

citoxlab

Safety and Health Research



Your partner for
inhalation toxicology



www.citoxlab.com

Your partner for inhalation toxicology

Our senior technical staff and inhalation experts are highly experienced with a range of chemical and pharmaceutical materials.

We offer single and repeat dose studies in rodents and non-rodents administered via nose-only or oronasal exposure. We also offer complete separation between dose-group exposure systems.

Modern inhalation facilities combined with real-time monitoring of physical and chemical parameters ensure well-controlled testing systems and delivery of high-quality studies.



Guidelines

Pharmaceuticals

- EMEA/CHMP/SWP/488313/2007
- Other OECD guidelines such as reproductive toxicology can be adapted for use by the inhalation route*

Chemicals and agro-chemicals

- US-EPA and EU Biopesticides
- OECD TG 403
Acute inhalation, LC50
- OECD TG 436
Acute inhalation, Toxicity category
- OECD TG 412
Subacute inhalation
- OECD TG 413
Subchronic inhalation
- EUR 20268 EN
Quantifying inhalable fraction



Supporting services

- Analytical and bioanalytical services: Miran, GC, HPLC, LC-MS/MS, IR
- BAL and inflammation assessment
- Histopathology
- Gravimetric analysis
- Particle size distribution



Atmosphere generation

- Liquids
- Powders
- Vapors
- Gases



Study types

- Nose-only and oronasal**
- Single dose
- Repeated dose



Infrastructure

- ISO 9001 and ISO 14001
- Nose-only rodent suites
- Large animal oronasal suite



Species

- Rat
- Mouse
- Dog

TOXICOLOGY SERVICES

- General toxicology in all species
- Special toxicology
 - infusion, Inhalation, Dermal, Ocular
- Immunotoxicology
- Regenerative medicine
- Reproductive toxicology including minipigs and NHPs
- Carcinogenicity studies also in rasH2 and p53+/- mice
- Genetic toxicology: ICH compliant package
- *In vitro* toxicology: BCOP, h-CLAT, KeratinoSens™, DPRA, Photo 3T3-NRU, Episkin™, chicken eye test
- Agrochemical / chemical / REACH
- QSAR
- Physico-chemical testing
- Ecotoxicology: wide range of test species

SAFETY PHARMACOLOGY

- Integrated safety pharmacology in toxicology studies
 - CV (JET), BP
 - Respiratory (JET), plethysmography
 - CNS (FOB) and JET-EEG
- Safety pharmacology core battery
- *In vitro* assays

- GLP compliant ion channel testing panel (hERG +5)
- CNS *ex vivo* models for seizure liability screening
- Screening and follow-up models
 - Rodent and non-rodent LVP telemetry
 - Anesthetized models
 - Polysomnography
 - Gastrointestinal motility

DMPK, BIOANALYSIS, BIOMARKERS

- ¹⁴C and ³H ADME studies in all species
- *In vitro* metabolic clearance, metabolite ID and profiling, DDI package (metabolism and transporters)
- Bioanalysis: LC-MS/MS, GC-MS/MS, LC-ICP/MS, LC-Radiodetection, ELISA, RIA
- Toxicogenomics, miRNA: Affymetrix™ accredited service provider, next generation sequencing (Illumina®)
- Immunology: 10-color flow cytometer, Luminex, Meso Scale

MEDICAL DEVICE

- Biocompatibility testing
- Cardiovascular stents, electrophysiology

- and structural heart studies
- Long-bone defects and craniomaxillofacial/dental models
- Spinal fusion models
- Joint and cartilage repair models
- Regenerative medicine (growth factors, biomaterials, cell and gene therapy)

SPECIALIZED EXPERTISE

- Juvenile studies including minipigs
- Ototoxicity in rats
- Fertility studies in rodents and NHPs
- Radiation safety and efficacy studies
- Drug transporter studies and Drug-Drug Interactions
- Tissue Cross Reactivity (TCR): human and animal tissue banks
- Gene therapy vector biodistribution via qPCR
- ES cell testing: devTOX™ and cardioTOX™ (with Stemina)
- Lead optimization and predictive toxicology services: Leadscreen™



GLP CERTIFIED

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