955.1 1252.0 6420.0
vital_status:
deceased living NA's 113 169 3
debulking:
  optimal suboptimal NA's 160 88 37
2004-12-03 2004-12-23 2005-01-12 2005-01-17 2005-01-24 2005-01-31 2005-02-21
    3 4 7 7 8 10 10
2005-03-17 2005-05-05 2005-05-09 2005-05-25 2005-05-27 2005-05-30 2005-06-02
     2 1 1 2 3 3 6
2005-06-06 2005-06-08 2005-06-16 2005-06-17 2005-06-24 2005-07-06 2005-07-15
```

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```
2005-07-20 2005-07-29 2005-08-03 2005-08-05 2005-08-18 2005-08-24 2005-08-26
2005 - 09 - 09 \ 2005 - 09 - 14 \ 2005 - 09 - 16 \ 2005 - 09 - 21 \ 2005 - 10 - 05 \ 2005 - 10 - 26 \ 2005 - 10 - 28
2005-11-04 2005-11-09 2005-11-11 2005-11-23 2005-12-15 2005-12-21 2006-01-20
2006 - 01 - 31 \ 2006 - 02 - 08 \ 2006 - 02 - 28 \ 2006 - 04 - 05 \ 2006 - 04 - 06 \ 2006 - 04 - 12 \ 2006 - 04 - 13
2006 - 04 - 28 \ 2006 - 05 - 03 \ 2006 - 06 - 06 \ 2006 - 06 - 07 \ 2006 - 06 - 22 \ 2006 - 07 - 07 \ 2006 - 07 - 19
                                             3
uncurated author metadata:
                title: X129///geo_accession: GSM250001///status: Public on Mar 01
           title: X146///geo_accession: GSM250000///status: Public on Mar 01 200
     title: X152///geo_accession: GSM249999///status: Public on Mar 01 2008///su
           title: X20019///geo_accession: GSM249998///status: Public on Mar 01 2
    title: X20025///geo_accession: GSM249997///status: Public on Mar 01 2008///s
           title: X20027///geo_accession: GSM249996///status: Public on Mar 01 2
                 title: X20031///geo_accession: GSM249995///status: Public on Mar
             title: X20032///geo_accession: GSM249994///status: Public on Mar 01
           title: X20041///geo_accession: GSM249993///status: Public on Mar 01 2
        title: X20046///geo_accession: GSM249992///status: Public on Mar 01 2008
     title: X20074///geo_accession: GSM249991///status: Public on Mar 01 2008///
               title: X22002///geo_accession: GSM249728///status: Public on Mar 0
          title: X22012///geo_accession: GSM249990///status: Public on Mar 01 20
    title: X22013///geo_accession: GSM249989///status: Public on Mar 01 2008///s
           title: X22020///geo_accession: GSM249988///status: Public on Mar 01 2
         title: X22023///geo_accession: GSM249987///status: Public on Mar 01 200
                 title: X22027///geo_accession: GSM249725///status: Public on Mar
            title: X22029///geo_accession: GSM249986///status: Public on Mar 01
               title: X22031///geo_accession: GSM249985///status: Public on Mar 0
          title: X22037///geo_accession: GSM249984///status: Public on Mar 01 20
```

GSE9891 155

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                title: X2219///geo_accession: GSM249978///status: Public on Mar
                     title: X2227///geo_accession: GSM249977///status: Public or
         title: X23026///geo_accession: GSM249976///status: Public on Mar 01 20
         title: X23030///geo_accession: GSM249975///status: Public on Mar 01 200
             title: X23036///geo_accession: GSM249727///status: Public on Mar 0
              title: X23043///geo_accession: GSM249974///status: Public on Mar
                  title: X23052///geo_accession: GSM249721///status: Public on M
         title: X23053///geo_accession: GSM249973///status: Public on Mar 01 20
         title: X23055///geo_accession: GSM249972///status: Public on Mar 01 200
              title: X23066///geo_accession: GSM249716///status: Public on Mar C
            title: X23070///geo_accession: GSM249971///status: Public on Mar 01
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title: X23106///geo_accession: GSM249965///status: Public on Mar 01 2008///submi
     title: X23116///geo_accession: GSM249964///status: Public on Mar 01 2008//
          title: X23128///geo_accession: GSM249963///status: Public on Mar 01 20
         title: X23139///geo_accession: GSM249962///status: Public on Mar 01 20
          title: X23143///geo_accession: GSM249961///status: Public on Mar 01 20
```

title: X22046///geo\_accession: GSM249983///status: Public on Mar 01 20

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```
title: X23162///geo_accession: GSM249960///status: Public on Mar 01 2008
     title: X23165///geo_accession: GSM249959///status: Public on Mar 01 20
     title: X23167///geo_accession: GSM249958///status: Public on Mar 01 200
     title: X23170///geo_accession: GSM249957///status: Public on Mar 01 200
      title: X23172///geo_accession: GSM249956///status: Public on Mar 01 2
              title: X23177///geo_accession: GSM249720///status: Public on M
          title: X23178///geo_accession: GSM249955///status: Public on Mar O
     title: X23182///geo_accession: GSM249954///status: Public on Mar 01 20
    title: X23187///geo_accession: GSM249953///status: Public on Mar 01 200
       title: X23197///geo_accession: GSM249951///status: Public on Mar 01 2
    title: X23202///geo_accession: GSM249950///status: Public on Mar 01 2008
    title: X23204///geo_accession: GSM249949///status: Public on Mar 01 2008
         title: X23210///geo_accession: GSM249948///status: Public on Mar 01
  title: X23212///geo_accession: GSM249947///status: Public on Mar 01 2008//
       title: X23213///geo_accession: GSM249946///status: Public on Mar 01 2
  title: X23221///geo_accession: GSM249945///status: Public on Mar 01 2008//
 title: X26047///geo_accession: GSM249944///status: Public on Mar 01 2008///
             title: X261///geo_accession: GSM249943///status: Public on Mar
     title: X27006///geo_accession: GSM249942///status: Public on Mar 01 20
     title: X27098///geo_accession: GSM249941///status: Public on Mar 01 200
        title: X32013///geo_accession: GSM249940///status: Public on Mar 01
     title: X32022///geo_accession: GSM249939///status: Public on Mar 01 20
  title: X32032///geo_accession: GSM249938///status: Public on Mar 01 2008//
title: X32034///geo_accession: GSM249937///status: Public on Mar 01 2008///s
    title: X32048///geo_accession: GSM249936///status: Public on Mar 01 2008
```

title: X32049///geo\_accession: GSM249935///status: Public on Mar 01 2008//

GSE9891 157

```
title: X32054///geo_accession: GSM249934///status: Public on Mar 01 20
             title: X32055///geo_accession: GSM249933///status: Public on Mar O
title: X32089///geo_accession: GSM249932///status: Public on Mar 01 2008///subm
     title: X32098///geo_accession: GSM249931///status: Public on Mar 01 2008/
       title: X32103///geo_accession: GSM249930///status: Public on Mar 01 200
                 title: X32117///geo_accession: GSM249715///status: Public on M
        title: X34019///geo_accession: GSM249929///status: Public on Mar 01 20
           title: X34049///geo_accession: GSM249928///status: Public on Mar 01
       title: X34066///geo_accession: GSM249927///status: Public on Mar 01 200
       title: X34078///geo_accession: GSM249926///status: Public on Mar 01 200
        title: X34080///geo_accession: GSM249925///status: Public on Mar 01 20
      title: X34085///geo_accession: GSM249924///status: Public on Mar 01 2008
          title: X34086///geo_accession: GSM249923///status: Public on Mar 01 2
                title: X34090///geo_accession: GSM249922///status: Public on Ma
   title: X34102///geo_accession: GSM249921///status: Public on Mar 01 2008///
        title: X34103///geo_accession: GSM249920///status: Public on Mar 01 20
       title: X34111///geo_accession: GSM249919///status: Public on Mar 01 200
      title: X34113///geo_accession: GSM249918///status: Public on Mar 01 2008
        title: X34117///geo_accession: GSM249917///status: Public on Mar 01 20
        title: X34125///geo_accession: GSM249916///status: Public on Mar 01 200
        title: X34165///geo_accession: GSM249915///status: Public on Mar 01 20
    title: X34168///geo_accession: GSM249914///status: Public on Mar 01 2008//
        title: X34172///geo_accession: GSM249913///status: Public on Mar 01 20
        title: X34186///geo_accession: GSM249912///status: Public on Mar 01 200
   title: X34202///geo_accession: GSM249911///status: Public on Mar 01 2008///
      title: X34207///geo_accession: GSM249910///status: Public on Mar 01 2008
```

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```
title: X34801///geo_accession: GSM249909///status: Public on Mar 01 200
```

### Value

An expression set

```
loadOvarianDatasets
```

Function to load ovarian cancer SummarizedExperiment objects from the Experiment Hub

## **Description**

This function returns ovarian cancer datasets from the hub and a vector of patients from the datasets that are duplicates based on a spearman correlation > 0.98

# Usage

```
loadOvarianDatasets(
  rescale = FALSE,
  minNumberGenes = 0,
  minNumberEvents = 0,
  minSampleSize = 0,
  keepCommonOnly = FALSE,
  imputeMissing = FALSE,
  removeDuplicates = FALSE
)
```

# **Arguments**

```
rescale
                 apply centering and scaling to the expression sets (default FALSE)
minNumberGenes
                 an integer specifying to remove expression sets with less genes than this number
                 (default 0)
minNumberEvents
                 an integer specifying how man survival events must be in the dataset to keep the
                 dataset (default 0)
minSampleSize
                 an integer specifying the minimum number of patients required in a summa-
                 rizedExperiment (default 0)
keepCommonOnly
                 remove entrezIDs not common to all datasets (default FALSE)
imputeMissing
                 remove patients from datasets with missing expression values
removeDuplicates
```

other patient expression profiles (default TRUE)

remove patients with a Spearman correlation greater than or equal to 0.98 with

loadOvarianEsets 159

#### Value

a list with 2 elements. The First element named summarizedExperiments contains the datasets. The second element named duplicates contains a vector with patient IDs for the duplicate patients (those with Spearman correlation greater than or equal to 0.98 with other patient expression profiles).

### **Examples**

```
experimentsAndDups = loadOvarianDatasets()
```

loadOvarianEsets

Function to load ovarian cancer expression sets from the Experiment Hub

# **Description**

This function returns ovarian cancer datasets from the hub and a vector of patients from the datasets that are most likely duplicates

# Usage

```
loadOvarianEsets(
  removeDuplicates = TRUE,
  quantileCutoff = 0,
  rescale = FALSE,
  minNumberGenes = 0,
  minNumberEvents = 0,
  minSampleSize = 0,
  removeRetracted = TRUE,
  removeSubsets = TRUE,
  keepCommonOnly = FALSE,
  imputeMissing = FALSE
)
```

# Arguments

removeDuplicates

remove patients with a Spearman correlation greater than or equal to 0.98 with other patient expression profiles (default TRUE)

quantileCutoff

A nueric between 0 and 1 specifying to remove genes with standard deviation below the required quantile (default 0)

rescale apply centering and scaling to the expression sets (default FALSE) minNumberGenes

an integer specifying to remove expression sets with less genes than this number (default 0)

minNumberEvents

an integer specifying how man survival events must be in the dataset to keep the dataset (default 0)

minSampleSize

an integer specifying the minimum number of patients required in an eset (default 0)

removeRetracted

remove datasets from retracted papers (default TRUE, currently just PMID17290060 dataset)

removeSubsets

remove datasets that are a subset of other datasets (defeault TRUE, currently just PMID19318476)

keepCommonOnly

remove probes not common to all datasets (default FALSE)

imputeMissing

remove patients from datasets with missing expression values

#### Value

a list with 2 elements. The First element named esets contains the datasets. The second element named duplicates contains a vector with patient IDs for the duplicate patients (those with Spearman correlation greater than or equal to 0.98 with other patient expression profiles).

# **Examples**

esetsAndDups = loadOvarianEsets()

PMTD15897565

Patterns of gene expression that characterize long-term survival in advanced stage serous ovarian cancers.

### Description

A better understanding of the underlying biology of invasive serous ovarian cancer is critical for the development of early detection strategies and new therapeutics. The objective of this study was to define gene expression patterns associated with favorable survival.RNA from 65 serous ovarian cancers was analyzed using Affymetrix U133A microarrays. This included 54 stage III/IV cases (30 short-term survivors who lived <3 years and 24 long-term survivors who lived >7 years) and 11 stage I/II cases. Genes were screened on the basis of their level of and variability in expression, leaving 7,821 for use in developing a predictive model for survival. A composite predictive model was developed that combines Bayesian classification tree and multivariate discriminant models. Leave-one-out cross-validation was used to select and evaluate models.Patterns of genes were identified that distinguish short-term and long-term ovarian cancer survivors. The expression model developed for advanced stage disease classified all 11 early-stage ovarian cancers as long-term survivors. The MAL gene, which has been shown to confer resistance to cancer therapy, was most highly overexpressed in short-term survivors (3-fold compared with long-term survivors, and 29fold compared with early-stage cases). These results suggest that gene expression patterns underlie differences in outcome, and an examination of the genes that provide this discrimination reveals that many are implicated in processes that define the malignant phenotype. Differences in survival of advanced ovarian cancers are reflected by distinct patterns of gene expression. This biological distinction is further emphasized by the finding that early-stage cancers share expression patterns with the advanced stage long-term survivors, suggesting a shared favorable biology.

PMID15897565 161

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Berchuck A, Iversen ES, Lancaster JM, Pittman J, Luo J, Lee
 Laboratory: Berchuck, Marks 2005
  Contact information:
  Title: Patterns of gene expression that characterize long-term survival in adv
  URL:
 PMIDs: 15897565
  Abstract: A 258 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
  platform_title:
      [HG-U133A] Affymetrix Human Genome U133A Array
   platform_shorttitle:
      Affymetrix HG-U133A
   platform_summary:
      hgu133a
   platform_manufacturer:
      Affymetrix
   platform_distribution:
      commercial
   platform_accession:
     GPL96
   warnings:
     These samples are a subset of PMID17290060.
   version:
      2015-09-22 20:17:53
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
    (20967 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

# **Details**

```
63
histological_type:
ser
63
primarysite:
63
summarygrade:
high low NA's
 25 37 1
summarystage:
early late
  11
tumorstage:
1 2 3 4
 7 4 48 4
grade:
      2
           3
               4 NA's
  1
      35 24
                1 1
age_at_initial_pathologic_diagnosis:
  Min. 1st Qu. Median Mean 3rd Qu.
                                        Max.
        52.50 59.00 59.21 67.00 79.00
  33.00
os_binary:
 long short NA's
  24 28 11
debulking:
  optimal suboptimal
                         NA's
       24
                 28
                           11
2002 - 09 - 20 \ \ 2002 - 10 - 23 \ \ 2002 - 11 - 12 \ \ 2002 - 12 - 16 \ \ 2002 - 12 - 21 \ \ 2003 - 01 - 03 \ \ 2003 - 05 - 30
       15
             9 10
                                1
                                                            11
2003-07-02
        1
uncurated_author_metadata:
 Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1761///Cancer.Type: Early
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1762///Cancer.Type: Early
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1763///Cancer.Type: Early
```

Genome.ID..File.name....0074\_GenomeID\_h133a\_2802.cel: 1764///Cancer.Type: Early

Genome.ID..File.name....0074\_GenomeID\_h133a\_2802.cel: 1765///Cancer.Type: Early

```
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1772///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1773///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1774///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1775///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1776///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1777///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1778///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1779///Cancer.Type:
      Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1780///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1781///Cancer.Type:
      Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1828///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1829///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1830///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1831///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1832///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1833///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1834///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1835///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1836///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1900///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1901///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1902///Cancer.Type:
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1903///Cancer.Type: Early
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1904///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1905///Cancer.Type: S
```

Genome.ID..File.name....0074\_GenomeID\_h133a\_2802.cel: 1906///Cancer.Type: S

```
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1907///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1908///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1909///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 1989///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2003///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2004///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2005///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2019///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2020///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2021///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2026///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2027///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2028///Cancer.Type: S
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2029///Cancer.Type: S
      Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2030///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2031///Cancer.Type:
      Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2032///Cancer.Type:
      Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2033///Cancer.Type:
 Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2390///Cancer.Type: Early
 Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2391///Cancer.Type: Early
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2392///Cancer.Type: Early
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2393///Cancer.Type: Early
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2394///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2395///Cancer.Type:
     Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2396///Cancer.Type: S
```

PMID17290060 165

```
Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2397///Cancer.Type: Senome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2398///Cancer.Type: Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2399///Cancer.Type: Senome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2400///Cancer.Type: Senome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2401///Cancer.Type: Senome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2401///Cancer.Type: Senome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2402///Cancer.Type: Genome.ID..File.name....0074_GenomeID_h133a_2802.cel: 2536///Cancer.Type: Early
```

#### Value

An expression set

PMID17290060

An integrated genomic-based approach to individualized treatment of patients with advanced-stage ovarian cancer.

### **Description**

The purpose of this study was to develop an integrated genomic-based approach to personalized treatment of patients with advanced-stage ovarian cancer. We have used gene expression profiles to identify patients likely to be resistant to primary platinum-based chemotherapy and also to identify alternate targeted therapeutic options for patients with de novo platinum-resistant disease. A gene expression model that predicts response to platinum-based therapy was developed using a training set of 83 advanced-stage serous ovarian cancers and tested on a 36-sample external validation set. In parallel, expression signatures that define the status of oncogenic signaling pathways were evaluated in 119 primary ovarian cancers and 12 ovarian cancer cell lines. In an effort to increase chemotherapy sensitivity, pathways shown to be activated in platinum-resistant cancers were subject to targeted therapy in ovarian cancer cell lines. Gene expression profiles identified patients with ovarian cancer likely to be resistant to primary platinum-based chemotherapy with greater than 80% accuracy. In patients with platinum-resistant disease, we identified expression signatures consistent with activation of Src and Rb/E2F pathways, components of which were successfully targeted to increase response in ovarian cancer cell lines. We have defined a strategy for treatment of patients with advanced-stage ovarian cancer that uses therapeutic stratification based on predictions of response to chemotherapy, coupled with prediction of oncogenic pathway deregulation, as a method to direct the use of targeted agents.

### **Format**

```
experimentData(eset):
Experiment data
Experimenter name: Dressman HK, Berchuck A, Chan G, Zhai J, Bild A, Sayer R, C
Laboratory: Dressman, Lancaster 2007
```

```
Contact information:
    Title: An integrated genomic-based approach to individualized treatment of pat
    URL:
    PMIDs: 17290060
    Abstract: A 223 word abstract is available. Use 'abstract' method.
    Information is available on: preprocessing
    notes:
     platform_title:
        [HG-U133A] Affymetrix Human Genome U133A Array
     platform_shorttitle:
        Affymetrix HG-U133A
     platform_summary:
        hgu133a
     platform_manufacturer:
        Affymetrix
     platform_distribution:
        commercial
     platform_accession:
        GPL96
     warnings:
        This paper has been retracted.
     version:
        2015-09-22 20:19:16
   featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
       (20967 total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
   assayData: 20967 features, 117 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
        n events median 0.95LCL 0.95UCL
   117.00
           67.00
                   5.26 2.79 7.48
  Available sample meta-data:
   ______
   alt_sample_name:

    1451
    1504
    1526
    1552
    1578
    1590
    1615
    1623

    1
    1
    1
    1
    1
    1
    1
    1

     1024 1447
                                                           1
1
1977 1913
             1
       1
     1665 1674 1675 1774 1784 1834 1846 1877
                                                                          1929
             1
                    1
                            1
                                    1
                                            1
                                                    1
                                                            1
                                                                    1
       1
                                                                             1
     2046 2063 2064 2075 2198 2204 2324 2419 2422
                                                                           2424
```

PMID17290060 167

```
1 1 1 1 1 1 1 1 1 1 1 1 1 1 2476 2479 2505 2542 2573 2673 2739 2802 2849
 1
2465
                                        1
                                             1
 1
    1 1 1 1 1 1 1 1 1
2967 2981 2999 3018 3090 3102 3107 3142
                                             860
2895
              1
 1
     1
          1
                    1
                         1
                              1
                                   1
                                        1
                                              1
 872
     922 D1805 D1837 D1859 D2098 D2208 D2332 D2342 D2358
     1
         1
                   1
                        1
                                             1
 1
              1
                              1
                                   1
                                        1
        D2433 D2480 D2557 D2559 D2560 D2572 D2575 D2576
    D2432
D2421
         1
                              1
                                   1
                                        1
1
    1
              1
                    1
                         1
D2581
   D2603 D2611 D2629 D2640 D2648 D2668 D2689 D2691 D2700
1
    1 1 1
                   1 1 1 1 1 1
D2726 D2727 D2733 D2738 D2749 D2776 D2792 M1054 M1055 M120
1 1 1 1 1
                        1 1 1 1
                    M17 M1891 M2070 M2097 M2184 (Other)
M1241 M1390 M1503 M1572
MIZ41 MI390 MI303 MI372 MI7 MI891 MZ070 MZ097 MZ184 (Other)

1 1 1 1 1 1 1 18
```

sample\_type:

tumor

117

histological\_type:

ser

117

primarysite:

ov 117

summarygrade:

high low NA's 57 57 3

summarystage:

early late NA's 1 115 1

tumorstage:

2 3 4 NA's 1 98 17 1

grade:

1 2 3 4 NA's 4 53 56 1 3

days\_to\_death:

Min. 1st Qu. Median Mean 3rd Qu. Max. 30 510 1020 1496 2220 5550

vital\_status:

deceased living

67 50

```
primary_therapy_outcome_success:
  completeresponse progressivedisease
                 8.5
debulking:
   optimal suboptimal
        63
                   54
batch:
2002 - 09 - 20 \ 2002 - 10 - 23 \ 2002 - 11 - 12 \ 2002 - 12 - 16 \ 2002 - 12 - 21 \ 2003 - 01 - 03 \ 2003 - 05 - 30
                                                                  11
                                9
                                                        3
                    8
                                            1
2004 - 03 - 09 \ 2004 - 03 - 16 \ 2004 - 04 - 20 \ 2004 - 05 - 18 \ 2004 - 05 - 21 \ 2004 - 05 - 27 \ 2004 - 06 - 22
                    6
                                5
                                          15
                                                        7
2004-06-23
         8
uncurated_author_metadata:
                         OVC.TumorID: 1024///Survival: 13///X0...alive...1...dead
                        OVC.TumorID: 1447///Survival: 75///X0...alive...1...dead:
                        OVC.TumorID: 1451///Survival: 132///X0...alive...1...dead
                         OVC.TumorID: 1504///Survival: 108///X0...alive...1...dea
                        OVC.TumorID: 1526///Survival: 74///X0...alive...1...dead:
                        OVC.TumorID: 1552///Survival: 33///X0...alive...1...dead:
                        OVC.TumorID: 1578///Survival: 33///X0...alive...1...dead:
                         OVC.TumorID: 1590///Survival: 148///X0...alive...1...dea
                        OVC.TumorID: 1615///Survival: 13///X0...alive...1...dead:
                         OVC.TumorID: 1623///Survival: 147///X0...alive...1...dea
                        OVC.TumorID: 1665///Survival: 15///X0...alive...1...dead:
                         OVC.TumorID: 1674///Survival: 18///X0...alive...1...dead
                       OVC.TumorID: 1675///Survival: 34///X0...alive...1...dead:
                       OVC.TumorID: 1774///Survival: 22///X0...alive...1...dead:
                         OVC.TumorID: 1784///Survival: 78///X0...alive...1...dead
                        OVC.TumorID: 1834///Survival: 118///X0...alive...1...dead
                         OVC.TumorID: 1846///Survival: 142///X0...alive...1...dea
```

OVC.TumorID: 1877///Survival: 119///X0...alive...1...dea

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```
OVC.TumorID: 1929///Survival: 134///X0...alive...1...dea
     OVC.TumorID: 2046///Survival: 127///X0...alive...1...dea
    OVC.TumorID: 2063///Survival: 16///X0...alive...1...dead:
OVC.TumorID: 2064///Survival: 27///X0...alive...1...dead: 1///
      OVC.TumorID: 2075///Survival: 87///X0...alive...1...dea
      OVC.TumorID: 2198///Survival: 91///X0...alive...1...dea
     OVC.TumorID: 2204///Survival: 118///X0...alive...1...dea
      OVC.TumorID: 2324///Survival: 98///X0...alive...1...dea
     OVC.TumorID: 2419///Survival: 107///X0...alive...1...dead
       OVC.TumorID: 2422///Survival: 20///X0...alive...1...dea
    OVC.TumorID: 2424///Survival: 16///X0...alive...1...dead:
   OVC.TumorID: 2465///Survival: 17///X0...alive...1...dead:
   OVC.TumorID: 2476///Survival: 86///X0...alive...1...dead:
    OVC.TumorID: 2479///Survival: 95///X0...alive...1...dead:
     OVC.TumorID: 2505///Survival: 95///X0...alive...1...dead
      OVC.TumorID: 2542///Survival: 36///X0...alive...1...dea
    OVC.TumorID: 2573///Survival: 7///X0...alive...1...dead: 1
    OVC.TumorID: 2673///Survival: 74///X0...alive...1...dead:
     OVC.TumorID: 2739///Survival: 67///X0...alive...1...dead
    OVC.TumorID: 2802///Survival: 24///X0...alive...1...dead:
    OVC.TumorID: 2849///Survival: 23///X0...alive...1...dead:
    OVC.TumorID: 2895///Survival: 9///X0...alive...1...dead:
     OVC.TumorID: 2967///Survival: 22///X0...alive...1...dead
    OVC.TumorID: 2981///Survival: 6///X0...alive...1...dead:
```

OVC.TumorID: 2999///Survival: 16///X0...alive...1...dead:

OVC.TumorID: 1913///Survival: 32///X0...alive...1...dead:

```
OVC.TumorID: 3018///Survival: 16///X0...alive...1...dead:
 OVC.TumorID: 3090///Survival: 16///X0...alive...1...dead:
OVC.TumorID: 3102///Survival: 10///X0...alive...1...dead: 1
 OVC.TumorID: 3107///Survival: 31///X0...alive...1...dead:
   OVC.TumorID: 3142///Survival: 18///X0...alive...1...dead
   OVC.TumorID: 860///Survival: 17///X0...alive...1...dead:
  OVC.TumorID: 872///Survival: 185///X0...alive...1...dead:
    OVC.TumorID: 922///Survival: 183///X0...alive...1...dea
  OVC.TumorID: D1805///Survival: 9///X0...alive...1...dead:
OVC.TumorID: D1837///Survival: 83///X0...alive...1...dead:
 OVC.TumorID: D1859///Survival: 110///X0...alive...1...dead
  OVC.TumorID: D2098///Survival: 42///X0...alive...1...dead
OVC.TumorID: D2208///Survival: 2///X0...alive...1...dead: 0
  OVC.TumorID: D2332///Survival: 27///X0...alive...1...dead
 OVC.TumorID: D2342///Survival: 20///X0...alive...1...dead:
   OVC.TumorID: D2358///Survival: 9///X0...alive...1...dead
  OVC.TumorID: D2421///Survival: 12///X0...alive...1...dead
   OVC.TumorID: D2432///Survival: 34///X0...alive...1...dea
OVC.TumorID: D2433///Survival: 49///X0...alive...1...dead:
OVC.TumorID: D2480///Survival: 34///X0...alive...1...dead:
OVC.TumorID: D2557///Survival: 62///X0...alive...1...dead:
  OVC.TumorID: D2559///Survival: 5///X0...alive...1...dead:
OVC.TumorID: D2560///Survival: 91///X0...alive...1...dead:
  OVC.TumorID: D2572///Survival: 37///X0...alive...1...dead
OVC.TumorID: D2575///Survival: 33///X0...alive...1...dead:
```

OVC.TumorID: D2576///Survival: 17///X0...alive...1...dead:

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OVC.TumorID: D2581///Survival: 63///X0...alive...1...dead

```
OVC.TumorID: D2603///Survival: 42///X0...alive...1...dead:
                       OVC.TumorID: D2611///Survival: 2///X0...alive...1...dead:
                       OVC.TumorID: D2629///Survival: 36///X0...alive...1...dead
                     OVC.TumorID: D2640///Survival: 1///X0...alive...1...dead: 1
                     OVC.TumorID: D2648///Survival: 35///X0...alive...1...dead:
                         OVC.TumorID: D2668///Survival: 40///X0...alive...1...c
                     OVC.TumorID: D2689///Survival: 45///X0...alive...1...dead:
                     OVC.TumorID: D2691///Survival: 63///X0...alive...1...dead:
                     OVC.TumorID: D2700///Survival: 74///X0...alive...1...dead:
                      OVC.TumorID: D2726///Survival: 71///X0...alive...1...dead:
                       OVC.TumorID: D2727///Survival: 53///X0...alive...1...dead
                     OVC.TumorID: D2733///Survival: 55///X0...alive...1...dead:
                     OVC.TumorID: D2738///Survival: 68///X0...alive...1...dead:
                     OVC.TumorID: D2749///Survival: 24///X0...alive...1...dead:
                     OVC.TumorID: D2776///Survival: 10///X0...alive...1...dead:
                     OVC.TumorID: D2792///Survival: 16///X0...alive...1...dead:
              OVC.TumorID: M1054///Survival: 101///X0...alive...1...dead: 0///As
            OVC.TumorID: M1055///Survival: 13///X0...alive...1...dead: 0///Assig
               OVC.TumorID: M120///Survival: 35///X0...alive...1...dead: 1///Ass
          OVC.TumorID: M1241///Survival: 95///X0...alive...1...dead: 0///Assigne
                      OVC.TumorID: M1390///Survival: 46///X0...alive...1...dead:
             OVC.TumorID: M1503///Survival: 53///X0...alive...1...dead: 1///Ass
             OVC.TumorID: M1572///Survival: 22///X0...alive...1...dead: 1///Assi
          OVC.TumorID: M17///Survival: 17///X0...alive...1...dead: 0///Assigned.
OVC.TumorID: M1891///Survival: 12///X0...alive...1...dead: 0///Assigned.Stage: 4
```

```
OVC.TumorID: M2070///Survival: 65///X0...alive...1...dead: 0///Assigne
OVC.TumorID: M2097///Survival: 58///X0...alive...1...dead: 0///A
OVC.TumorID: M2184///Survival: 34///X0...alive...1...dead: 0///Assigne
```

#### Value

An expression set

PMID19318476

Microarray analysis of early stage serous ovarian cancers shows profiles predictive of favorable outcome.

# **Description**

Although few women with advanced serous ovarian cancer are cured, detection of the disease at an early stage is associated with a much higher likelihood of survival. We previously used gene expression array analysis to distinguish subsets of advanced cancers based on disease outcome. In the present study, we report on gene expression of early-stage cancers and validate our prognostic model for advanced-stage cancers. Frozen specimens from 39 stage I/II, 42 stage III/IV, and 20 low malignant potential cancers were obtained from four different sites. A linear discriminant model was used to predict survival based upon array data. We validated the late-stage survival model and show that three of the most differentially expressed genes continue to be predictive of outcome. Most early-stage cancers (38 of 39 invasive, 15 of 20 low malignant potential) were classified as long-term survivors (median probabilities 0.97 and 0.86). MAL, the most differentially expressed gene, was further validated at the protein level and found to be an independent predictor of poor survival in an unselected group of advanced serous cancers (P = 0.0004). These data suggest that serous ovarian cancers detected at an early stage generally have a favorable underlying biology similar to advanced-stage cases that are long-term survivors. Conversely, most late-stage ovarian cancers seem to have a more virulent biology. This insight suggests that if screening approaches are to succeed it will be necessary to develop approaches that are able to detect these virulent cancers at an early stage.

#### **Format**

```
experimentData(eset):
Experiment data
Experimenter name: Berchuck A, Iversen ES, Luo J, Clarke JP, Horne H, Levine D
Laboratory: Berchuck, Lancaster 2009
Contact information:
Title: Microarray analysis of early stage serous ovarian cancers shows profile
URL:
PMIDs: 19318476
```

Abstract: A 241 word abstract is available. Use 'abstract' method.

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```
Information is available on: preprocessing
    notes:
     platform_title:
        [HG-U133A] Affymetrix Human Genome U133A Array
     platform_shorttitle:
       Affymetrix HG-U133A
     platform_summary:
       hgu133a
     platform_manufacturer:
       Affymetrix
     platform_distribution:
       commercial
     platform accession:
       GPL96
     warnings:
       These samples are a subset of PMID17290060.
     version:
       2015-09-22 20:20:30
  featureData(eset):
  An object of class 'AnnotatedDataFrame'
    featureNames: 1007_s_at 1053_at ... AFFX-HUMISGF3A/M97935_MB_at
      (20967 total)
    varLabels: probeset gene EntrezGene.ID best_probe
    varMetadata: labelDescription
Details
  assayData: 20967 features, 42 samples
  Platform type:
  Overall survival time-to-event summary (in years):
  Call: survfit(formula = Surv(time, cens) ~ -1)
       n events median 0.95LCL 0.95UCL
    42.00 22.00 2.79 2.30 NA
   _____
  Available sample meta-data:
  _____
  alt_sample_name:
  D1462 D1805 D2171 D2208 D2247 D2332 D2432 D2480 D2559 D2560 D2575 D2576 D2611
     1 1 1 1 1 1 1 1 1 1 1
                                                             1 1
  D2629 D2640 D2648 D2736 D2749 D2776 D2792 M1025 M1054 M1055 M120 M1241 M1572
     1 1 1
                    1 1 1 1 1 1 1 1
                                                              1 1
    M17 M1777 M1891 M2184 M2515 M2807 M3035 M337 M3484 M359 M4161 M444 M503
                       1 1 1 1
     1 1 1
                    1
                                            1 1
                                                         1
                                                             1
  M5668 M5775 M806
        1
  sample_type:
  tumor
```

```
42
histological_type:
ser
42
summarygrade:
high low NA's
 24 17 1
summarystage:
early late NA's
 2 39 1
tumorstage:
 1 2 3 4 NA's
1 1 29 10 1
substage:
 a b c NA's
      1 29 11
grade:
      2 3 NA's
 1
  2 15 24 1
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 33.00 55.00 62.00 61.46 70.00 81.00 1
recurrence_status:
norecurrence recurrence
        6
days_to_death:
 Min. 1st Qu. Median Mean 3rd Qu. Max.
  30.0 367.5 825.0 1105.0 1050.0 3420.0
vital_status:
deceased living
  22 20
debulking:
  optimal suboptimal NA's 20 21 1
```

2004-06-23

1

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uncurated\_author\_metadata:

Tumor: D2560///NEW.Response: CR///SHORT.LONG: NA///AgeDx: 60///DateDx: 5/14/1996

# Value

An expression set

TCGA.RNASeqV2

Integrated genomic analyses of ovarian carcinoma.

# Description

A catalogue of molecular aberrations that cause ovarian cancer is critical for developing and deploying therapies that will improve patients' lives. The Cancer Genome Atlas project has analysed messenger RNA expression, microRNA expression, promoter methylation and DNA copy number in 489 high-grade serous ovarian adenocarcinomas and the DNA sequences of exons from coding genes in 316 of these tumours. Here we report that high-grade serous ovarian cancer is characterized by TP53 mutations in almost all tumours (96%); low prevalence but statistically recurrent somatic

mutations in nine further genes including NF1, BRCA1, BRCA2, RB1 and CDK12; 113 significant focal DNA copy number aberrations; and promoter methylation events involving 168 genes. Analyses delineated four ovarian cancer transcriptional subtypes, three microRNA subtypes, four promoter methylation subtypes and a transcriptional signature associated with survival duration, and shed new light on the impact that tumours with BRCA1/2 (BRCA1 or BRCA2) and CCNE1 aberrations have on survival. Pathway analyses suggested that homologous recombination is defective in about half of the tumours analysed, and that NOTCH and FOXM1 signalling are involved in serous ovarian cancer pathophysiology.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Integrated genomic analyses of ovarian carcinoma. Nature 20
  Laboratory: Cancer Genome Atlas Research Network 2011
  Contact information:
  Title: Integrated genomic analyses of ovarian carcinoma.
  PMIDs: 21720365
  Abstract: A 179 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
   platform_title:
      [RNASeqV2] Illumina HiSeq RNA sequencing
   platform_shorttitle:
      Illumina HiSeq RNA sequencing
   platform_summary:
   platform_manufacturer:
      Illumina
   platform_distribution:
      sequencing
   platform_accession:
   platform_technology:
      RNA sequencing
   version:
      2015-09-22 20:27:26
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: ?|100133144 ?|100134869 ... ZZZ3|26009 (20471 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
```

### **Details**

```
assayData: 20471 features, 261 samples
Platform type:
Overall survival time-to-event summary (in years):
Call: survfit(formula = Surv(time, cens) ~ -1)
```

5 observations deleted due to missingness n events median 0.95LCL 0.95UCL 256.00 143.00 3.62 3.19 4.03

-----

```
Available sample meta-data:
```

\_\_\_\_\_

```
alt_sample_name:
TCGA-04-1348-01A-01R-1565-13 TCGA-04-1357-01A-01R-1565-13
                          1
TCGA-04-1362-01A-01R-1565-13 TCGA-04-1364-01A-01R-1565-13
TCGA-04-1365-01A-01R-1565-13 TCGA-04-1514-01A-01R-1566-13
TCGA-04-1519-01A-01R-1565-13 TCGA-09-0364-01A-02R-1564-13
                           1
TCGA-09-0366-01A-01R-1564-13 TCGA-09-0367-01A-01R-1564-13
TCGA-09-0369-01A-01R-1564-13 TCGA-09-1662-01A-01R-1566-13
TCGA-09-1666-01A-01R-1566-13 TCGA-09-1667-01C-01R-1566-13
TCGA-09-1668-01B-01R-1566-13 TCGA-09-1669-01A-01R-1566-13
                          1
TCGA-09-1670-01A-01R-1566-13 TCGA-09-1673-01A-01R-1566-13
TCGA-09-1674-01A-01R-1566-13 TCGA-09-2044-01B-01R-1568-13
TCGA-09-2045-01A-01R-1568-13 TCGA-09-2048-01A-01R-1568-13
TCGA-09-2051-01A-01R-1568-13 TCGA-09-2054-01A-01R-1568-13
                           1
TCGA-09-2056-01B-01R-1568-13 TCGA-10-0928-01A-02R-1564-13
TCGA-10-0936-01A-01R-1564-13 TCGA-13-0730-01A-01R-1564-13
TCGA-13-0799-01A-01R-1564-13 TCGA-13-0800-01A-01R-1564-13
                           1
TCGA-13-0801-01A-01R-1564-13 TCGA-13-0890-01A-01R-1564-13
                          1
TCGA-13-0893-01B-01R-1565-13 TCGA-13-0897-01A-01R-1564-13
                          1
TCGA-13-0899-01A-01R-1564-13 TCGA-13-0913-01A-01R-1564-13
TCGA-13-0916-01A-01R-1564-13 TCGA-13-0920-01A-01R-1564-13
                           1
TCGA-13-0924-01A-01R-1564-13 TCGA-13-1403-01A-01R-1565-13
                           1
                                                        1
TCGA-13-1405-01A-01R-1565-13 TCGA-13-1410-01A-01R-1565-13
```

```
TCGA-13-1481-01A-01R-1565-13 TCGA-13-1497-01A-01R-1565-13
TCGA-13-1498-01A-01R-1565-13 TCGA-13-1505-01A-01R-1565-13
TCGA-13-1506-01A-01R-1565-13 TCGA-13-1507-01A-01R-1565-13
TCGA-13-1511-01A-01R-1565-13 TCGA-13-1512-01A-01R-1565-13
TCGA-13-2060-01A-01R-1568-13 TCGA-20-1682-01A-01R-1564-13
                          1
TCGA-20-1683-01A-01R-1566-13 TCGA-20-1684-01A-01R-1566-13
                          1
TCGA-20-1685-01A-01R-1566-13 TCGA-20-1687-01A-01R-1566-13
                          1
TCGA-23-1023-01A-02R-1564-13 TCGA-23-1026-01B-01R-1569-13
TCGA-23-1027-01A-02R-1564-13 TCGA-23-1029-01B-01R-1567-13
                           1
TCGA-23-1109-01A-01R-1564-13 TCGA-23-1111-01A-01R-1567-13
TCGA-23-1114-01B-01R-1566-13 TCGA-23-1120-01A-02R-1565-13
TCGA-23-1122-01A-01R-1565-13 TCGA-23-1123-01A-01R-1565-13
TCGA-23-1809-01A-01R-1566-13 TCGA-23-2077-01A-01R-1568-13
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TCGA-23-2081-01A-01R-1568-13 TCGA-23-2084-01A-02R-1568-13
TCGA-24-0975-01A-02R-1565-13 TCGA-24-1103-01A-01R-1565-13
TCGA-24-1413-01A-01R-1565-13 TCGA-24-1416-01A-01R-1565-13
TCGA-24-1417-01A-01R-1565-13 TCGA-24-1418-01A-01R-1565-13
                           1
TCGA-24-1419-01A-01R-1565-13 TCGA-24-1423-01A-01R-1565-13
TCGA-24-1424-01A-01R-1565-13 TCGA-24-1427-01A-01R-1565-13
TCGA-24-1428-01A-01R-1564-13 TCGA-24-1430-01A-01R-1566-13
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TCGA-24-1436-01A-01R-1566-13 TCGA-24-1467-01A-01R-1566-13
                          1
TCGA-24-1469-01A-01R-1566-13 TCGA-24-1474-01A-01R-1566-13
                          1
TCGA-24-1544-01A-01R-1566-13 TCGA-24-1548-01A-01R-1566-13
TCGA-24-1549-01A-01R-1566-13 TCGA-24-1550-01A-01R-1566-13
                           1
TCGA-24-1551-01A-01R-1566-13 TCGA-24-1552-01A-01R-1566-13
                          1
TCGA-24-1553-01A-01R-1566-13 TCGA-24-1555-01A-01R-1566-13
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TCGA-24-1556-01A-01R-1566-13 TCGA-24-1557-01A-01R-1566-13
TCGA-24-1558-01A-01R-1566-13 TCGA-24-1560-01A-01R-1566-13
                                              1
                      1
TCGA-24-1562-01A-01R-1566-13
                                          (Other)
                                             162
unique_patient_ID:
TCGA-04-1348 TCGA-04-1357 TCGA-04-1362 TCGA-04-1364 TCGA-04-1365 TCGA-04-1514
                  1 1
                                       1
         1
                                                  1
TCGA-04-1519 TCGA-09-0364 TCGA-09-0366 TCGA-09-0367 TCGA-09-0369 TCGA-09-1662
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TCGA-09-1666 TCGA-09-1667 TCGA-09-1668 TCGA-09-1669 TCGA-09-1670 TCGA-09-1673
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                                       1
                                                  1 1
TCGA-09-1674 TCGA-09-2044 TCGA-09-2045 TCGA-09-2048 TCGA-09-2051 TCGA-09-2054
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                  1
                             1
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                                                  1 1
TCGA-09-2056 TCGA-10-0928 TCGA-10-0936 TCGA-13-0730 TCGA-13-0799 TCGA-13-0800
                    1
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         1
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TCGA-13-0801 TCGA-13-0890 TCGA-13-0893 TCGA-13-0897 TCGA-13-0899 TCGA-13-0913
                   1
                              1
                                                    1
TCGA-13-0916 TCGA-13-0920 TCGA-13-0924 TCGA-13-1403 TCGA-13-1405 TCGA-13-1410
                   1
                              1
                                         1
                                                    1
         1
TCGA-13-1481 TCGA-13-1497 TCGA-13-1498 TCGA-13-1505 TCGA-13-1506 TCGA-13-1507
                  1
                              1
                                        1
                                                   1
TCGA-13-1511 TCGA-13-1512 TCGA-13-2060 TCGA-20-1682 TCGA-20-1683 TCGA-20-1684
                                       1
                  1
                            1
                                                  1
        1
TCGA-20-1685 TCGA-20-1687 TCGA-23-1023 TCGA-23-1026 TCGA-23-1027 TCGA-23-1029
               TCGA-23-1109 TCGA-23-1111 TCGA-23-1114 TCGA-23-1120 TCGA-23-1122 TCGA-23-1123
                 1
         1
                            1
                                       1
                                                  1
TCGA-23-1809 TCGA-23-2077 TCGA-23-2081 TCGA-23-2084 TCGA-24-0975 TCGA-24-1103
         1
                  1
                             1
                                       1
                                                   1
TCGA-24-1413 TCGA-24-1416 TCGA-24-1417 TCGA-24-1418 TCGA-24-1419 TCGA-24-1423
                                         1
                   1
                                                    1
         1
                               1
TCGA-24-1424 TCGA-24-1427 TCGA-24-1428 TCGA-24-1430 TCGA-24-1436 TCGA-24-1467
                                                    1
                              1
                                         1
TCGA-24-1469 TCGA-24-1474 TCGA-24-1544 TCGA-24-1548 TCGA-24-1549 TCGA-24-1550
                              1
                                         1
                                                    1
        1
                   1
TCGA-24-1551 TCGA-24-1552 TCGA-24-1553 TCGA-24-1555 TCGA-24-1556 TCGA-24-1557
         1
                   1
                              1
                                         1
                                                    1
TCGA-24-1558 TCGA-24-1560 TCGA-24-1562 (Other)
                             1
                    1
                                        162
         1
sample_type:
tumor
 261
histological_type:
ser
261
```

primarysite:

```
other ov
 1 260
summarygrade:
high low NA's
226 29 6
summarystage:
early late NA's
 18 242 1
tumorstage:
 2 3 4 NA's
 18 209 33 1
substage:
 b c NA's
 16 211 34
grade:
 1 2 3 4 NA's
1 28 225 1 6
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. 34.00 51.00 58.00 58.84 66.00 87.00
pltx:
  n y NA's
 17 215 29
tax:
 n y NA's
 17 215 29
neo:
 n NA's
232 29
days_to_tumor_recurrence:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 9.0 225.0 426.5 585.3 755.0 5480.0 19
recurrence_status:
norecurrence recurrence
        123
                138
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 9.0 341.8 878.0 1018.0 1446.0 5480.0 5
vital_status:
```

deceased living NA's 143 114 4

site\_of\_tumor\_first\_recurrence:

locoregional metastasis NA's 82 56 123

primary\_therapy\_outcome\_success:

completeresponse partialresponse progressivedisease stabledisease 147 30 15 15 NA's 54

debulking:

optimal suboptimal NA's 171 60 30

percent\_normal\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.000 0.000 0.000 2.066 0.000 55.000 5

percent\_stromal\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.00 5.00 10.00 11.43 15.00 70.00 4

percent\_tumor\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.00 77.00 85.00 82.07 90.00 100.00 4

uncurated\_author\_metadata:

age\_at\_initial\_pathologic\_diagnosis: 38///anatomic\_organ\_subdivision: Bilateral/

age\_at\_initi

age\_at\_initial\_pathologic\_di

age\_at\_initial\_pathologic\_diagnosis

age\_at\_initial\_pathologic\_diagr

age\_at

age\_at

age\_at\_initial\_pathologic\_diagnosis: 42///anatomic\_organ\_subc

age\_at\_initial\_pathologic\_diagnosis

age\_at\_i

age\_at\_initial\_p

age\_at\_initial\_pat

age\_at\_initial\_patho

age\_at\_initia

age\_at\_initial\_pathologic\_diagnosis: 45///anatomic

age

age\_at\_initial\_pathologic\_diagnosis: 45///ar

age\_at\_initial\_patho

age\_at\_initial\_path

age\_at\_initial\_pathologic\_diagno

age\_at\_initial\_pathologic\_diagnosis: 45///anatomic\_organ\_subdivision

age\_at\_initial\_pathologic\_

age\_at\_initial\_pathologic\_diagnosis: 46///anatomic\_organ\_subdivisi

age\_at\_initial\_pathologic\_diagnosis:

age\_at\_initial\_pathologic\_diagno

age\_at\_initi

age\_at\_initial\_pathologic\_diagnosis: 47///anato

```
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                                     age_at_initial_pathologic_diagnosis: 48///
                                                                             age
                                                      age_at_initial_pathologic_
                                                                       age_at_in
                               age_at_initial_pathologic_diagnosis: 49///anatom
                         age_at_initial_pathologic_diagnosis: 50///anatomic_org
                                                   age_at_initial_pathologic_dia
                                                              age_at_initial_pat
age_at_initial_pathologic_diagnosis: 50///anatomic_organ_subdivision: Left///bc
                                  age_at_initial_pathologic_diagnosis: 50///ana
```

age\_at\_initial\_pathol

```
age_at_initial_pathologic_diagnosis: 51///anatomic_organ_subdivision: Bilatera
                                                                     age_at_init
                                                  age_at_initial_pathologic_dia
                                                                          age_at
                                                                             age
                                 age_at_initial_pathologic_diagnosis: 51///anat
                                                      age_at_initial_pathologic
                                                                   age_at_initia
                                                       age_at_initial_pathologi
                                                   age_at_initial_pathologic_di
                                              age_at_initial_pathologic_diagnos
                                                              age_at_initial_pat
                                                   age_at_initial_pathologic_di
                     age_at_initial_pathologic_diagnosis: 53///anatomic_organ_
                                             age_at_initial_pathologic_diagnosi
                                age_at_initial_pathologic_diagnosis: 53///anato
                                                             age_at_initial_pat
```

age\_at\_ini

age\_at\_ini

age\_at\_i

age\_at\_initial\_pathologic\_diagnosis: 54///anatomic\_organ\_subdiv

age\_at\_initial\_pathologic\_diagnosis: 54///anatomic\_organ\_subdivis

### Value

An expression set

TCGAOVARIAN

Integrated genomic analyses of ovarian carcinoma.

# **Description**

A catalogue of molecular aberrations that cause ovarian cancer is critical for developing and deploying therapies that will improve patients' lives. The Cancer Genome Atlas project has analysed messenger RNA expression, microRNA expression, promoter methylation and DNA copy number in 489 high-grade serous ovarian adenocarcinomas and the DNA sequences of exons from coding genes in 316 of these tumours. Here we report that high-grade serous ovarian cancer is characterized by TP53 mutations in almost all tumours (96%); low prevalence but statistically recurrent somatic mutations in nine further genes including NF1, BRCA1, BRCA2, RB1 and CDK12; 113 significant focal DNA copy number aberrations; and promoter methylation events involving 168 genes. Analyses delineated four ovarian cancer transcriptional subtypes, three microRNA subtypes, four promoter methylation subtypes and a transcriptional signature associated with survival duration, and shed new light on the impact that tumours with BRCA1/2 (BRCA1 or BRCA2) and CCNE1 aberrations have on survival. Pathway analyses suggested that homologous recombination is defective in about half of the tumours analysed, and that NOTCH and FOXM1 signalling are involved in serous ovarian cancer pathophysiology.

#### **Format**

```
experimentData(eset):
Experiment data
  Experimenter name: Integrated genomic analyses of ovarian carcinoma. Nature 20
  Laboratory: Cancer Genome Atlas Research Network 2011
  Contact information:
  Title: Integrated genomic analyses of ovarian carcinoma.
  URL:
  PMIDs: 21720365
  Abstract: A 179 word abstract is available. Use 'abstract' method.
  Information is available on: preprocessing
  notes:
   platform_title:
      [HT_HG-U133A] Affymetrix HT Human Genome U133A Array
   platform_shorttitle:
      Affymetrix HT_HG-U133A
   platform_summary:
      hthgu133a
   platform_manufacturer:
      Affymetrix
   platform_distribution:
      commercial
   platform_accession:
      GPL3921
   warnings:
      The following samples are likely from specimens also used in GSE26712: TCG
A.13.0725, TCGA.13.0885, TCGA.13.0887, TCGA.13.0890, TCGA.13.0886, TCGA.13
.0714, TCGA.13.0727, TCGA.13.1817, TCGA.13.1499, TCGA.13.0883
   version:
      2015-09-22 20:25:15
featureData(eset):
An object of class 'AnnotatedDataFrame'
  featureNames: 1007_s_at 1053_at ... AFFX-M27830_M_at (21260 total)
  varLabels: probeset gene EntrezGene.ID best_probe
  varMetadata: labelDescription
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## **Details**

-----

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TCGA-01-0636-11A-01R-0362-01 TCGA-01-0637-11A-01R-0362-01
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TCGA-01-0639-11A-01R-0362-01 TCGA-01-0642-11A-02R-0362-01
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TCGA-04-1536-01A-01R-0538-01 TCGA-04-1542-01A-01R-0502-01
TCGA-04-1638-01A-01R-0582-01 TCGA-04-1644-01B-01R-1048-01
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TCGA-04-1652-01A-01R-0582-01 TCGA-04-1654-01A-02R-0653-01
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TCGA-09-1672-01A-01R-0564-01 TCGA-09-1673-01A-01R-0564-01
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TCGA-09-2045-01A-01R-0709-01 TCGA-09-2048-01A-01R-0709-01
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TCGA-09-2049-01D-01R-0709-01 TCGA-09-2050-01A-01R-0709-01
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TCGA-13-0723-01A-02R-0362-01 TCGA-13-0724-01A-01R-0362-01
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TCGA-04-1337 TCGA-04-1338 TCGA-04-1341 TCGA-04-1342 TCGA-04-1343 TCGA-04-1346
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TCGA-04-1347 TCGA-04-1348 TCGA-04-1349 TCGA-04-1350 TCGA-04-1351 TCGA-04-1353
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TCGA-04-1356 TCGA-04-1357 TCGA-04-1360 TCGA-04-1361 TCGA-04-1362 TCGA-04-1364
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               1 1 1 1 1
TCGA-04-1365 TCGA-04-1367 TCGA-04-1369 TCGA-04-1371 TCGA-04-1514 TCGA-04-1516
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      1 1 1 1 1 1
TCGA-04-1638 TCGA-04-1644 TCGA-04-1646 TCGA-04-1648 TCGA-04-1649 TCGA-04-1651
                1 \qquad \qquad 1
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TCGA-04-1652 TCGA-04-1654 TCGA-04-1655 TCGA-09-0364 TCGA-09-0365 TCGA-09-0366
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       1
TCGA-10-0936 TCGA-10-0937 TCGA-10-0938 TCGA-13-0714 TCGA-13-0717 TCGA-13-0720
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        1
                  1
                               1
TCGA-13-0723 TCGA-13-0724 TCGA-13-0725
                                (Other)
                                   479
sample_type:
adjacentnormal
                 tumor
                  570
```

histological\_type:
 ser NA's

568 10

primarysite:
other ov NA's

4 564 10

summarygrade:
high low NA's
480 75 23

summarystage:

```
early late NA's
 43 520 15
tumorstage:
   1  2  3  4 NA's
  16 27 436 84 15
substage:
 b c NA's
 31 448 99
grade:
  1 2 3 4 NA's
6 69 479 1 23
age_at_initial_pathologic_diagnosis:
 Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 26.00 51.00 59.00 59.70 68.25 89.00 10
pltx:
      y NA's
  n
 19 492 67
tax:
 n y NA's
 43 468 67
neo:
 n NA's
 511 67
days_to_tumor_recurrence:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
   8.0 238.2 443.5 623.7 812.0 5480.0 56
recurrence_status:
norecurrence recurrence
                    299
        279
days_to_death:
  Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 8 349 881 1010 1446 5480 21
vital_status:
deceased living NA's 290 270 18
site_of_tumor_first_recurrence:
                locoregional locoregional_plus_metastatic
                       153
                 metastasis
                                                    NA's
```

143 279

primary\_therapy\_outcome\_success:

completeresponse partialresponse progressivedisease stabledisease 318 65 41 30 NA's

124

debulking:

optimal suboptimal NA's 367 140 71

percent\_normal\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.000 0.000 0.000 2.385 0.000 55.000 19

percent\_stromal\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.00 5.00 10.00 12.85 20.00 70.00 25

percent\_tumor\_cells:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 0.00 75.00 85.00 80.64 90.00 100.00 22

batch:

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's 9.00 13.00 17.00 18.55 22.00 40.00 1

uncurated\_author\_metadata:

age\_at\_initial\_pathologic\_diagnosi

age\_at\_initial\_patholog

age

age\_at\_initial\_pathologic\_diagnosis: 37//

age\_at\_initial\_pathologic\_diagnosis: 38///anatomic\_organ\_subdivision: Bilateral/

age\_at\_initial\_pathologic\_diagnosis: 38///anatomic\_organ\_subdivision:

age\_at\_initi

```
age_at
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                                  age_at_initial_pathologic_di
                          age_at_initial_pathologic_diagnosis
     age_at_initial_pathologic_diagnosis: 40///anatomic_organ
                              age_at_initial_pathologic_diagr
                                                        age_at
                                             age_at_initial_pa
                                   age_at_initial_pathologic_d
                          age_at_initial_pathologic_diagnosis
age_at_initial_pathologic_diagnosis: 42///anatomic_organ_subc
                                               age_at_initial_
          age_at_initial_pathologic_diagnosis: 42///anatomic_
                                            age_at_initial_pat
                          age_at_initial_pathologic_diagnosis
                                                       age_at_
                          age_at_initial_pathologic_diagnosis
```

```
age_at_i
                                          age_at_in
                     age_at_initial_pathologic_dia
 age_at_initial_pathologic_diagnosis: 44///anatomi
                      age_at_initial_pathologic_di
                                   age_at_initial_p
                                  age_at_initial_pa
                                 age_at_initial_pat
                               age_at_initial_patho
                                      age_at_initia
age_at_initial_pathologic_diagnosis: 45///anatomic
                                                age
      age_at_initial_pathologic_diagnosis: 45///ar
                              age_at_initial_patho
                               age_at_initial_path
                  age_at_initial_pathologic_diagno
```

age\_at\_init

```
age_at_initial_pathologic_
age_at_initial_pathologic_diagnosis: 46///anatomic_organ_subdivis
                     age_at_initial_pathologic_diagnosis: 46///ar
                             age_at_initial_pathologic_diagnosis:
                                            age_at_initial_patholo
                                 age_at_initial_pathologic_diagno
                                 age_at_initial_pathologic_diagno
                  age_at_initial_pathologic_diagnosis: 47///anato
                                                      age_at_initi
              age_at_initial_pathologic_diagnosis: 47///anatomic_
                       age_at_initial_pathologic_diagnosis: 48///
                                 age_at_initial_pathologic_diagno
                                         age_at_initial_pathologic
```

age\_at\_initial\_pathologic\_diagnosis: 45///anatomic\_organ\_subdivision

age\_at\_initial\_pathologic\_diagnosis: 48///

duplicates:

Length Class Mode 578 character character

# Value

An expression set