

# Package ‘GeneScoreR’

October 25, 2024

**Title** Gene Scoring from Count Tables

**Version** 0.1.1

**Description**

Provides two methods for automatic calculation of gene scores from gene count tables: the z-score method, which requires a table of samples being scored and a count table with control samples, and the geometric mean method, which does not rely on control samples. The mathematical methods implemented are described by Kim et al. (2018) <[doi:10.1089/jir.2017.0127](https://doi.org/10.1089/jir.2017.0127)>.

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**Encoding** UTF-8

**RoxygenNote** 7.3.2

**NeedsCompilation** no

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geomean	<i>Calculate Geometric Means from Count Tables</i>
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**Description**

This function computes the geometric mean for each sample in the given count table.

**Usage**

```
geomean(count_table)
```

**Arguments**

`count_table` A data frame of gene count data (genes as rows, samples as columns). All columns must be numeric.

**Value**

A data frame with the geometric means per sample and the sample IDs.

**Examples**

```
# Example data to be scored
count_table <- data.frame(
  sample1 = c(1, 10, 100),
  sample2 = c(2, 20, 200),
  sample3 = c(3, 30, 300)
)
rownames(count_table) <- c("gene1", "gene2", "gene3")

# Calculate Geometric Mean per sample in the count_table
geomean(count_table)
```

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zscore

*Calculate Z-Scores from Count Tables*

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**Description**

This function computes a Z-score sum for each sample in the given "scored" count table, based on the means and SDs of the genes in the control table.

**Usage**

```
zscore(scored_table, control_table)
```

**Arguments**

`scored_table` Data frame of samples to be scored (genes as rows, samples as columns). All columns must be numeric.

`control_table` Data frame of control samples (genes as rows, samples as columns). All columns must be numeric.

**Value**

A data frame with the sum of Z-scores per sample and the sample IDs.

**Examples**

```
# Example data to be scored
scored_table <- data.frame(
  sample1 = c(1, 2, 3),
  sample2 = c(4, 5, 6),
  sample3 = c(7, 8, 9)
)
rownames(scored_table) <- c("gene1", "gene2", "gene3")

# Example control data
control_table <- data.frame(
  control1 = c(1, 1, 1),
  control2 = c(2, 2, 2),
  control3 = c(3, 3, 3)
)
rownames(control_table) <- c("gene1", "gene2", "gene3")

# Calculate Z-score for each sample of the scored_table
zscore(scored_table, control_table)
```

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