I R S — *Inhalation Research Services*

Inhalation Research Services

WHAT WE OFFER:
Precise, predictive, PK data

IRS preclinical data are powerful, predictive and precise, showing where and how Candidate Drugs (CDs) behave in all regions of the lung early on.

› Reduce risk
› Prevent clinical failure
› Optimize trial protocols
› Optimize pipeline planning
› Eliminate weak CDs early on
› Discover new CD modalities early on

HOW WE DO IT:
### Precision dosing, a quality-not-quantity methodology

PreciseInhale® aerosol generator uses a high-precision, one-animal-at-a-time methodology called Precision Dosing. It generates a gentle, highly controllable stream of aerosol rather than a high-pressure jet.

This controllable aerosol can be exposed easily across a wide range of exposure modules, precisely dosing, with minimal standard deviation, animals *in vivo*, lungs *ex vivo*, and depositing material for *in vitro* exposure and dissolution testing.
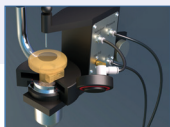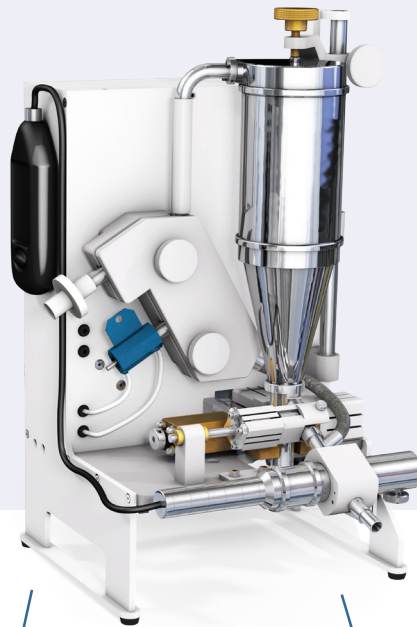
Aerosol sources
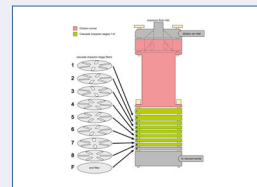

Dry powder
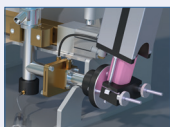
Inhalers
(DPIs and pMDIs)

Nebulized "dry powder like" aerosols

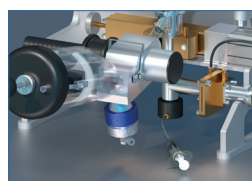### Precision dosing system

Exposure modules

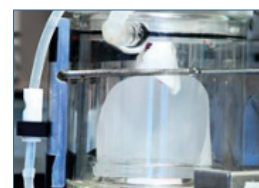Aerosol characterization

Dissolv*It*® *in vitro* dissolution testing

Nose-only *in vivo*


Tracheally intubated rats

IPL - Isolated Perfused Lung

Five preclinical services

We offer FIVE high-precision research services, all delivering the company's trademark precise, predictive, preclinical lung data from its aerosol generating platform PreciseInhale®.

#1. Aerosol characterization

Our particle size determination tool can tailor aerosol generation and strength of air pressure for your test substance.
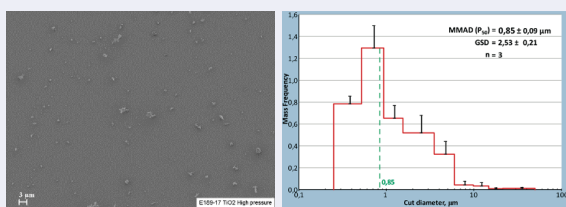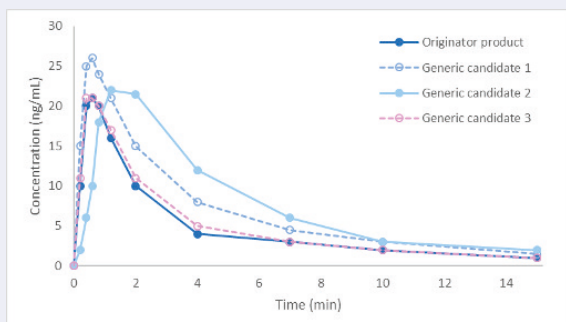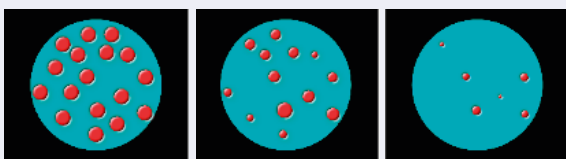

SEM image of dispersed aerosol.

#2. Dissolv*It*® *in vitro* dissolution and absorption

In vitro (and non-biological) simulation of particle dissolution using an artificial air-blood barrier.


Dissolv*It*® absorption profiles of three generic candidates versus the originator product.

Particle dissolution - viewed as disappearance of particles in the microscope, when running Dissolv*It*® (snaps and real-time video can be recorded).

#3. IPL (Isolated Perfused Lung) *ex vivo*

Specially tailored version of IPL delivering high-resolution data with SD of typically <10%.

#4. Intratracheal *in vivo*

Lung-specific one-animal-at-a-time intratracheal aerosol testing bypassing the nasal airways. Aerosol concertation and animal's breathing patterns monitored throughout.
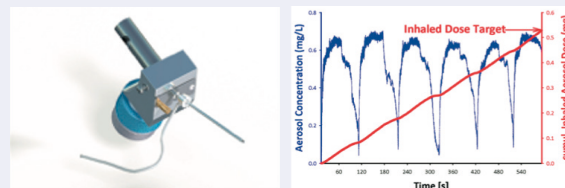
#5. Nose-only *in vivo*

With the rat Nose-Only exposure module connected to PreciseInhale®, rats can be exposed to short duration inhalation exposures to respirable aerosols for *in vivo* studies.

Learn more about Inhalation Sciences Sweden AB   inhalation.se | contact@inhalation.se

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