

Package ‘RobustVis’

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Type Package

Title Visualize ROBUST-RCT Risk of Bias Assessments

Version 0.1.2

Description Provides functions to visualize ROBUST-RCT assessments, as introduced by Wang et al. (2025) <[doi:10.1136/bmj-2024-081199](https://doi.org/10.1136/bmj-2024-081199)>. Through a two-step workflow (step 1 and step 2), the package generates bar plots and traffic-light plots that match standard Cochrane styles.

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Encoding UTF-8

LazyData true

RoxygenNote 7.3.3

Depends R (>= 4.1.0)

Imports dplyr (>= 1.2.0), ggplot2 (>= 4.0.2), scales (>= 1.4.0), tidyr (>= 1.3.1)

NeedsCompilation no

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data_step1

*ROBUST-RCT Step 1 Risk of Bias Assessment***Description**

A dataset containing the step 1 risk of bias assessment items (Item 1 to Item 5).

Usage

data_step1

Format

A data frame with 19 rows and 6 variables:

Study Study identifier and publication year.

Item_1 Random sequence generation assessment.

Item_2 Allocation concealment assessment.

Item_3 Blinding of participants and personnel assessment.

Item_4 Blinding of outcome assessment.

Item_5 Additional bias domain assessment.

Details

Abbreviations used for the assessment items:

- **DY**: Definitely Yes
- **PY**: Probably Yes
- **PN**: Probably No
- **DN**: Definitely No

Data from Li, Q. et al.'s systematic review and meta-analysis on antibiotic use as the primary outcome.

Source

Li, Q., Zhou, Q., Fan, J., Feng, X., Lai, H., Chen, Y., ... & Zeng, L. (2026). Impact of molecular point-of-care testing for respiratory pathogens on antibiotic use and clinical outcomes in acute respiratory tract infections: a systematic review and meta-analysis. *EClinicalMedicine*, 92.

data_step2	<i>ROBUST-RCT Step 2 Risk of Bias Assessment</i>
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Description

A dataset containing the step 2 risk of bias assessment items (Item 1 to Item 6).

Usage

data_step2

Format

A data frame with 19 rows and 7 variables:

- Study** Study identifier and publication year.
- Item_1** Random sequence generation assessment.
- Item_2** Allocation concealment assessment.
- Item_3** Blinding of participants and personnel assessment.
- Item_4** Blinding of outcome assessment.
- Item_5** Additional bias domain assessment.
- Item_6** Outcome data not included in analysis.

Details

Abbreviations used for the assessment items:

- **DH:** Definitely High risk
- **PH:** Probably High risk
- **PL:** Probably Low risk
- **DL:** Definitely Low risk

Data from Li, Q. et al.'s systematic review and meta-analysis on antibiotic use as the primary outcome.

Source

Li, Q., Zhou, Q., Fan, J., Feng, X., Lai, H., Chen, Y., ... & Zeng, L. (2026). Impact of molecular point-of-care testing for respiratory pathogens on antibiotic use and clinical outcomes in acute respiratory tract infections: a systematic review and meta-analysis. *EClinicalMedicine*, 92.

rob_bar	<i>Produce a summary risk-of-bias barplot for Step 1 or Step 2 tools</i>
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Description

A function to convert risk-of-bias assessment data for Step 1 or Step 2 into tidy data and plot a summary stacked barplot matching the standard Cochrane style with a boxed legend and custom labels.

Usage

```
rob_bar(data, step = 1, colour = NULL, ...)
```

Arguments

data	A dataframe containing the study IDs in the first column, followed by item evaluation columns (columns B to F for Step 1, or columns B to G for Step 2).
step	An integer or character specifying the evaluation step, either 1 or 2. Default is 1.
colour	A character vector specifying the colour scheme. Defaults to NULL, which automatically applies standard Cochrane-style colors.
...	Additional arguments to be passed to internal functions.

Value

A ggplot2 risk-of-bias summary barplot figure.

Examples

```
rob_bar(data_step1, step = 1)
rob_bar(data_step2, step = 2)
```

rob_traffic_light	<i>Produce traffic-light plots of risk-of-bias assessments</i>
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Description

Draw a robvis-style traffic-light grid for step 1 or step 2 assessments. The first column of ‘data’ contains study labels; the remaining columns map by position to Item 1–5 (‘step = 1’) or Item 1–6 (‘step = 2’).

Usage

```
rob_traffic_light(data, step, colour = NULL, psize = 10)
```

Arguments

<code>data</code>	A data frame. Column 1 contains study labels. Step 1 requires five assessment columns; step 2 requires six assessment columns.
<code>step</code>	Assessment step, either '1' or '2'.
<code>colour</code>	A character vector of four colours. It may be unnamed (in the documented level order) or named with full labels/abbreviations. Defaults to green, yellow, red, and blue.
<code>psize</code>	Diameter of the traffic-light circles in millimetres.

Value

A 'ggplot2' object.

Examples

```
rob_traffic_light(data = data_step1, step = 1)
rob_traffic_light(data = data_step2, step = 2)
```

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