

# Package: titeIR (via r-universe)

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**Type** Package

**Title** Isotonic Designs for Phase 1 Trials with Late-Onset Toxicities

**Version** 0.1.0

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**Description** Functions to design phase 1 trials using an isotonic regression based design incorporating time-to-event information. Simulation and design functions are available, which incorporate information about followup and DLTs, and apply isotonic regression to devise estimates of DLT probability.

**License** GPL-3

**Imports** Iso

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 6.1.0

**NeedsCompilation** no

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**Repository** <https://lsubioscomputing.r-universe.dev>

**RemoteUrl** <https://github.com/cran/titeIR>

**RemoteRef** HEAD

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 isotitedose

*Dose assignment for TITE-IR designs*


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### Description

Calculate the next dose assignment for a TITE-IR design.

### Usage

```
isotitedose(followup, DLT, assignment, obswin, doses, target = 1/3,
            safety = 0.05)
```

### Arguments

followup	A vector of followup times
DLT	A vector of DLT results. FALSE or 0 is interpreted as no observed DLT and TRUE or 1 is interpreted as observed DLT.
assignment	a vector of dose assignments. Doses should be labeled in consecutive integers from 1 to number of dose levels.
obswin	The observation window with respect to which the MTD is defined.
doses	An integer providing the number of doses.
target	Target DLT rate
safety	The safety factor to prevent overly aggressive escalation

### Value

an integer specifying the recommended dose level

### See Also

[isotitesim](#) for simulations

### Examples

```
isotitedose(followup = c(6, 5, 4, 3, 2, 1), DLT = c(0, 0, 0, 0, 0, 0),
            assignment = c(1, 1, 1, 2, 2, 2), obswin = 6, doses = 6)
```

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`isotitesim`*Simulate TITE-IR designs*

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**Description**

Simulates trials based on the TITE-IR design.

**Usage**

```
isotitesim(PI, target, n, nsim, obswin = 1, rate = 1, safety = 0.05,  
  accrual = "poisson", restrict = TRUE)
```

**Arguments**

<code>PI</code>	A vector of true toxicity probabilities at each dose
<code>target</code>	Target DLT rate
<code>n</code>	Sample size of the trial
<code>nsim</code>	Number of trial replicates
<code>obswin</code>	The observation window with respect to which the MTD is defined
<code>rate</code>	Patient arrival rate: expected number of arrivals per observation window
<code>safety</code>	The safety factor to prevent overly aggressive escalation
<code>accrual</code>	Specify the accrual distribution. Can be either "poisson" or "fixed". Partial strings are also acceptable.
<code>restrict</code>	If TRUE, do not allow escalation immediately after a toxic outcome (require coherent escalation)

**Value**

Object of type `isotite` which provides results from TITE-IR simulations

**See Also**

[isotitedose](#) for dose recommendation

**Examples**

```
isotitesim(PI = c(0.05, 0.10, 0.20, 0.30, 0.50, 0.70),  
  target = 1/3, n = 24, nsim = 10, obswin = 6, rate = 12)
```

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