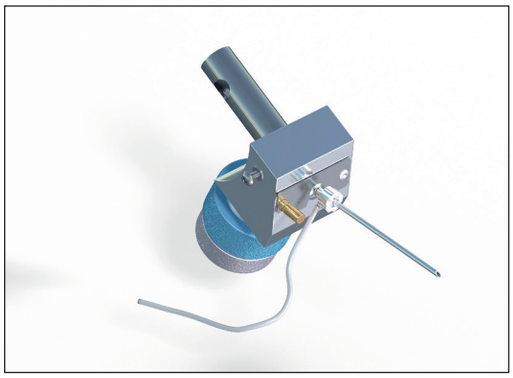
Rat Intratracheal Exposure Module

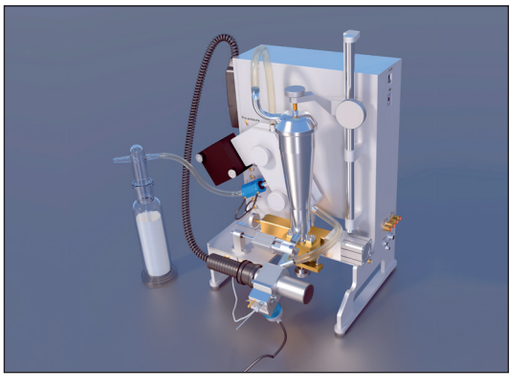
Art. No.: PIEMrein1

Inhalation Sciences

Applications

With the Rat Intratracheal exposure module connected to PreciseInhale, intratracheally intubated rats are exposed to aerosols for *in vivo* studies. Short duration inhalation exposures to respirable aerosols is a clinically relevant method for pulmonary drug delivery.



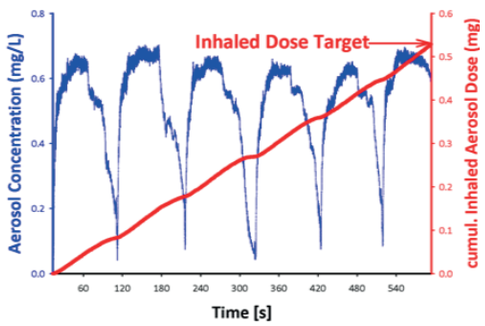


Features

- Lung-specific exposure (bypassing nasal airways)
- Monitoring breathing pattern of the rat
- Monitoring the aerosol concentration
- Precise dosing with the Active Dose-Control System
- One animal exposed at a time
- Low substance consumption compared to other available methods

Benefits

- Individual control of inhaled dose (standard deviation of lung deposited dose typically < 10 % between animals)
- Less variations, more reliable data
- 3R – reduced number of animals required
- Allows optimal treatment schedule
- Exposures staggered to suit optimal post-exposure treatment schedule
- < 100 mg for a typical PK study



The aerosol concentration (from repeated aerosol generation cycles) and the cumulative inhaled aerosol dose as logged during the intratracheal exposure of one rat.

Inhalation Sciences Sweden AB
Hälsovägen 7, SE-141 57 Huddinge, Sweden
www.preciseinhale.com

Rat Intratracheal Exposure Module

Art. No.: PIEMrein1

Inhalation Sciences

Technical specifications

Rat IT exposure unit	5 x 8 x 3.5 cm (W x D x H)
Weight	0.3 kg
Rodent exposure table	22 x 25 x 36 cm (W x D x H)
Weight	7.7 kg
Harvard pump	32.5 x 20 x 25 cm (W x D x H)
Weight	9.5 kg
Verified generation modules	Dry powder aerosol generator
	Inhaler aerosol generator
	Nebulizer aerosol generator
Suitable exposure object	Rats
Inhalation yield	Dry powder aerosol generator typically 3-7%
	Inhaler aerosol generator (pMDI only) typically 3-7%
	Nebulizer aerosol generator typically 8-15%
Consumables	6 mm GF/A filters x 400 (PICf6x400)
	25 mm GF/A end-filters x 100 (PICf25x100)
	Rat tracheal catheters x5 (PIREincx5)
	Rat phantom catheters x5 (PIREinpcx5)
Components	Rat IT exposure unit: • Intratracheal exposure block • 5 pcs IT catheters • 2 pcs ball-joint catheter ends • Intratracheal lung phantom exposure kit
	In vivo exposure base kit: • *In vivo* end filter holder • 2-way non-rebreathing valve • Rodent exposure table • Rodent ventilator (for phantom exposures) • Customized rodent Laryngoscope • Extra-fine forceps

For typical intratracheal inhalation exposures, the dose rate [µg lung deposition/min] with the PreciseInhale was 7.2-29 µg/min - ref. Fioni *et al*., 2017.

Inhalation Sciences Sweden AB
Hälsovägen 7, SE-141 57 Huddinge, Sweden
www.preciseinhale.com