# Package 'AssessORFData'

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Title Data and Files for the AssessORF Package
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<b>Description</b> This package provides access to mapping and results objects generated by the AssessORF package, as well as the genome sequences for the strains corresponding to those objects.
<b>Depends</b> R (>= 3.5.0), RSQLite (>= 1.1)
Imports DECIPHER, utils
Suggests AssessORF, BiocStyle, knitr, rmarkdown
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## Contents

AP1	2
AssessORF_StrainIDs	4
ATCC11842	4
ATCC13032	6
ATCC17978	7
ATCC700084	9
BW25113	10
ССМР1375	12
CECT5344	13
CNRZ327	15
СОН1	16
D_UW_3_CX	18
EGD_e	19
GetDataMapObj	21
GetGeneSources	21
GetResultsObj	22
GetStrainIDs	23
H37Rv	23
HG001	25
Houston_1	26
II1403	28
K_12_MG1655	
LAL14_1	31
MG1363	32
MGAS5005	34
NCIB_3610	35
PAO1	37
SaveGenomeToPath	38
SL1344	39
Strain10403S	41
Strain168	42
ТСН1516	44
	- 46

## Index

AP1

Assessment Objects for Streptococcus pyogenes strain AP1

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Streptococcus pyogenes* strain AP1

## Usage

```
data(AP1_PreSaved_DataMapObj)
data(AP1_PreSaved_ResultsObj_GenBank)
data(AP1_PreSaved_ResultsObj_GeneMarkS2)
data(AP1_PreSaved_ResultsObj_Glimmer)
data(AP1_PreSaved_ResultsObj_Prodigal)
```

#### AP1

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'AP1\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'AP1\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'AP1\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'AP1\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'AP1\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: AP1
- Species: S. pyogenes

## Mapping object

The mapping object, 'AP1\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD006345. The related genomes used to determine evolutionary conservation all came from the family, Streptococcaceae exculding anomalous genomes and non-complete *Streptococcus pneumoniae* genomes. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'AP1\_PreSaved\_ResultsObj\_GenBank', 'AP1\_PreSaved\_ResultsObj\_GeneMarkS2', 'AP1\_PreSaved\_ResultsObj\_Glimmer', and 'AP1\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("AP1", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD006345 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP007537.1

AssessORF\_StrainIDs Vector of strain IDs used in the package

## Description

Vector of strain IDs, which describes the strains for which the package has data

## Usage

data(AssessORF\_StrainIDs)

## Format

Character vector of length 26

ATCC11842	Assessment Objects for Lactobacillus delbrueckii subsp.	bulgaricus
	strain ATCC 11842	

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Lactobacillus delbrueckii* subsp. *bulgaricus* strain ATCC 11842

## Usage

```
data(ATCC11842_PreSaved_DataMapObj)
data(ATCC11842_PreSaved_ResultsObj_GenBank)
data(ATCC11842_PreSaved_ResultsObj_GeneMarkS2)
data(ATCC11842_PreSaved_ResultsObj_Glimmer)
data(ATCC11842_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'ATCC11842\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'ATCC11842\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'ATCC11842\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'ATCC11842\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'ATCC11842\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: ATCC11842
- Species: L. delbrueckii bulgaricus

## Mapping object

The mapping object, 'ATCC11842\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD006551. The related genomes used to determine evolutionary conservation all came from the genus Lactobacillus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'ATCC11842\_PreSaved\_ResultsObj\_GenBank', 'ATCC11842\_PreSaved\_ResultsObj\_GeneMarkS' 'ATCC11842\_PreSaved\_ResultsObj\_Glimmer', and 'ATCC11842\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("ATCC11842", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD006551 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NC\_008054.1

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Corynebacterium glutamicum* strain ATCC 13032

## Usage

```
data(ATCC13032_PreSaved_DataMapObj)
data(ATCC13032_PreSaved_ResultsObj_GenBank)
data(ATCC13032_PreSaved_ResultsObj_GeneMarkS2)
data(ATCC13032_PreSaved_ResultsObj_Glimmer)
data(ATCC13032_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'ATCC13032\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'ATCC13032\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'ATCC13032\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'ATCC13032\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'ATCC13032\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: ATCC13032
- Species: C. glutamicum

## Mapping object

The mapping object, 'ATCC13032\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD005812. The related genomes used to determine evolutionary conservation came from the genera Corynebacterium, Dietzia, and Tsukamurella, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'ATCC13032\_PreSaved\_ResultsObj\_GenBank', 'ATCC13032\_PreSaved\_ResultsObj\_GeneMarkS 'ATCC13032\_PreSaved\_ResultsObj\_Glimmer', and 'ATCC13032\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("ATCC13032", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD005812 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/BA000036.3

ATCC17978

Assessment Objects for Acinetobacter baumannii strain ATCC 17978

### Description

Objects of class Assessment and either subclass DataMap or subclass Results for Acinetobacter baumannii strain ATCC 17978

## Usage

```
data(ATCC17978_PreSaved_DataMapObj)
data(ATCC17978_PreSaved_ResultsObj_GenBank)
data(ATCC17978_PreSaved_ResultsObj_GeneMarkS2)
data(ATCC17978_PreSaved_ResultsObj_Glimmer)
data(ATCC17978_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

8

#### Details

'ATCC17978\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'ATCC17978\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'ATCC17978\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'ATCC17978\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'ATCC17978\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: ATCC17978
- Species: A. baumannii

## **Mapping object**

The mapping object, 'ATCC17978\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The proteomics data was generated in-house and collected as part of the work for the AssessORF paper. The raw mass spectra data can be found at ProteomeXchange dataset PXD012539. The related genomes used to determine evolutionary conservation all came from the genus Acinetobacter, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'ATCC17978\_PreSaved\_ResultsObj\_GenBank', 'ATCC17978\_PreSaved\_ResultsObj\_GeneMarkS' 'ATCC17978\_PreSaved\_ResultsObj\_Glimmer', and 'ATCC17978\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("ATCC17978", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD012539 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP000521.1

ATCC700084	Assessment	Objects fo	or Mycobacterium	smegmatis	strain	ATCC
	700084					

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Mycobacterium smegmatis* strain ATCC 700084

## Usage

```
data(ATCC700084_PreSaved_DataMapObj)
data(ATCC700084_PreSaved_ResultsObj_GenBank)
data(ATCC700084_PreSaved_ResultsObj_GeneMarkS2)
data(ATCC700084_PreSaved_ResultsObj_Glimmer)
data(ATCC700084_PreSaved_ResultsObj_Prodigal)
```

#### Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'ATCC700084\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'ATCC700084\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'ATCC700084\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'ATCC700084\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'ATCC700084\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: ATCC700084
- Species: M. smegmatis

## Mapping object

The mapping object, 'ATCC700084\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD003500. The related genomes used to determine evolutionary conservation all came from the genus Mycobacterium, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'ATCC700084\_PreSaved\_ResultsObj\_GenBank', 'ATCC700084\_PreSaved\_ResultsObj\_GeneMan 'ATCC700084\_PreSaved\_ResultsObj\_Glimmer', and 'ATCC700084\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("ATCC700084", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine. Please note that there is no genome sequence available for strain ATCC 700084 so the reference genome from strain MC2 155 was used instead.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD003500 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/

GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NC\_008596.1

BW25113

Assessment Objects for Escherichia coli strain BW25113

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Escherichia coli* strain BW25113

## Usage

```
data(BW25113_PreSaved_DataMapObj)
data(BW25113_PreSaved_ResultsObj_GenBank)
data(BW25113_PreSaved_ResultsObj_GeneMarkS2)
data(BW25113_PreSaved_ResultsObj_Glimmer)
data(BW25113_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### BW25113

#### Details

'BW25113\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'BW25113\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'BW25113\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'BW25113\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'BW25113\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: BW25113
- Species: E. coli

## Mapping object

The mapping object, 'BW25113\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD000498. The related genomes used to determine evolutionary conservation all came from the genus Escherichia, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'BW25113\_PreSaved\_ResultsObj\_GenBank', 'BW25113\_PreSaved\_ResultsObj\_GeneMarkS2', 'BW25113\_PreSaved\_ResultsObj\_Glimmer', and 'BW25113\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the AssessORF package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("BW25113", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD000498 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NZ\_CP009273.1 CCMP1375

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Prochlorococcus marinus* subsp. *marinus* strain CCMP1375

#### Usage

```
data(CCMP1375_PreSaved_DataMapObj)
data(CCMP1375_PreSaved_ResultsObj_GenBank)
data(CCMP1375_PreSaved_ResultsObj_GeneMarkS2)
data(CCMP1375_PreSaved_ResultsObj_Glimmer)
data(CCMP1375_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'CCMP1375\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'CCMP1375\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'CCMP1375\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'CCMP1375\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'CCMP1375\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: CCMP1375
- Species: P. marinus

## Mapping object

The mapping object, 'CCMP1375\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD005745. The related genomes used to determine evolutionary conservation all came from the order Synechococcales, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### CECT5344

#### **Results objects**

The 4 results objects, 'CCMP1375\_PreSaved\_ResultsObj\_GenBank', 'CCMP1375\_PreSaved\_ResultsObj\_GeneMarkS2 'CCMP1375\_PreSaved\_ResultsObj\_Glimmer', and 'CCMP1375\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("CCMP1375", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD005745 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NC\_005042.1

CECT5344	Assessment	Objects	for	Pseudomonas	pseudoalcaligenes	strain
	CECT 5344					

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Pseudomonas pseudoalcaligenes* strain CECT 5344

#### Usage

```
data(CECT5344_PreSaved_DataMapObj)
data(CECT5344_PreSaved_ResultsObj_GenBank)
data(CECT5344_PreSaved_ResultsObj_GeneMarkS2)
data(CECT5344_PreSaved_ResultsObj_Glimmer)
data(CECT5344_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'CECT5344\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'CECT5344\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'CECT5344\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'CECT5344\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'CECT5344\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: CECT5344
- Species: P. pseudoalcaligenes

## Mapping object

The mapping object, 'CECT5344\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD005745. The related genomes used to determine evolutionary conservation all came from the genus Pseudomonas, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'CECT5344\_PreSaved\_ResultsObj\_GenBank', 'CECT5344\_PreSaved\_ResultsObj\_GeneMarkS2' 'CECT5344\_PreSaved\_ResultsObj\_Glimmer', and 'CECT5344\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("CECT5344", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD005745 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/HG916826.1

CNRZ327

Assessment Objects for Lactobacillus delbrueckii subsp. lactis strain LBCNRZ327\_V11

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Lactobacillus delbrueckii* subsp. *lactis* strain LBCNRZ327\_V11

## Usage

```
data(CNRZ327_PreSaved_DataMapObj)
data(CNRZ327_PreSaved_ResultsObj_GenBank)
data(CNRZ327_PreSaved_ResultsObj_GeneMarkS2)
data(CNRZ327_PreSaved_ResultsObj_Glimmer)
data(CNRZ327_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'CNRZ327\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'CNRZ327\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'CNRZ327\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'CNRZ327\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'CNRZ327\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: CNRZ327
- Species: L. delbrueckii lactis

## Mapping object

The mapping object, 'CNRZ327\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD006551. The related genomes used to determine evolutionary conservation all came from the genus Lactobacillus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'CNRZ327\_PreSaved\_ResultsObj\_GenBank', 'CNRZ327\_PreSaved\_ResultsObj\_GeneMarkS2', 'CNRZ327\_PreSaved\_ResultsObj\_Glimmer', and 'CNRZ327\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("CNRZ327", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD006551 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CCDV01000001.1

COL	1
COH	

Assessment Objects for Streptococcus agalactiae strain COH1

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Streptococcus* agalactiae strain COH1

#### Usage

```
data(COH1_PreSaved_DataMapObj)
data(COH1_PreSaved_ResultsObj_GenBank)
data(COH1_PreSaved_ResultsObj_GeneMarkS2)
data(COH1_PreSaved_ResultsObj_Glimmer)
data(COH1_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### COH1

## Details

'COH1\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'COH1\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'COH1\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'COH1\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'COH1\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: COH1
- Species: S. agalactiae

## **Mapping object**

The mapping object, 'COH1\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The proteomics data was generated in-house and collected as part of the work for the AssessORF paper. The raw mass spectra data can be found at ProteomeXchange dataset PXD012567. The related genomes used to determine evolutionary conservation all came from the family Streptococcaceae, exculding anomalous genomes and non-complete *Streptococcus pneumoniae* genomes. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'COH1\_PreSaved\_ResultsObj\_GenBank', 'COH1\_PreSaved\_ResultsObj\_GeneMarkS2', 'COH1\_PreSaved\_ResultsObj\_Glimmer', and 'COH1\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("COH1", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD012567
NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/
GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/HG939456.1

D\_UW\_3\_CX

Assessment *Objects for* Chlamydia trachomatis *strain D/UW-3/CX* 

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Chlamydia trachomatis* strain D/UW-3/CX

## Usage

data(D\_UW\_3\_CX\_PreSaved\_DataMapObj)
data(D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GenBank)
data(D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GeneMarkS2)
data(D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Glimmer)
data(D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Prodigal)

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'D\_UW\_3\_CX\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: D\_UW\_3\_CX
- Species: C. trachomatis

## Mapping object

The mapping object, 'D\_UW\_3\_CX\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD003883. The related genomes used to determine evolutionary conservation all came from the phylum Chlamydiae, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### EGD\_e

## **Results objects**

The 4 results objects, 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GenBank', 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GeneMa' 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Glimmer', and 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("D\_UW\_3\_CX", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD003883 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/AE001273.1

EGD_e
-------

Assessment Objects for Listeria monocytogenes strain EGD-e

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Listeria mono-cytogenes* strain EGD-e

## Usage

```
data(EGD_e_PreSaved_DataMapObj)
data(EGD_e_PreSaved_ResultsObj_GenBank)
data(EGD_e_PreSaved_ResultsObj_GeneMarkS2)
data(EGD_e_PreSaved_ResultsObj_Glimmer)
data(EGD_e_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'EGD\_e\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'EGD\_e\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'EGD\_e\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'EGD\_e\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'EGD\_e\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: EGD\_e
- Species: L. monocytogenes

## Mapping object

The mapping object, 'EGD\_e\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD000890. The related genomes used to determine evolutionary conservation all came from the genus Listeria, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'EGD\_e\_PreSaved\_ResultsObj\_GenBank', 'EGD\_e\_PreSaved\_ResultsObj\_GeneMarkS2', 'EGD\_e\_PreSaved\_ResultsObj\_Glimmer', and 'EGD\_e\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("EGD\_e", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD000890
NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/
GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NC\_003210.1

GetDataMapObj Get a Data Map Object

#### Description

Gets and returns the data map object for a specific strain

## Usage

```
GetDataMapObj(strainID)
```

## Arguments

strainID Character string corresponding to the strain identifier.

## Details

GetDataMapObj returns an object of class Assessment and subclass DataMap corresponding to the given strain ID. The given strain ID must be a part of the AssessORF set, and there is no partial matching. Otherwise, the function will error.

## Value

An object of class  $\ensuremath{\mathsf{Assessment}}$  and subclass  $\ensuremath{\mathsf{DataMap}}$ 

## Examples

mapObj <- GetDataMapObj("MGAS5005")</pre>

GetGeneSources Get the Gene Sources

## Description

Returns the list of gene sources used in making the results objects

## Usage

```
GetGeneSources()
```

#### Details

GetGeneSources returns the list of gene sources (programs and databases) used in making the results objects in the AssessORF set.

## Value

A character vector where each element corresponds to a single gene source

## Examples

```
geneSourceSet <- GetGeneSources()</pre>
```

GetResultsObj Get a Results Object

## Description

Gets and returns the results object for a specific strain-gene source combo

## Usage

GetResultsObj(strainID, geneSource = "Prodigal")

## Arguments

strainID	Character string corresponding to the strain identifier.
geneSource	Character string corresponding to the gene source.

#### Details

GetDataMapObj returns an object of class Assessment and subclass Results corresponding to the given strain ID and the given gene source. The given strain ID must be a part of the AssessORF set, and there is no partial matching. Otherwise, the function will error. The given gene source must also be a part of the AssessORF set, but the function ignores case when checking if the given gene source is a part of the set.

## Value

An object of class Assessment and subclass Results

## Examples

```
resObj1 <- GetResultsObj("MGAS5005", "Prodigal")
resObj2 <- GetResultsObj("MGAS5005", "GenBank")
resObj3 <- GetResultsObj("MGAS5005", "GeneMarkS2")
resObj4 <- GetResultsObj("MGAS5005", "Glimmer")</pre>
```

GetStrainIDs Get the Strain Identifiers

## Description

Returns the list of strain identifiers for which the package has data

## Usage

```
GetStrainIDs()
```

## Details

GetStrainIDs returns the list of strains in the AssessORF set. This function is a shorter alternative to data("AssessORF\_StrainIDs").

## Value

A character vector where each element corresponds to a single strain identifier

## Examples

allStrainIDs <- GetStrainIDs()</pre>

H37Rv

Assessment Objects for Mycobacterium tuberculosis strain H37Rv

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Mycobacterium tuberculosis* strain H37Rv

## Usage

```
data(H37Rv_PreSaved_DataMapObj)
data(H37Rv_PreSaved_ResultsObj_GenBank)
data(H37Rv_PreSaved_ResultsObj_GeneMarkS2)
data(H37Rv_PreSaved_ResultsObj_Glimmer)
data(H37Rv_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'H37Rv\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'H37Rv\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'H37Rv\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'H37Rv\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'H37Rv\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: H37Rv
- Species: M. tuberculosis

## Mapping object

The mapping object, 'H37Rv\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD006117. The related genomes used to determine evolutionary conservation all came from the genus Mycobacterium, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'H37Rv\_PreSaved\_ResultsObj\_GenBank', 'H37Rv\_PreSaved\_ResultsObj\_GeneMarkS2', 'H37Rv\_PreSaved\_ResultsObj\_Glimmer', and 'H37Rv\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("H37Rv", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD006117 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/AL123456.3

HG001

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Staphylococcus aureus* subsp. *aureus* strain HG001

## Usage

```
data(HG001_PreSaved_DataMapObj)
data(HG001_PreSaved_ResultsObj_GenBank)
data(HG001_PreSaved_ResultsObj_GeneMarkS2)
data(HG001_PreSaved_ResultsObj_Glimmer)
data(HG001_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'HG001\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'HG001\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'HG001\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'HG001\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'HG001\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: HG001
- Species: S. aureus

## Mapping object

The mapping object, 'HG001\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD000702. The related genomes used to determine evolutionary conservation all came from the genus Staphylococcus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'HG001\_PreSaved\_ResultsObj\_GenBank', 'HG001\_PreSaved\_ResultsObj\_GeneMarkS2', 'HG001\_PreSaved\_ResultsObj\_Glimmer', and 'HG001\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("HG001", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine. Note that this genome comes from accession CP018205.1, which has the same genome sequence as accession NZ\_CP018205.1. Unlike NZ\_CP018205.1 however, CP018205.1 does not have any associated GenBank genes.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD000702 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NZ\_CP018205.1

Houston\_1

Assessment Objects for Bartonella henselae strain Houston-1

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Bartonella henselae* strain Houston-1

#### Usage

```
data(Houston_1_PreSaved_DataMapObj)
data(Houston_1_PreSaved_ResultsObj_GenBank)
data(Houston_1_PreSaved_ResultsObj_GeneMarkS2)
data(Houston_1_PreSaved_ResultsObj_Glimmer)
data(Houston_1_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Houston\_1

#### Details

'Houston\_1\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'Houston\_1\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'Houston\_1\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'Houston\_1\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'Houston\_1\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: Houston\_1
- Species: B. henselae

## Mapping object

The mapping object, 'Houston\_1\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD000153. The related genomes used to determine evolutionary conservation came from the families Bartonellaceae, Brucellaceae, Phyllobacteriaceae, Rhizobiaceae. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'Houston\_1\_PreSaved\_ResultsObj\_GenBank', 'Houston\_1\_PreSaved\_ResultsObj\_GeneMarkS2', 'Houston\_1\_PreSaved\_ResultsObj\_Glimmer', and 'Houston\_1\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("Houston\_1", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD000153 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/BX897699.1

#### Il1403

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Lactococcus lactis* subsp. *lactis* strain II1403

## Usage

```
data(Il1403_PreSaved_DataMapObj)
data(Il1403_PreSaved_ResultsObj_GenBank)
data(Il1403_PreSaved_ResultsObj_GeneMarkS2)
data(Il1403_PreSaved_ResultsObj_Glimmer)
data(Il1403_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'II1403\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'II1403\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'II1403\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'II1403\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'II1403\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: Il1403
- Species: L. lactis

## Mapping object

The mapping object, 'II1403\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD000494. The related genomes used to determine evolutionary conservation all came from the family, Streptococcaceae exculding anomalous genomes and non-complete *Streptococcus pneumoniae* genomes. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### K\_12\_MG1655

#### **Results objects**

The 4 results objects, 'II1403\_PreSaved\_ResultsObj\_GenBank', 'II1403\_PreSaved\_ResultsObj\_GeneMarkS2', 'II1403\_PreSaved\_ResultsObj\_Glimmer', and 'II1403\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("Ill403", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD000494 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/AE005176.1

K_12_MG1655	Assessment	Objects	for	Escherichia	coli	strain	K-12	substrain
	MG1655							

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Escherichia coli* strain K-12 substrain MG1655

## Usage

```
data(K_12_MG1655_PreSaved_DataMapObj)
data(K_12_MG1655_PreSaved_ResultsObj_GenBank)
data(K_12_MG1655_PreSaved_ResultsObj_GeneMarkS2)
data(K_12_MG1655_PreSaved_ResultsObj_Glimmer)
data(K_12_MG1655_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'K\_12\_MG1655\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'K\_12\_MG1655\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'K\_12\_MG1655\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'K\_12\_MG1655\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'K\_12\_MG1655\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: K\_12\_MG1655
- Species: E. coli

## Mapping object

The mapping object, 'K\_12\_MG1655\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD005901. The related genomes used to determine evolutionary conservation all came from the genus Escherichia, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'K\_12\_MG1655\_PreSaved\_ResultsObj\_GenBank', 'K\_12\_MG1655\_PreSaved\_ResultsObj\_Gene 'K\_12\_MG1655\_PreSaved\_ResultsObj\_Glimmer', and 'K\_12\_MG1655\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("K\_12\_MG1655", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD005901 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP025268.1

LAL14\_1

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Sulfolobus is- landicus* strain LAL14/1

## Usage

```
data(LAL14_1_PreSaved_DataMapObj)
data(LAL14_1_PreSaved_ResultsObj_GenBank)
data(LAL14_1_PreSaved_ResultsObj_GeneMarkS2)
data(LAL14_1_PreSaved_ResultsObj_Glimmer)
data(LAL14_1_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'LAL14\_1\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'LAL14\_1\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'LAL14\_1\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'LAL14\_1\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'LAL14\_1\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: LAL14\_1
- Species: S. islandicus

#### Mapping object

The mapping object, 'LAL14\_1\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD003074. The related genomes used to determine evolutionary conservation all came from the phylum Crenarchaeota, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'LAL14\_1\_PreSaved\_ResultsObj\_GenBank', 'LAL14\_1\_PreSaved\_ResultsObj\_GeneMarkS2', 'LAL14\_1\_PreSaved\_ResultsObj\_Glimmer', and 'LAL14\_1\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the AssessORF package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("LAL14\_1", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD003074 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP003928.1

MG1363	Assessment	Objects for	Lactococcus	lactis subsp.	cremoris strain
	MG1363				

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Lactococcus lactis* subsp. *cremoris* strain MG1363

#### Usage

```
data(MG1363_PreSaved_DataMapObj)
data(MG1363_PreSaved_ResultsObj_GenBank)
data(MG1363_PreSaved_ResultsObj_GeneMarkS2)
data(MG1363_PreSaved_ResultsObj_Glimmer)
data(MG1363_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### MG1363

#### Details

'MG1363\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'MG1363\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'MG1363\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'MG1363\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'MG1363\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: MG1363
- Species: L. lactis

## **Mapping object**

The mapping object, 'MG1363\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD011263. The related genomes used to determine evolutionary conservation all came from the family, Streptococcaceae exculding anomalous genomes and non-complete *Streptococcus pneumoniae* genomes. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'MG1363\_PreSaved\_ResultsObj\_GenBank', 'MG1363\_PreSaved\_ResultsObj\_GeneMarkS2', 'MG1363\_PreSaved\_ResultsObj\_Glimmer', and 'MG1363\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("MG1363", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD011263 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/AM406671.1

MGAS5005

Assessment Objects for Streptococcus pyogenes strain MGAS5005

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Streptococcus* pyogenes strain MGAS5005

## Usage

```
data(MGAS5005_PreSaved_DataMapObj)
data(MGAS5005_PreSaved_ResultsObj_GenBank)
data(MGAS5005_PreSaved_ResultsObj_GeneMarkS2)
data(MGAS5005_PreSaved_ResultsObj_Glimmer)
data(MGAS5005_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'MGAS5005\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'MGAS5005\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'MGAS5005\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'MGAS5005\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'MGAS5005\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: MGAS5005
- Species: S. pyogenes

#### NCIB\_3610

#### Mapping object

The mapping object, 'MGAS5005\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The proteomics data was generated in-house and collected as part of the work for the AssessORF paper. The raw mass spectra data can be found at ProteomeXchange dataset PXD012568. The related genomes used to determine evolutionary conservation all came from the family, Streptococcaceae exculding anomalous genomes and non-complete *Streptococcus pneumoniae* genomes. Links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'MGAS5005\_PreSaved\_ResultsObj\_GenBank', 'MGAS5005\_PreSaved\_ResultsObj\_GeneMarkS' 'MGAS5005\_PreSaved\_ResultsObj\_Glimmer', and 'MGAS5005\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("MGAS5005", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD012568

NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/

GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP000017.2

NCIB_3610	Assessment Objects for Bacillus subtilis subsp. subtilis strain NCIB
	3610

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Bacillus subtilis* subsp. *subtilis* strain NCIB 3610

## Usage

```
data(NCIB_3610_PreSaved_DataMapObj)
data(NCIB_3610_PreSaved_ResultsObj_GenBank)
data(NCIB_3610_PreSaved_ResultsObj_GeneMarkS2)
data(NCIB_3610_PreSaved_ResultsObj_Glimmer)
data(NCIB_3610_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

## Details

'NCIB\_3610\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'NCIB\_3610\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'NCIB\_3610\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'NCIB\_3610\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'NCIB\_3610\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: NCIB\_3610
- Species: B. subtilis

## Mapping object

The mapping object, 'NCIB\_3610\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD006444. The related genomes used to determine evolutionary conservation all came from the genus Bacillus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'NCIB\_3610\_PreSaved\_ResultsObj\_GenBank', 'NCIB\_3610\_PreSaved\_ResultsObj\_GeneMarkS' 'NCIB\_3610\_PreSaved\_ResultsObj\_Glimmer', and 'NCIB\_3610\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.
#### PAO1

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("NCIB\_3610", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD006444
NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/
GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NZ\_CM000488.1

PA01

Assessment *Objects for* Pseudomonas aeruginosa *strain* PAO1

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Pseudomonas aeruginosa* strain PAO1

#### Usage

```
data(PA01_PreSaved_DataMapObj)
data(PA01_PreSaved_ResultsObj_GenBank)
data(PA01_PreSaved_ResultsObj_GeneMarkS2)
data(PA01_PreSaved_ResultsObj_Glimmer)
data(PA01_PreSaved_ResultsObj_Prodigal)
```

# Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

# Details

'PAO1\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'PAO1\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'PAO1\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'PAO1\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'PAO1\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: PAO1
- Species: P. aeruginosa

#### Mapping object

The mapping object, 'PAO1\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD004560. The related genomes used to determine evolutionary conservation all came from the genus Pseudomonas, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'PAO1\_PreSaved\_ResultsObj\_GenBank', 'PAO1\_PreSaved\_ResultsObj\_GeneMarkS2', 'PAO1\_PreSaved\_ResultsObj\_Glimmer', and 'PAO1\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

## Getting the strain's genome

Use SaveGenomeToPath("PAO1", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD004560 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/AE004091.2

SaveGenomeToPath Save a Strain's Genome to a Directory

## Description

Saves the genome for a specified strain to a given directory

#### Usage

SaveGenomeToPath(strainID, filePath)

#### Arguments

strainID	Character string corresponding to the strain identifier.
filePath	Character string corresponding to the path to the file path. Must end in '.fasta'.

# SL1344

#### Details

SaveGenomeToPath saves the genome for the specified strain ID to the given file path. If the file specified by the path already exists, it will be overwitten (with a warning). The given strain ID must be a part of the AssessORF set, and there is no partial matching. Otherwise, the function will error.

Note: there is no genome for strain ATCC700084, so a reference genome for the species (strain MC2155) is used instead.

# Value

Invisibly returns filePath

## Examples

```
tmpFile <- paste0(tempfile(), ".fasta")
SaveGenomeToPath("MGAS5005", tmpFile)
unlink(tmpFile)</pre>
```

SL1344	Assessment Objects for Salmonella enterica subsp. enterica serovar
	Typhimurium strain SL1344

# Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Salmonella enterica* subsp. *enterica* serovar Typhimurium strain SL1344

#### Usage

```
data(SL1344_PreSaved_DataMapObj)
data(SL1344_PreSaved_ResultsObj_GenBank)
data(SL1344_PreSaved_ResultsObj_GeneMarkS2)
data(SL1344_PreSaved_ResultsObj_Glimmer)
data(SL1344_PreSaved_ResultsObj_Prodigal)
```

#### Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Details

'SL1344\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'SL1344\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'SL1344\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'SL1344\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'SL1344\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: SL1344
- Species: S. typhimurium

#### Mapping object

The mapping object, 'SL1344\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD005579. The related genomes used to determine evolutionary conservation all came from the genus Salmonella, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'SL1344\_PreSaved\_ResultsObj\_GenBank', 'SL1344\_PreSaved\_ResultsObj\_GeneMarkS2', 'SL1344\_PreSaved\_ResultsObj\_Glimmer', and 'SL1344\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

### Getting the strain's genome

Use SaveGenomeToPath("SL1344", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD005579

NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/

GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/FQ312003.1

Strain10403S

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Listeria mono-cytogenes* strain 10403S

## Usage

```
data(Strain10403S_PreSaved_DataMapObj)
data(Strain10403S_PreSaved_ResultsObj_GenBank)
data(Strain10403S_PreSaved_ResultsObj_GeneMarkS2)
data(Strain10403S_PreSaved_ResultsObj_Glimmer)
data(Strain10403S_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

# Details

'Strain10403S\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'Strain10403S\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'Strain10403S\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'Strain10403S\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'Strain10403S\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: Strain10403S
- Species: L. monocytogenes

## Mapping object

The mapping object, 'Strain10403S\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD010000. The related genomes used to determine evolutionary conservation all came from the genus Listeria, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

#### **Results objects**

The 4 results objects, 'Strain10403S\_PreSaved\_ResultsObj\_GenBank', 'Strain10403S\_PreSaved\_ResultsObj\_GeneMar 'Strain10403S\_PreSaved\_ResultsObj\_Glimmer', and 'Strain10403S\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("Strain10403S", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

## Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD010000 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/NC\_017544.1

Strain168

Assessment Objects for Bacillus subtilis subsp. subtilis strain 168

#### Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Bacillus subtilis* subsp. *subtilis* strain 168

### Usage

```
data(Strain168_PreSaved_DataMapObj)
data(Strain168_PreSaved_ResultsObj_GenBank)
data(Strain168_PreSaved_ResultsObj_GeneMarkS2)
data(Strain168_PreSaved_ResultsObj_Glimmer)
data(Strain168_PreSaved_ResultsObj_Prodigal)
```

## Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

#### Strain168

#### Details

'Strain168\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'Strain168\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'Strain168\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'Strain168\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'Strain168\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: Strain168
- Species: B. subtilis

## Mapping object

The mapping object, 'Strain168\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The raw proteomics mass spectra data came from ProteomeXchange dataset PXD004565. The related genomes used to determine evolutionary conservation all came from the genus Bacillus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## **Results objects**

The 4 results objects, 'Strain168\_PreSaved\_ResultsObj\_GenBank', 'Strain168\_PreSaved\_ResultsObj\_GeneMarkS2', 'Strain168\_PreSaved\_ResultsObj\_Glimmer', and 'Strain168\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("Strain168", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD004565
NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/
GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CM000487.1

#### TCH1516

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Staphylococcus aureus* subsp. *aureus* strain USA300\_TCH1516

# Usage

```
data(TCH1516_PreSaved_DataMapObj)
data(TCH1516_PreSaved_ResultsObj_GenBank)
data(TCH1516_PreSaved_ResultsObj_GeneMarkS2)
data(TCH1516_PreSaved_ResultsObj_Glimmer)
data(TCH1516_PreSaved_ResultsObj_Prodigal)
```

#### Format

All 5 objects have a list structure. For specifics on what the two types of Assessment objects contain, please see the **AssessORF** package.

# Details

'TCH1516\_PreSaved\_DataMapObj' is an object of subclass DataMap.

'TCH1516\_PreSaved\_ResultsObj\_GenBank' is an object of subclass Results with predicted genes from the GenBank database.

'TCH1516\_PreSaved\_ResultsObj\_GeneMarkS2' is an object of subclass Results with predicted genes from the program GeneMarkS-2.

'TCH1516\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'TCH1516\_PreSaved\_ResultsObj\_Prodigal' is an object of subclass Results with predicted genes from the program Prodigal.

For all 5 objects, values of two key identifying list items within each object are listed below.

- StrainID: TCH1516
- Species: S. aureus

## Mapping object

The mapping object, 'TCH1516\_PreSaved\_DataMapObj', stores the mapping of proteomics evidence and evolutionary conservation evidence to the strain's genome. The proteomics data was generated in-house and collected as part of the work for the AssessORF paper. The raw mass spectra data can be found at ProteomeXchange dataset PXD012538. The related genomes used to determine evolutionary conservation all came from the genus Staphylococcus, and links to their sequences were downloaded from NCBI's Genome Browser. The object was built using the MapAssessmentData function from the **AssessORF** package.

## TCH1516

# **Results objects**

The 4 results objects, 'TCH1516\_PreSaved\_ResultsObj\_GenBank', 'TCH1516\_PreSaved\_ResultsObj\_GeneMarkS2', 'TCH1516\_PreSaved\_ResultsObj\_Glimmer', and 'TCH1516\_PreSaved\_ResultsObj\_Prodigal', store how much evidence there is supporting or against each gene in a set of predicted genes for the strain's genome. The four objects were built using the AssessGenes function from the **AssessORF** package, a set of genes, and the mapping object described here.

For the GenBank object, the genes were downloaded from the corresponding record in the GenBank database. For the other three objects, GenemarkS-2 (web server), Prodigal (2.6.3), and Glimmer (3.02) were run at default settings in order to generate the set of predicted genes for the corresponding results object.

The GeneLeftPos, GeneRightPos, and the GeneStrand within each of the four results objects provide positional information on the set of predicted genes used to generate that object.

The GeneSource list item within each of the four results objects describes where the predicted genes came from (either "GenBank", "GeneMarkS2", "Glimmer", or "Prodigal" respectively).

#### Getting the strain's genome

Use SaveGenomeToPath("TCH1516", <INSERT FILE PATH HERE>) to save the genome sequence for the strain to your local machine.

#### Source

Proteomcis data: http://proteomecentral.proteomexchange.org/cgi/GetDataset?ID=PXD012538 NCBI's Genome Browser: https://www.ncbi.nlm.nih.gov/genome/browse/#!/prokaryotes/ GenBank record: https://www.ncbi.nlm.nih.gov/nuccore/CP000730.1

# Index

\* datasets AssessORF\_StrainIDs, 4 AP1, 2 AP1\_PreSaved\_DataMapObj(AP1), 2 AP1\_PreSaved\_ResultsObj\_GenBank (AP1), 2 AP1\_PreSaved\_ResultsObj\_GeneMarkS2 (AP1), 2 AP1\_PreSaved\_ResultsObj\_Glimmer (AP1), 2 AP1\_PreSaved\_ResultsObj\_Prodigal (AP1), 2 AssessORF\_StrainIDs, 4 ATCC11842, 4 ATCC11842\_PreSaved\_DataMapObj (ATCC11842), 4 ATCC11842\_PreSaved\_ResultsObj\_GenBank (ATCC11842), 4 ATCC11842\_PreSaved\_ResultsObj\_GeneMarkS2 (ATCC11842), 4 ATCC11842\_PreSaved\_ResultsObj\_Glimmer (ATCC11842), 4 ATCC11842\_PreSaved\_ResultsObj\_Prodigal (ATCC11842), 4 ATCC13032, 6 ATCC13032\_PreSaved\_DataMapObj (ATCC13032), 6 ATCC13032\_PreSaved\_ResultsObj\_GenBank (ATCC13032), 6 ATCC13032\_PreSaved\_ResultsObj\_GeneMarkS2 (ATCC13032), 6 ATCC13032\_PreSaved\_ResultsObj\_Glimmer (ATCC13032), 6 ATCC13032\_PreSaved\_ResultsObj\_Prodigal (ATCC13032), 6 ATCC17978, 7 ATCC17978\_PreSaved\_DataMapObj (ATCC17978), 7 ATCC17978\_PreSaved\_ResultsObj\_GenBank (ATCC17978), 7 ATCC17978\_PreSaved\_ResultsObj\_GeneMarkS2 (ATCC17978), 7 ATCC17978\_PreSaved\_ResultsObj\_Glimmer (ATCC17978), 7

ATCC17978\_PreSaved\_ResultsObj\_Prodigal (ATCC17978), 7 ATCC700084, 9 ATCC700084\_PreSaved\_DataMapObj (ATCC700084), 9 ATCC700084\_PreSaved\_ResultsObj\_GenBank (ATCC700084), 9 ATCC700084\_PreSaved\_ResultsObj\_GeneMarkS2 (ATCC700084), 9 ATCC700084\_PreSaved\_ResultsObj\_Glimmer (ATCC700084), 9 ATCC700084\_PreSaved\_ResultsObj\_Prodigal (ATCC700084), 9 BW25113, 10 BW25113\_PreSaved\_DataMapObj(BW25113), 10 BW25113\_PreSaved\_ResultsObj\_GenBank (BW25113), 10 BW25113\_PreSaved\_ResultsObj\_GeneMarkS2 (BW25113), 10 BW25113\_PreSaved\_ResultsObj\_Glimmer (BW25113), 10 BW25113\_PreSaved\_ResultsObj\_Prodigal (BW25113), 10 CCMP1375.12 CCMP1375\_PreSaved\_DataMapObj (CCMP1375), 12 CCMP1375\_PreSaved\_ResultsObj\_GenBank (CCMP1375), 12 CCMP1375\_PreSaved\_ResultsObj\_GeneMarkS2 (CCMP1375), 12 CCMP1375\_PreSaved\_ResultsObj\_Glimmer (CCMP1375), 12 CCMP1375\_PreSaved\_ResultsObj\_Prodigal (CCMP1375), 12 CECT5344, 13 CECT5344\_PreSaved\_DataMapObj (CECT5344), 13 CECT5344\_PreSaved\_ResultsObj\_GenBank (CECT5344), 13 CECT5344\_PreSaved\_ResultsObj\_GeneMarkS2 (CECT5344), 13

## INDEX

CECT5344\_PreSaved\_ResultsObj\_Glimmer (CECT5344), 13 CECT5344\_PreSaved\_ResultsObj\_Prodigal (CECT5344), 13 CNRZ327, 15 CNRZ327\_PreSaved\_DataMapObj(CNRZ327), 15 CNRZ327\_PreSaved\_ResultsObj\_GenBank (CNRZ327), 15 CNRZ327\_PreSaved\_ResultsObj\_GeneMarkS2 (CNRZ327), 15 CNRZ327\_PreSaved\_ResultsObj\_Glimmer (CNRZ327), 15 CNRZ327\_PreSaved\_ResultsObj\_Prodigal (CNRZ327), 15 COH1, 16 COH1\_PreSaved\_DataMapObj(COH1), 16 COH1\_PreSaved\_ResultsObj\_GenBank (COH1), 16 COH1\_PreSaved\_ResultsObj\_GeneMarkS2 (COH1), 16 COH1\_PreSaved\_ResultsObj\_Glimmer (COH1), 16 COH1\_PreSaved\_ResultsObj\_Prodigal (COH1), 16 D\_UW\_3\_CX, 18 D\_UW\_3\_CX\_PreSaved\_DataMapObj (D\_UW\_3\_CX), 18 D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GenBank (D\_UW\_3\_CX), 18 D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GeneMarkS2 (D\_UW\_3\_CX), 18 D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Glimmer (D\_UW\_3\_CX), 18 D\_UW\_3\_CX\_PreSaved\_ResultsObj\_Prodigal (D\_UW\_3\_CX), 18 EGD\_e, 19 EGD\_e\_PreSaved\_DataMapObj (EGD\_e), 19 EGD\_e\_PreSaved\_ResultsObj\_GenBank (EGD\_e), 19 EGD\_e\_PreSaved\_ResultsObj\_GeneMarkS2 (EGD\_e), 19 EGD\_e\_PreSaved\_ResultsObj\_Glimmer (EGD\_e), 19 EGD\_e\_PreSaved\_ResultsObj\_Prodigal (EGD\_e), 19 GetDataMapObj, 21 GetGeneSources, 21  ${\tt GetResultsObj, 22}$ GetStrainIDs, 23

H37Rv. 23 H37Rv\_PreSaved\_DataMapObj(H37Rv), 23 H37Rv\_PreSaved\_ResultsObj\_GenBank (H37Rv), 23 H37Rv\_PreSaved\_ResultsObj\_GeneMarkS2 (H37Rv), 23 H37Rv\_PreSaved\_ResultsObj\_Glimmer (H37Rv), 23 H37Rv\_PreSaved\_ResultsObj\_Prodigal (H37Rv), 23 HG001.25 HG001\_PreSaved\_DataMapObj(HG001), 25 HG001\_PreSaved\_ResultsObj\_GenBank (HG001), 25 HG001\_PreSaved\_ResultsObj\_GeneMarkS2 (HG001), 25 HG001\_PreSaved\_ResultsObj\_Glimmer (HG001), 25 HG001\_PreSaved\_ResultsObj\_Prodigal (HG001), 25 Houston\_1, 26 Houston\_1\_PreSaved\_DataMapObj (Houston\_1), 26 Houston\_1\_PreSaved\_ResultsObj\_GenBank (Houston\_1), 26 Houston\_1\_PreSaved\_ResultsObj\_GeneMarkS2 (Houston\_1), 26 Houston\_1\_PreSaved\_ResultsObj\_Glimmer (Houston\_1), 26 Houston\_1\_PreSaved\_ResultsObj\_Prodigal (Houston\_1), 26

Il1403.28 Il1403\_PreSaved\_DataMapObj(Il1403), 28 Il1403\_PreSaved\_ResultsObj\_GenBank (I11403), 28 Il1403\_PreSaved\_ResultsObj\_GeneMarkS2 (I11403), 28 Il1403\_PreSaved\_ResultsObj\_Glimmer (II1403), 28 Il1403\_PreSaved\_ResultsObj\_Prodigal (II1403), 28 K\_12\_MG1655, 29 K\_12\_MG1655\_PreSaved\_DataMapObj (K\_12\_MG1655), 29 K\_12\_MG1655\_PreSaved\_ResultsObj\_GenBank (K\_12\_MG1655), 29 K\_12\_MG1655\_PreSaved\_ResultsObj\_GeneMarkS2 (K\_12\_MG1655), 29 K\_12\_MG1655\_PreSaved\_ResultsObj\_Glimmer

(K\_12\_MG1655), 29

#### INDEX

K\_12\_MG1655\_PreSaved\_ResultsObj\_Prodigal (K\_12\_MG1655), 29 LAL14\_1, 31 LAL14\_1\_PreSaved\_DataMapObj(LAL14\_1), 31 LAL14\_1\_PreSaved\_ResultsObj\_GenBank (LAL14\_1), 31 LAL14\_1\_PreSaved\_ResultsObj\_GeneMarkS2 (LAL14\_1), 31 LAL14\_1\_PreSaved\_ResultsObj\_Glimmer (LAL14\_1), 31 LAL14\_1\_PreSaved\_ResultsObj\_Prodigal (LAL14\_1), 31 MG1363. 32 MG1363\_PreSaved\_DataMapObj(MG1363), 32 MG1363\_PreSaved\_ResultsObj\_GenBank (MG1363), 32 MG1363\_PreSaved\_ResultsObj\_GeneMarkS2 (MG1363), 32 MG1363\_PreSaved\_ResultsObj\_Glimmer (MG1363), 32 MG1363\_PreSaved\_ResultsObj\_Prodigal (MG1363), 32 MGAS5005, 34 MGAS5005\_PreSaved\_DataMapObj (MGAS5005), 34 MGAS5005\_PreSaved\_ResultsObj\_GenBank (MGAS5005), 34 MGAS5005\_PreSaved\_ResultsObj\_GeneMarkS2 (MGAS5005), 34 MGAS5005\_PreSaved\_ResultsObj\_Glimmer (MGAS5005), 34 MGAS5005\_PreSaved\_ResultsObj\_Prodigal (MGAS5005), 34 NCIB\_3610, 35 NCIB\_3610\_PreSaved\_DataMapObj (NCIB\_3610), 35 NCIB\_3610\_PreSaved\_ResultsObj\_GenBank (NCIB\_3610), 35 NCIB\_3610\_PreSaved\_ResultsObj\_GeneMarkS2 (NCIB\_3610), 35 NCIB\_3610\_PreSaved\_ResultsObj\_Glimmer (NCIB\_3610), 35 NCIB\_3610\_PreSaved\_ResultsObj\_Prodigal (NCIB\_3610), 35 PA01, 37

PA01\_PreSaved\_DataMapObj(PA01), 37 PA01\_PreSaved\_ResultsObj\_GenBank (PA01), 37 PA01\_PreSaved\_ResultsObj\_GeneMarkS2 (PA01), 37 PA01\_PreSaved\_ResultsObj\_Glimmer (PA01), 37 PA01\_PreSaved\_ResultsObj\_Prodigal (PA01), 37 SaveGenomeToPath, 38 SL1344, 39 SL1344\_PreSaved\_DataMapObj(SL1344), 39 SL1344\_PreSaved\_ResultsObj\_GenBank (SL1344), 39 SL1344\_PreSaved\_ResultsObj\_GeneMarkS2 (SL1344), 39 SL1344\_PreSaved\_ResultsObj\_Glimmer (SL1344), 39 SL1344\_PreSaved\_ResultsObj\_Prodigal (SL1344), 39 Strain10403S, 41 Strain10403S\_PreSaved\_DataMapObj (Strain10403S), 41 Strain10403S\_PreSaved\_ResultsObj\_GenBank (Strain10403S), 41 Strain10403S\_PreSaved\_ResultsObj\_GeneMarkS2 (Strain10403S), 41 Strain10403S\_PreSaved\_ResultsObj\_Glimmer (Strain10403S), 41 Strain10403S\_PreSaved\_ResultsObj\_Prodigal (Strain10403S), 41 Strain168, 42 Strain168\_PreSaved\_DataMapObj (Strain168), 42 Strain168\_PreSaved\_ResultsObj\_GenBank (Strain168), 42 Strain168\_PreSaved\_ResultsObj\_GeneMarkS2 (Strain168), 42 Strain168\_PreSaved\_ResultsObj\_Glimmer (Strain168), 42 Strain168\_PreSaved\_ResultsObj\_Prodigal (Strain168), 42 TCH1516, 44 TCH1516\_PreSaved\_DataMapObj(TCH1516), 44 TCH1516\_PreSaved\_ResultsObj\_GenBank (TCH1516), 44 TCH1516\_PreSaved\_ResultsObj\_GeneMarkS2 (TCH1516), 44 TCH1516\_PreSaved\_ResultsObj\_Glimmer (TCH1516), 44 TCH1516\_PreSaved\_ResultsObj\_Prodigal

(TCH1516), 44