# Package 'AssessORFData'

April 10, 2025

Type Package

```
Title Data and Files for the AssessORF Package
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Date 2019-04-07
Description 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.
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Imports DECIPHER, utils
Suggests AssessORF, BiocStyle, knitr, rmarkdown
biocViews OrganismData, Bacillus_subtilis_Data, Escherichia_coli_Data,
     Pseudomonas_aeruginosa_Data, Staphylococcus_aureus_Data,
     Genome, Proteome, SequencingData
License GPL-3
Encoding UTF-8
LazyData FALSE
NeedsCompilation no
RoxygenNote 7.1.1
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```

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## Description

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

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#### 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)
```

#### **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

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(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

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#### 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\_GeneMarkS2', '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

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(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
```

ATCC13032 Assessment *Objects for* Corynebacterium glutamicum *strain ATCC* 13032

## **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.

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#### **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: ATCC13032Species: 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\_GeneMarkS2', '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.

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#### 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.

#### **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: ATCC17978Species: A. baumannii

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## 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\_GeneMarkS2', '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 for* Mycobacterium smegmatis *strain ATCC* 700084

## **Description**

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

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#### **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: ATCC700084Species: 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\_GeneMarkS2 '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

BW25113

(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.

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#### **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.

CCMP1375

#### 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 Assessment *Objects for* Prochlorococcus marinus *subsp.* marinus *strain 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.

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

'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: CCMP1375Species: P. marinus

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## 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.

#### 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

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#### 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

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(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
```

Assessment Objects for Lactobacillus delbrueckii subsp. lactis strain

LBCNRZ327\_V11

CNRZ327

## 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.

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#### **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.

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#### **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

COH1

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.

#### **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

D\_UW\_3\_CX

## 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 tra*chomatis strain D/UW-3/CX 20 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\_CXSpecies: 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.

#### Results objects

The 4 results objects, 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GenBank', 'D\_UW\_3\_CX\_PreSaved\_ResultsObj\_GeneMarkS '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

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(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.

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'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 23

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 Assessment and subclass 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.

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#### 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 25

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.

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#### **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.

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#### **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

Assessment Objects for Staphylococcus aureus subsp. aureus strain 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

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## 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

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#### 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.

#### **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\_1Species: 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

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(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
```

I11403

Assessment Objects for Lactococcus lactis subsp. lactis strain 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.

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'Il1403\_PreSaved\_ResultsObj\_Glimmer' is an object of subclass Results with predicted genes from the program Glimmer.

'Il1403\_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: II1403Species: 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.

## Results objects

The 4 results objects, 'Il1403\_PreSaved\_ResultsObj\_GenBank', 'Il1403\_PreSaved\_ResultsObj\_GeneMarkS2', 'Il1403\_PreSaved\_ResultsObj\_Glimmer', and 'Il1403\_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("Il1403", <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 32 K\_12\_MG1655

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.

LAL14\_1 33

#### Results objects

The 4 results objects, 'K\_12\_MG1655\_PreSaved\_ResultsObj\_GenBank', 'K\_12\_MG1655\_PreSaved\_ResultsObj\_GeneMar' 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

Assessment Objects for Sulfolobus islandicus strain LAL14/1

## Description

Objects of class Assessment and either subclass DataMap or subclass Results for *Sulfolobus islandicus* 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.

34 LAL14\_1

#### **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.

MG1363 35

#### **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.

#### **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: MG1363Species: L. lactis

36 MGAS5005

## 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

MGAS5005 37

## Usage

```
data(MGAS5005_PreSaved_DataMap0bj)
data(MGAS5005_PreSaved_Results0bj_GenBank)
data(MGAS5005_PreSaved_Results0bj_GeneMarkS2)
data(MGAS5005_PreSaved_Results0bj_Glimmer)
data(MGAS5005_PreSaved_Results0bj_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: MGAS5005Species: S. pyogenes

# 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\_GeneMarkS2', '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.

38 NCIB\_3610

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.

NCIB\_3610 39

#### **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\_GeneMarkS2', '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.

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.

40 PAO1

#### 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

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## 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)

42 SL1344

# Arguments

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

## **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.

SL1344 43

#### **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.

44 Strain10403S

#### 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

Assessment Objects for Listeria monocytogenes strain 10403S

## **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

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## 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\_GeneMarkS2 '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

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#### **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.

#### **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: Strain168Species: 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

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(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 Assessmen

Assessment *Objects for* Staphylococcus aureus *subsp.* aureus *strain USA300 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.

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#### **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: TCH1516Species: 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.

# 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.

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# 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

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