

Package: methylclockData (via r-universe)

October 10, 2026

Title Data for methylclock package

Description Data resources used by the methylclock package to estimate chronological, gestational and biological age from DNA methylation, and to adjust those estimates for blood cell composition. It provides the coefficient tables of the individual clocks, the CpG sets of the mitotic counters, the weights of the neural network clock, and example methylation datasets. It also provides nine cell type reference datasets (andrews and bakulski cord blood, blood gse35069, blood gse35069 chen, blood gse35069 complete, combined cord blood, cord blood gse68456, gervin and lyle cord blood, quintivano dlpc, saliva gse48472), downloaded from meffil (<https://github.com/perishky/meffil/>), which are used to estimate cell counts for the extrinsic epigenetic age acceleration (EEAA) method. All resources are served through ExperimentHub.

Version 1.21.4

BugReports <https://github.com/isglobal-brge/methylclockData/issues>

URL <https://github.com/isglobal-brge/methylclockData>

biocViews SpecimenSource, ExperimentHub, Tissue, OrganismData, Homo_sapiens_Data

Imports ExperimentHubData, ExperimentHub, utils

Suggests knitr, BiocStyle, rmarkdown

License MIT + file LICENSE

NeedsCompilation no

Encoding UTF-8

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VignetteBuilder knitr

Config/pak/sysreqs
make libbz2-dev libicu-dev liblzma-dev libpng-dev libxml2-dev libssl-dev xz-utils zlib1g-dev

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

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Details

`get_coefAltumAge` retrieves this resource from ExperimentHub.

Value

path to the `coefAltumAge` file in the local cache

Examples

```
get_coefAltumAge()
```

<code>get_coefAltumAgeRef</code>	<i>coefAltumAgeRef</i>
----------------------------------	------------------------

Description

AltumAge input CpG order. The input CpG identifiers in the order the AltumAge network expects, from de Lima Camillo et al. (2022).

Usage

```
get_coefAltumAgeRef()
```

Details

`get_coefAltumAgeRef` retrieves this resource from ExperimentHub.

Value

`coefAltumAgeRef` dataset

Examples

```
get_coefAltumAgeRef()
```

`get_coefBLUP`*coefBLUP*

Description

`get_coefBLUP` returns the Best Linear Unbiased Prediction (BLUP) clock coefficients

Usage

```
get_coefBLUP()
```

Value

coefBLUP dataset

Examples

```
get_coefBLUP()
```

`get_coefBohlin`*coefBohlin*

Description

`get_coefBohlin` returns the Bohlin's clock coefficients

Usage

```
get_coefBohlin()
```

Value

coefBohlin dataset

Examples

```
get_coefBohlin()
```

get_coefCausAge	<i>coefCausAge</i>
-----------------	--------------------

Description

Coefficients CausAge causal clock. 581 CpGs described in Ying et al. (2024).

Usage

get_coefCausAge()

Details

get_coefCausAge retrieves this resource from ExperimentHub.

Value

coefCausAge dataset

Examples

get_coefCausAge()

get_coefDamAge	<i>coefDamAge</i>
----------------	-------------------

Description

Coefficients DamAge damaging causal clock. 1089 CpGs described in Ying et al. (2024).

Usage

get_coefDamAge()

Details

get_coefDamAge retrieves this resource from ExperimentHub.

Value

coefDamAge dataset

Examples

get_coefDamAge()

get_coefDunedinPACE	<i>coefDunedinPACE</i>
---------------------	------------------------

Description

Coefficients DunedinPACE pace-of-aging estimator. 173 CpGs described in Belsky (2022).

Usage

```
get_coefDunedinPACE()
```

Details

get_coefDunedinPACE retrieves this resource from ExperimentHub.

Value

coefDunedinPACE dataset

Examples

```
get_coefDunedinPACE()
```

get_coefDunedinPACEGS	<i>coefDunedinPACEGS</i>
-----------------------	--------------------------

Description

DunedinPACE reference means for probe normalization. Reference probe means used to normalize the DunedinPACE input, from Belsky (2022).

Usage

```
get_coefDunedinPACEGS()
```

Details

get_coefDunedinPACEGS retrieves this resource from ExperimentHub.

Value

coefDunedinPACEGS dataset

Examples

```
get_coefDunedinPACEGS()
```

<code>get_coefEN</code>	<i>coefEN</i>
-------------------------	---------------

Description

`get_coefEN` returns the Elastic Net (EN) clock coefficients

Usage

`get_coefEN()`

Value

coefEN dataset

Examples

`get_coefEN()`

<code>get_coefEPIC</code>	<i>coefEPIC</i>
---------------------------	-----------------

Description

`get_coefEPIC` returns the EPIC clock coefficients

Usage

`get_coefEPIC()`

Value

coefEPIC dataset

Examples

`get_coefEPIC()`

get_coefEpiTOC1	<i>coefEpiTOC1</i>
-----------------	--------------------

Description

CpG set for the epiTOC1 mitotic counter. 385 CpGs described in Yang et al. (2016).

Usage

```
get_coefEpiTOC1()
```

Details

get_coefEpiTOC1 retrieves this resource from ExperimentHub.

Value

coefEpiTOC1 dataset

Examples

```
get_coefEpiTOC1()
```

get_coefEpiTOC2	<i>coefEpiTOC2</i>
-----------------	--------------------

Description

Parameters for the epiTOC2 mitotic counter. 163 CpGs described in Teschendorff (2020).

Usage

```
get_coefEpiTOC2()
```

Details

get_coefEpiTOC2 retrieves this resource from ExperimentHub.

Value

coefEpiTOC2 dataset

Examples

```
get_coefEpiTOC2()
```

<code>get_coefGarma</code>	<i>coefGarma</i>
----------------------------	------------------

Description

Coefficients Garma cross-platform age clock. 4962 CpGs described in Garma (2024); includes squared-beta terms (power column). Trained on probes shared by the 450K, EPICv1 and EPICv2 arrays. Licence CC BY-NC-ND 4.0.

Usage

```
get_coefGarma()
```

Details

`get_coefGarma` retrieves this resource from ExperimentHub.

Value

coefGarma dataset

Examples

```
get_coefGarma()
```

<code>get_coefHannum</code>	<i>coefHannum</i>
-----------------------------	-------------------

Description

`get_coefHannum` returns the Hannum’s clock coefficients

Usage

```
get_coefHannum()
```

Value

coefHannum dataset

Examples

```
get_coefHannum()
```

get_coefHorvath	<i>coefHorvath</i>
-----------------	--------------------

Description

get_coefHorvath returns the Hobarth's clock coefficients

Usage

```
get_coefHorvath()
```

Value

coefHorvath dataset

Examples

```
get_coefHorvath()
```

get_coefHypoClock	<i>coefHypoClock</i>
-------------------	----------------------

Description

CpG set for the HypoClock solo-WCGW counter. 678 CpGs described in Teschendorff (2020).

Usage

```
get_coefHypoClock()
```

Details

get_coefHypoClock retrieves this resource from ExperimentHub.

Value

coefHypoClock dataset

Examples

```
get_coefHypoClock()
```

get_coefKnightGA	<i>coefKnightGA</i>
------------------	---------------------

Description

get_coefKnightGA returns the Knight's clock coefficients

Usage

```
get_coefKnightGA()
```

Value

coefKnightGA dataset

Examples

```
get_coefKnightGA()
```

get_coefLeeGA	<i>coefLeeGA</i>
---------------	------------------

Description

get_coefLeeGA returns the Lee's Gestational Age clock coefficients

Usage

```
get_coefLeeGA()
```

Value

coefLeeGA dataset

Examples

```
get_coefLeeGA()
```

get_coefLevine	<i>coefLevine</i>
----------------	-------------------

Description

get_coefLevine returns the Levine's clock coefficients

Usage

```
get_coefLevine()
```

Value

coefLevine dataset

Examples

```
get_coefLevine()
```

get_coefLin	<i>coefLin</i>
-------------	----------------

Description

Coefficients Lin blood clock. 99 CpGs described in Lin et al. (2016).

Usage

```
get_coefLin()
```

Details

get_coefLin retrieves this resource from ExperimentHub.

Value

coefLin dataset

Examples

```
get_coefLin()
```

get_coefMayneGA	<i>coefMayneGA</i>
-----------------	--------------------

Description

get_coefMayneGA returns the Mayne's clock coefficients

Usage

```
get_coefMayneGA()
```

Value

coefMayneGA dataset

Examples

```
get_coefMayneGA()
```

get_coefMcCartneyAlcohol	<i>coefMcCartneyAlcohol</i>
--------------------------	-----------------------------

Description

Coefficients McCartney alcohol EpiScore. 450 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyAlcohol()
```

Details

get_coefMcCartneyAlcohol retrieves this resource from ExperimentHub.

Value

coefMcCartneyAlcohol dataset

Examples

```
get_coefMcCartneyAlcohol()
```

get_coefMcCartneyBMI	<i>coefMcCartneyBMI</i>
----------------------	-------------------------

Description

Coefficients McCartney body mass index EpiScore. 1109 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyBMI()
```

Details

get_coefMcCartneyBMI retrieves this resource from ExperimentHub.

Value

coefMcCartneyBMI dataset

Examples

```
get_coefMcCartneyBMI()
```

get_coefMcCartneyBodyFat	<i>coefMcCartneyBodyFat</i>
--------------------------	-----------------------------

Description

Coefficients McCartney body fat EpiScore. 968 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyBodyFat()
```

Details

get_coefMcCartneyBodyFat retrieves this resource from ExperimentHub.

Value

coefMcCartneyBodyFat dataset

Examples

```
get_coefMcCartneyBodyFat()
```

```
get_coefMcCartneyEducation  
    coefMcCartneyEducation
```

Description

Coefficients McCartney education EpiScore. 373 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyEducation()
```

Details

get_coefMcCartneyEducation retrieves this resource from ExperimentHub.

Value

coefMcCartneyEducation dataset

Examples

```
get_coefMcCartneyEducation()
```

```
get_coefMcCartneyHDL    coefMcCartneyHDL
```

Description

Coefficients McCartney HDL cholesterol EpiScore. 737 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyHDL()
```

Details

get_coefMcCartneyHDL retrieves this resource from ExperimentHub.

Value

coefMcCartneyHDL dataset

Examples

```
get_coefMcCartneyHDL()
```

get_coefMcCartneyLDL *coefMcCartneyLDL*

Description

Coefficients McCartney LDL cholesterol EpiScore. 233 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneyLDL()
```

Details

get_coefMcCartneyLDL retrieves this resource from ExperimentHub.

Value

coefMcCartneyLDL dataset

Examples

```
get_coefMcCartneyLDL()
```

get_coefMcCartneySmoking
 coefMcCartneySmoking

Description

Coefficients McCartney smoking EpiScore. 233 CpGs described in McCartney et al. (2018).

Usage

```
get_coefMcCartneySmoking()
```

Details

get_coefMcCartneySmoking retrieves this resource from ExperimentHub.

Value

coefMcCartneySmoking dataset

Examples

```
get_coefMcCartneySmoking()
```

<code>get_coefMcCartneyTotalChol</code>	
	<i>coefMcCartneyTotalChol</i>

Description

Coefficients McCartney total cholesterol EpiScore. 204 CpGs described in McCartney et al. (2018).

Usage

`get_coefMcCartneyTotalChol()`

Details

`get_coefMcCartneyTotalChol` retrieves this resource from ExperimentHub.

Value

`coefMcCartneyTotalChol` dataset

Examples

`get_coefMcCartneyTotalChol()`

<code>get_coefMcCigarette</code>	<i>coefMcCigarette</i>
----------------------------------	------------------------

Description

Coefficients mCigarette smoking score. 1255 CpGs described in Chybowska et al. (2025).

Usage

`get_coefMcCigarette()`

Details

`get_coefMcCigarette` retrieves this resource from ExperimentHub.

Value

`coefMcCigarette` dataset

Examples

`get_coefMcCigarette()`

get_coefNEOaPMA450K	<i>coefNEOaPMA450K</i>
---------------------	------------------------

Description

Coefficients NEOage post-menstrual age clock (450K). 408 CpGs described in Graw et al. (2021).

Usage

```
get_coefNEOaPMA450K()
```

Details

get_coefNEOaPMA450K retrieves this resource from ExperimentHub.

Value

coefNEOaPMA450K dataset

Examples

```
get_coefNEOaPMA450K()
```

get_coefNEOaPMAEPIC	<i>coefNEOaPMAEPIC</i>
---------------------	------------------------

Description

Coefficients NEOage post-menstrual age clock (EPIC). 520 CpGs described in Graw et al. (2021).

Usage

```
get_coefNEOaPMAEPIC()
```

Details

get_coefNEOaPMAEPIC retrieves this resource from ExperimentHub.

Value

coefNEOaPMAEPIC dataset

Examples

```
get_coefNEOaPMAEPIC()
```

<code>get_coefNEOaPNA450K</code>	<code>coefNEOaPNA450K</code>
----------------------------------	------------------------------

Description

Coefficients NEOage post-natal age clock (450K). 302 CpGs described in Graw et al. (2021).

Usage

```
get_coefNEOaPNA450K()
```

Details

`get_coefNEOaPNA450K` retrieves this resource from ExperimentHub.

Value

`coefNEOaPNA450K` dataset

Examples

```
get_coefNEOaPNA450K()
```

<code>get_coefNEOaPNAEPIC</code>	<code>coefNEOaPNAEPIC</code>
----------------------------------	------------------------------

Description

Coefficients NEOage post-natal age clock (EPIC). 508 CpGs described in Graw et al. (2021).

Usage

```
get_coefNEOaPNAEPIC()
```

Details

`get_coefNEOaPNAEPIC` retrieves this resource from ExperimentHub.

Value

`coefNEOaPNAEPIC` dataset

Examples

```
get_coefNEOaPNAEPIC()
```

get_coefPedBE	<i>coefPedBE</i>
---------------	------------------

Description

get_coefPedBE returns the PedBE's clock coefficients

Usage

```
get_coefPedBE()
```

Value

coefPedBE dataset

Examples

```
get_coefPedBE()
```

get_coefRepliTali	<i>coefRepliTali</i>
-------------------	----------------------

Description

Coefficients RepliTali mitotic clock. 87 CpGs described in Endicott et al. (2022).

Usage

```
get_coefRepliTali()
```

Details

get_coefRepliTali retrieves this resource from ExperimentHub.

Value

coefRepliTali dataset

Examples

```
get_coefRepliTali()
```

get_coefSkin	<i>coefSkin</i>
--------------	-----------------

Description

get_coefSkin returns the Horvath’s skin+blood clock coefficients

Usage

get_coefSkin()

Value

coefSkin dataset

Examples

get_coefSkin()

get_coefStemTOC	<i>coefStemTOC</i>
-----------------	--------------------

Description

CpG set for the stemTOC mitotic counter. 371 CpGs described in Zhu et al. (2024).

Usage

get_coefStemTOC()

Details

get_coefStemTOC retrieves this resource from ExperimentHub.

Value

coefStemTOC dataset

Examples

get_coefStemTOC()

`get_coefTL`*coefTL*

Description

get_coefTL returns the Telomere Length clock coefficients

Usage

```
get_coefTL()
```

Value

coefTL dataset

Examples

```
get_coefTL()
```

`get_coefVidalBralo`*coefVidalBralo*

Description

Coefficients Vidal-Bralo blood clock. 8 CpGs described in Vidal-Bralo et al. (2016).

Usage

```
get_coefVidalBralo()
```

Details

get_coefVidalBralo retrieves this resource from ExperimentHub.

Value

coefVidalBralo dataset

Examples

```
get_coefVidalBralo()
```

get_coefWeidner	<i>coefWeidner</i>
-----------------	--------------------

Description

Coefficients Weidner three-CpG clock. 3 CpGs described in Weidner et al. (2014).

Usage

```
get_coefWeidner()
```

Details

get_coefWeidner retrieves this resource from ExperimentHub.

Value

coefWeidner dataset

Examples

```
get_coefWeidner()
```

get_coefWu	<i>Wu</i>
------------	-----------

Description

get_coefWu returns the Wu's clock coefficients

Usage

```
get_coefWu()
```

Value

Wu dataset

Examples

```
get_coefWu()
```

get_cpgs_bn	<i>cpgs_bn</i>
-------------	----------------

Description

get_cpgs_bn returns data to use Horvath's CpGs to train a Bayesian Neural Network (BNN)

Usage

```
get_cpgs_bn()
```

Value

cpgs_bn dataset

Examples

```
get_cpgs_bn()
```

get_MethylationDataExample	
	<i>MethylationDataExample55</i>

Description

get_MethylationDataExample MethylationDataExample55 for vignette

Usage

```
get_MethylationDataExample()
```

Value

MethylationDataExample55 dataset

Examples

```
get_MethylationDataExample()
```

```
get_probeAnnotation21kdatMethUsed
      probeAnnotation21kdatMethUsed
```

Description

get_probeAnnotation21kdatMethUsed returns probeAnnotation21kdatMethUsed

Usage

```
get_probeAnnotation21kdatMethUsed()
```

Value

probeAnnotation21kdatMethUsed dataset

Examples

```
get_probeAnnotation21kdatMethUsed()
```

```
get_references      references
```

Description

The methylclockData package is a repository of a few public datasets that needs the *methylclock* package to estimate chronological and gestational DNA methylation (DNAm) age as well as biological age using different methylation clocks.

Usage

```
get_references()
```

Format

A list with different data frame.

blood gse35069 complete methylation profiles from Reinius 2012 for purified blood cell types. It includes CD4T, CD8T, Mono,

blood gse35069 methylation profiles from Reinius 2012 for purified blood cell types. It includes CD4T, CD8T, Mono, Bcell, NK and Gran.

blood gse35069 chen methylation profiles from Chen 2017 blood cell types. It includes CD4T, CD8T, Mono, Bcell, NK, Neu and Eos.

andrews and bakulski cord blood Cord blood reference from Bakulski 2016. It includes Bcell, CD4T, CD8T, Gran, Mono, NK and nRBC.

cord blood gse68456 Cord blood methylation profiles from De 2015. It includes CD4T, CD8T, Mono, Bcell, NK, Neu, Eos and RBC.

gervin and lyle cord blood Cord blood reference generated by Kristina Gervin and Robert Lyle, available at 'miffil' package. It includes CD14, Bcell, CD4T, CD8T, NK, Gran.

saliva gse48472 Reference generated from the multi-tissue pannel from Slieker 2013. It includes Buccal, CD4T, CD8T, Mono, Bcell, NK, Gran.

Details

get_references returns the file with references data

Value

references dataset

Examples

```
get_references()
```

get_TestDataset	<i>TestDataset</i>
-----------------	--------------------

Description

get_TestDataset returns TestDataset

Usage

```
get_TestDataset()
```

Value

TestDataset dataset

Examples

```
get_TestDataset()
```

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