

Package: norSTR (via r-universe)

October 9, 2026

Title Forensic STR Map and Allele Frequencies

Version 0.3.0

Description A marker map for 51 forensic short tandem repeat (STR) markers, and allele frequency databases for Norway and several broader regional populations: Europe, Africa, South America, West Asia, Middle Asia, and East Asia. Developed and maintained for use at the Department of Forensic Sciences, Oslo, Norway.

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URL <https://github.com/magnusdv/norSTR>

BugReports <https://github.com/magnusdv/norSTR/issues>

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africaDB	<i>African STR allele frequency database</i>
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Description

Allele frequencies for 48 forensic STR markers in the African population. These include all markers in [map51](#) except D3S3045, D6S477, and D6S1043.

Usage

africaDB

Format

A list of 48 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [europeDB](#), [southAmericaDB](#), [westAsiaDB](#), [midAsiaDB](#), [eastAsiaDB](#)

Examples

africaDB[1:2]

eastAsiaDB*East Asian STR allele frequency database*

Description

Allele frequencies for 40 forensic STR markers in the East Asian population. These include all markers in [map51](#) except D3S3045, D5S2800, D6S477, D6S1043, D7S3048, D11S2368, D13S325, D15S659, D18S1364, D19S253, and D22GATA198B05.

Usage

```
eastAsiaDB
```

Format

A list of 40 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [europeDB](#), [africaDB](#), [southAmericaDB](#), [westAsiaDB](#), [midAsiaDB](#)

Examples

```
eastAsiaDB[1:2]
```

europeDB*European STR allele frequency database*

Description

Allele frequencies for 45 forensic STR markers in the European population. These include all markers in [map51](#) except D3S3045, D6S477, D6S1043, D11S554, APOC3, and D17S906.

Usage

```
europeDB
```

Format

A list of 45 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [africaDB](#), [southAmericaDB](#), [westAsiaDB](#), [midAsiaDB](#), [eastAsiaDB](#)

Examples

europaDB[1:2]

legacyAPO	<i>Use legacy APOC3 marker name</i>
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Description

Replace marker name APOC3 by the legacy name APOAI1 in a frequency database.

Usage

legacyAPO(db)

Arguments

db A frequency database.

Value

The modified database.

maps	<i>Built-in linkage maps</i>
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Description

Genetic maps for the autosomal STR markers featured in **norSTR**.

Usage

map51

map50

Format

map51 is a data frame with 51 rows and 4 columns: Marker, Chr, Mb, and cM.
map50 is a data frame with 50 rows and 4 columns: Marker, Chr, cM, and Kit.

Details

map51 is the current map and is recommended for new analyses. It provides both physical and genetic positions for 51 STR markers.
map50 is a legacy map retained for reproducibility of older analyses. It contains 50 markers and the genetic positions used in earlier versions of **norSTR**.
Compared with map50, map51 has the following changes:

- Added column Mb with the physical positions (GRCh38/hg38) of each marker, defined as the midpoint of each STR interval.
- Recalculated all genetic positions (cM) with `ibdsim2::convertPos()`, using the deCODE 2019 recombination map (Halldorsson et al., 2019).
- Added marker D6S1043.
- Renamed marker APOAI1 to APOC3. (This is an in-house marker not included in current commercial kits. The original name is a historical label and is no longer considered accurate.)
- Removed column Kit. Marker subsets corresponding to various commercial kits are available in markerSets.

References

Halldorsson et al. (2019). Characterizing mutagenic effects of recombination through a sequence-level genetic map. *Science*, 363, eaau1043. [doi:10.1126/science.aau1043](https://doi.org/10.1126/science.aau1043)

See Also

[markerSets](#)

markerSets	<i>Common STR marker sets</i>
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Description

Lists of autosomal STR markers included in selected forensic kits and panels. Sex-determining (e.g. Amelogenin) and non-autosomal markers (e.g. Y markers) are explicitly omitted.

Usage

markerSets

Format

A named list of 7 character vectors of marker names.

Details

Kits included:

- **codis**: Expanded CODIS core loci (FBI/NIST), 21 autosomal STR markers.
- **fusion6c**: PowerPlex® Fusion 6C (Promega), 23 autosomal markers.
- **globalfiler**: GlobalFiler™ PCR Amplification Kit (Applied Biosystems), 21 autosomal markers.
- **hdplex**: HDplex STR Kit (Qiagen), 9 autosomal markers.
- **phoenix**: 3 autosomal markers (D11S554, APOC3, D17S906).
- **sureid**: SureID® 23comp Human STR Identification Kit (Health Gene Technologies), 23 autosomal markers.
- **sureid27**: Combined SureID® 23comp and SureID® PathFinder Plus, 26 autosomal markers.

Examples

```
markerSets$fusion6c
```

midAsiaDB

Mid Asian STR allele frequency database

Description

Allele frequencies for 48 forensic STR markers in the Mid Asian population. These include all markers in [map51](#) except D3S3045, D6S477, and D6S1043.

Usage

```
midAsiaDB
```

Format

A list of 48 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [europeDB](#), [africaDB](#), [southAmericaDB](#), [westAsiaDB](#), [eastAsiaDB](#)

Examples

```
midAsiaDB[1:2]
```

norwayDB*Norwegian STR allele frequency database*

Description

Allele frequencies for 50 forensic STR markers in the Norwegian population. These include all markers in [map51](#) except D6S1043 (not currently available)

Usage

norwayDB

Format

A list of 50 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[europeDB](#), [africaDB](#), [southAmericaDB](#), [westAsiaDB](#), [midAsiaDB](#), [eastAsiaDB](#)

Examples

norwayDB[1:2]

southAmericaDB*South American STR allele frequency database*

Description

Allele frequencies for 32 forensic STR markers in the South American population. These include all markers in [map51](#) except D3S3045, D5S2800, D6S477, D6S1043, D7S3048, D9S1122, D10S1435, D11S2368, D11S554, APOC3, D13S325, D14S1434, D15S659, D17S906, D17S1301, D18S1364, D19S253, D20S482, and D22GATA198B05.

Usage

southAmericaDB

Format

A list of 32 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [europeDB](#), [africaDB](#), [westAsiaDB](#), [midAsiaDB](#), [eastAsiaDB](#)

Examples

```
southAmericaDB[1:2]
```

westAsiaDB

West Asian STR allele frequency database

Description

Allele frequencies for 50 forensic STR markers in the West Asian population. These include all markers in [map51](#) except D6S1043

Usage

```
westAsiaDB
```

Format

A list of 50 frequency vectors. Each vector is numeric with sum 1, and uses the allele labels as names.

Source

Department of Forensic Sciences, Oslo University Hospital.

See Also

[norwayDB](#), [europeDB](#), [africaDB](#), [southAmericaDB](#), [midAsiaDB](#), [eastAsiaDB](#)

Examples

```
westAsiaDB[1:2]
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