

Package ‘MetaGxPancreas’

October 12, 2020

Type Package

Title Transcriptomic Pancreatic Cancer Datasets

Version 1.8.0

Date 2015-11-11

Author

Michael Zon <michaelzon7@gmail.com>, Vandana Sandhu <vsandhu1987@gmail.com>, Benjamin Haibe-Kains <benjamin.haibe.kains@utoronto.ca>

Maintainer Michael Zon <michaelzon7@gmail.com>

Description A collection of pancreatic Cancer transcriptomic datasets that are part of the MetaGx-Data package compendium.

License Artistic-2.0

Depends Biobase, stats, lattice, impute, AnnotationHub, ExperimentHub,
R (>= 3.6.0)

Imports SummarizedExperiment

Suggests testthat, xtable

NeedsCompilation no

biocViews ExpressionData, ExperimentHub, CancerData,
Homo_sapiens_Data, ArrayExpress, GEO, NCI, MicroarrayData,
ExperimentData

LazyData yes

RoxygenNote 6.1.1

git_url <https://git.bioconductor.org/packages/MetaGxPancreas>

git_branch RELEASE_3_11

git_last_commit ed6fe54

git_last_commit_date 2020-04-27

Date/Publication 2020-10-12

R topics documented:

BADEA	2
BALAGURANATH	3
BAUER	3
CHEN	4

COLLISON	4
duplicates	5
GRUTZMANN	5
HAIDER	6
HAMIDI	6
ICGCMICRO	7
ICGCSEQ	7
JANKY	8
KIRBY	8
loadPancreasDatasets	9
loadPancreasEsets	10
LUNARDI	11
OUH	12
PCSI	12
PEI	13
TCGA	13
UNC	14
WINTER	15
YANG	15
ZHANG	16
Index	17

BADEA

BADEA Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=gse15471>

References

Badea et al, Hepatogastroenterology 2008

Examples

```
BADEAEset = loadPancreasEsets()$esets$BADEA
experimentData(BADEAEset)
```

BALAGURANATH

BALAGURUNATHAN Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE11838>

References

Balagurunathan et al, Mol Cancer Ther 2008

Examples

```
BALAGURANATHset = loadPancreasEsets()$esets$BALAGURANATH
experimentData(BALAGURANATHset)
```

BAUER

BAUER Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ebi.ac.uk/arrayexpress/experiments/E-MTAB-1791/>

References

Bauer et al, 2016, Gastroenterology

Examples

```
BAUERESet = loadPancreasEsets()$esets$BAUER  
experimentData(BAUERESet)
```

CHEN

CHEN Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE57495>

References

Chen et al, PLoS One 2015

Examples

```
CHENESet = loadPancreasEsets()$esets$CHEN  
experimentData(CHENESet)
```

COLLISON

COLLISON Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE17891>

References

Collisson et al., Nat Med 2011

Examples

```
COLLISONset = loadPancreasEsets()$esets$COLLISON
experimentData(COLLISONset)
```

duplicates	<i>a list containing the names of patients that are believed to be duplicates across datasets</i>
------------	---

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.

GRUTZMANN	<i>GRUTZMANN Study Pancreatic Cancer Dataset</i>
-----------	--

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

https://www.ebi.ac.uk/arrayexpress/experiments/E-MEXP-950/?query=pilarsky&s_page=1&s_pagesize=50

References

Grutzmann et al, Neoplasia, 2004

Examples

```
GRUTZMANNEset = loadPancreasEsets()$esets$GRUTZMANN
experimentData(GRUTZMANNEset)
```

HAIDER

HAIDER Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE56560>

References

haider et al, Genome medicine, 2014

Examples

```
HAIDEReset = loadPancreasEsets()$esets$HAIDER
experimentData(HAIDEReset)
```

HAMIDI

HAMIDI Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE77858>

References

NA

Examples

```
HAMIDIEset = loadPancreasEsets()$esets$HAMIDI  
experimentData(HAMIDIEset)
```

ICGCMICRO

ICGCMICRO Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<http://icgc.org/icgc/cgp/68/304/798>

References

Nones et al, Int. J. Cancer, 2014

Examples

```
ICGCMICROEset = loadPancreasEsets()$esets$ICGCMICRO  
experimentData(ICGCMICROEset)
```

ICGCSEQ

ICGCSEQ Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<http://icgc.org/icgc/cgp/68/304/798>

References

Bailey et al, Nature, 2016

Examples

```
ICGCSEQEset = loadPancreasEsets(removeSeqSubset = FALSE)$esets$ICGCSEQ  
experimentData(ICGCSEQEset)
```

JANKY

JANKY Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE62165>

References

Janky et al, BMC Cancer 2016

Examples

```
JANKYEset = loadPancreasEsets()$esets$JANKY  
experimentData(JANKYEset)
```

KIRBY

KIRBY Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE79670>

References

Kirby et al., Mol Oncol 2016

Examples

```
KIRBYEset = loadPancreasEsets()$esets$KIRBY
experimentData(KIRBYEset)
```

loadPancreasDatasets *Function to load Pancreatic cancer SummarizedExperiment objects from the Experiment Hub*

Description

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

Usage

```
loadPancreasDatasets(removeSeqSubset = TRUE, rescale = FALSE,
  minNumberGenes = 0, minNumberEvents = 0, minSampleSize = 0,
  keepCommonOnly = FALSE, imputeMissing = FALSE,
  removeDuplicates = FALSE)
```

Arguments

removeSeqSubset	currently only removes the ICGSSEQ dataset as it contains the same patients as the ICGS microarray dataset (default TRUE, currently just ICGSSEQ)
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 summarizedExperiment (default 0)
keepCommonOnly	remove entrezIDs not common to all datasets (default FALSE)
imputeMissing	remove patients from datasets with missing expression values
removeDuplicates	remove patients with a Spearman correlation greater than or equal to 0.98 with other patient expression profiles (default TRUE)

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 = loadPancreasDatasets()
```

loadPancreasEsets	<i>Function to load pancreas cancer expression sets from the Experiment Hub</i>
-------------------	---

Description

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

Usage

```
loadPancreasEsets(removeDuplicates = TRUE, quantileCutoff = 0,
  rescale = FALSE, minNumberGenes = 0, minNumberEvents = 0,
  minSampleSize = 0, removeSeqSubset = 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 numeric 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)
removeSeqSubset	currently only removes the ICGSSEQ dataset as it contains the same patients as the ICGS microarray dataset (default TRUE, currently just ICGSSEQ)
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 = loadPancreasEsets()
```

LUNARDI

LUNARDI Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the `experimentData` section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE55643>

References

Lunardi S et al, 2014, Oncotarget

Examples

```
LUNARDIEset = loadPancreasEsets()$esets$LUNARDI  
experimentData(LUNARDIEset)
```

OUH

OUH Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE60980>

References

Sandhu et al, Mol Onc, 2015

Examples

```
OUHeset = loadPancreasEsets()$esets$OUH
experimentData(OUHeset)
```

PCSI

PCSI Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

URL unavailable (private dataset)

References

Notta et al, Nature 2016

Examples

```
PCSIeSet = loadPancreasEsets()$esets$PCSI  
experimentData(PCSIeSet)
```

PEI

PEI Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=gse16515>

References

Pei et al, Cancer Cell 2009

Examples

```
PEIEset = loadPancreasEsets()$esets$PEI  
experimentData(PEIEset)
```

TCGA

TCGA Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://portal.gdc.cancer.gov/projects/TCGA-PAAD>

References

TCGA Research Network, Cancer Cell 2017

Examples

```
TCGAEset = loadPancreasEsets()$esets$TCGA  
experimentData(TCGAEset)
```

UNC

UNC Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE71729>

References

Moffitt et al, Nat Genet 2015

Examples

```
UNCset = loadPancreasEsets()$esets$UNC  
experimentData(UNCset)
```

WINTER

WINTER Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<http://www.ebi.ac.uk/arrayexpress/experiments/E-MEXP-2780/>

References

Winter et al, PLoS Comput Biol, 2012

Examples

```
WINTEREset = loadPancreasEsets()$esets$WINTER
experimentData(WINTEREset)
```

YANG

YANG Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE62452>

References

Yang et al, 2016, Cancer Research

Examples

```
YANGset = loadPancreasEsets()$esets$YANG  
experimentData(YANGset)
```

ZHANG

ZHANG Study Pancreatic Cancer Dataset

Description

An expression set object containing pancreatic cancer data

Format

eSet object

Details

more details can be found in the experimentData section of the object

Source

<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE28735>

References

Zhang et al, PLoS One 2012

Examples

```
ZHANGset = loadPancreasEsets()$esets$ZHANG  
experimentData(ZHANGset)
```


Index

* datasets

BADEA, [2](#)
BALAGURANATH, [3](#)
BAUER, [3](#)
CHEN, [4](#)
COLLISON, [4](#)
duplicates, [5](#)
GRUTZMANN, [5](#)
HAIDER, [6](#)
HAMIDI, [6](#)
ICGCMICRO, [7](#)
ICGCSEQ, [7](#)
JANKY, [8](#)
KIRBY, [8](#)
LUNARDI, [11](#)
OUH, [12](#)
PCSI, [12](#)
PEI, [13](#)
TCGA, [13](#)
UNC, [14](#)
WINTER, [15](#)
YANG, [15](#)
ZHANG, [16](#)

BADEA, [2](#)
BALAGURANATH, [3](#)
BAUER, [3](#)

CHEN, [4](#)
COLLISON, [4](#)

duplicates, [5](#)

GRUTZMANN, [5](#)

HAIDER, [6](#)
HAMIDI, [6](#)

ICGCMICRO, [7](#)
ICGCSEQ, [7](#)

JANKY, [8](#)

KIRBY, [8](#)

loadPancreasDatasets, [9](#)

loadPancreasEsets, [10](#)
LUNARDI, [11](#)

OUH, [12](#)

PCSI, [12](#)
PEI, [13](#)

TCGA, [13](#)

UNC, [14](#)

WINTER, [15](#)

YANG, [15](#)

ZHANG, [16](#)