

Package: SpaMTPdb (via r-universe)

September 24, 2026

Type Package

Title Versioned Annotation Resources for SpaMTP

Version 0.99.4

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Description Provides lightweight, version-aware access to the annotation resources used by SpaMTP. Resources include pruned RaMP chemical, identifier, pathway, and pathway-topology tables, precomputed SMILES functional-group and ionisation features, and legacy metabolite reference tables, plus a separately versioned human gene identifier reference from fixed HGNC archives. RaMP resource files are hosted on Zenodo and described by AnnotationHub metadata rather than bundled in the package. Retrieved files are verified against recorded sizes and checksums and cached for reuse, and a local resource directory can be used for development and reproducible database builds. Maintainer recipes coordinate a shared Zenodo resource collection with SpaMTPData while preserving separate annotation and experiment registries and independent resource versions.

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Encoding UTF-8

Depends R (>= 4.5.0)

Imports AnnotationHub, S4Vectors, utils

Suggests AnnotationHubData, BiocStyle, httr2, jsonlite, knitr, rmarkdown, testthat (>= 3.0.0)

biocViews AnnotationData, AnnotationHub

VignetteBuilder knitr

Roxygen list(markdown = TRUE)

Config/testthat/edition 3

URL <https://github.com/BCRL-tylu/SpaMTPdb>

BugReports <https://github.com/BCRL-tylu/SpaMTPdb/issues>

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Repository <https://biocstaging.r-universe.dev>

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spaMTPdbBundle	<i>Retrieve a coherent set of SpaMTP annotation resources</i>
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Description

Retrieve a coherent set of SpaMTP annotation resources

Usage

```
spaMTPdbBundle(resources = NULL, version = "latest", ...)
```

Arguments

resources	Character vector of resource names. By default, all core resources used by SpaMTP are returned.
version	Resource version or "latest".
...	Passed to spaMTPdbResource() .

Value

A named list of resources from one database version.

Examples

```
spaMTPdbBundle(resources = "chem_props", metadata = TRUE)
```

spaMTPdbGeneReference *Retrieve a versioned human gene identifier reference*

Description

Retrieves a fixed HGNC quarterly archive, independently of the RaMP resource version. The archive contains approved symbols, previous and alias symbols, HGNC, Entrez, Ensembl and UniProt identifiers. It is an annotation resource; experiment data continue to be supplied by SpaMTPData.

Usage

```
spaMTPdbGeneReference(
  version = "latest",
  local_dir = NULL,
  metadata = FALSE,
  offline = FALSE,
  cache_dir = NULL,
  timeout = 1800,
  retries = 3L
)
```

Arguments

version	HGNC archive version or "latest", resolved only against the gene reference registry, independently of spaMTPdbVersion() .
local_dir	Directory containing the archived TSV, optionally under a version subdirectory. Defaults to SpaMTPdb.gene_reference_dir or the SPAMTPDB_GENE_REFERENCE_DIR environment variable.
metadata	Return the version registry row without reading/downloading.
offline	Use local files or a verified cache only.
cache_dir	Download cache root; see spaMTPdbResource() .
timeout	Download timeout in seconds.
retries	Number of verified download attempts.

Details

Files are resolved from a local directory, verified cache, then the official HGNC archive URL. Size and MD5 are checked before parsing. No live symbol queries or changing HGNC "current" downloads are used. The large reference file is not included in the installed package. This reference covers human genes and does not implement orthology mapping.

Value

A data frame with an attribute spamtp_gene_reference recording the HGNC version, organism, source URL and checksum; or a metadata row.

Examples

```
spaMTPdbGeneReference(metadata = TRUE)
```

spaMTPdbResource	<i>Retrieve one SpaMTP annotation resource</i>
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Description

Resources are resolved in order: a staged local directory (`local_dir`, the `SpaMTPdb.resource_dir` option, or the `SPAMTPDB_RESOURCE_DIR` environment variable), a verified download cache, then the matching AnnotationHub record, and finally the immutable Zenodo source URL recorded in the resource manifest. Files retrieved from Zenodo and local files are verified against the recorded size and MD5 checksum. The verified download cache is usable with `offline = TRUE`.

Usage

```
spaMTPdbResource(
  resource,
  version = "latest",
  local_dir = NULL,
  hub = NULL,
  metadata = FALSE,
  offline = FALSE,
  fallback_url = TRUE,
  cache_dir = NULL,
  timeout = 1800,
  retries = 3L,
  verify = TRUE
)
```

Arguments

<code>resource</code>	Resource name; see spaMTPdbResources() .
<code>version</code>	Resource version or "latest".
<code>local_dir</code>	Optional directory containing staged .rds resources.
<code>hub</code>	Optional pre-created AnnotationHub object.
<code>metadata</code>	Return the registry row without loading the resource.
<code>offline</code>	If TRUE, use local files or a verified cache only; never query AnnotationHub or Zenodo.
<code>fallback_url</code>	If TRUE, use the immutable Zenodo source URL when the resource has not yet been ingested into AnnotationHub.
<code>cache_dir</code>	Cache directory for source-URL downloads. Defaults to the platform-specific user cache returned by tools::R_user_dir() .
<code>timeout</code>	Download timeout in seconds for the source-URL fallback.

retries	Number of verified download attempts.
verify	Verify local files against the published size and checksum. Set to FALSE only for intentional development fixtures. Downloaded and cached files are always verified; loaded object classes are always checked.

Value

The requested R object, or its registry row when metadata = TRUE.

Examples

```
spaMTPdbResource("chem_props", metadata = TRUE)
```

spaMTPdbResources	<i>List SpaMTPdb resources</i>
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Description

List SpaMTPdb resources

Usage

```
spaMTPdbResources(version = NULL, category = NULL, default_only = FALSE)
```

Arguments

version	RaMP/SpaMTPdb resource version. NULL selects all versions.
category	Optional resource category.
default_only	Return only resources used by the default SpaMTP annotation and pathway pipelines.

Value

A data frame describing available resources.

Examples

```
spaMTPdbResources(default_only = TRUE)
```

spaMTPdbVersion	<i>Report the available SpaMTPdb versions</i>
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Description

Report the available SpaMTPdb versions

Usage

```
spaMTPdbVersion()
```

Value

A character vector of resource versions, newest first.

Examples

```
spaMTPdbVersion()
```

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