



in vivo Pharmacology

Pharmaron's *in vivo* pharmacology team provides *in vivo* and *ex vivo* testing services for wide range of therapeutic areas. Our teams in China and the US work with rodents as well as large animal.

Disease Animal Models

- **Oncology:** CDX, PDX, syngeneic and orthotopic imaging models, IO models, humanized models, genetically engineered models, drug resistant models, and radiation platform
- **Metabolic Disorders:** Obesity, diabetes - type 1 and 2, organ damage diseases models (NAFLD /NASH and CKD), hyperuricemia, hypercholesterolemia, hypertriglyceridemia
- **Inflammation and Pain:** Acute and chronic, immune models, non-immune inflammatory models, leukocytopenia, neutropenia, hemorrhagic shock
- **CNS:** Alzheimer's disease, memory impairment, seizure, depression, Parkinson's disease and other neurodegenerative diseases
- **Ophthalmology:** Wet and dry age-related macular degeneration (AMD), inherited retinal degeneration, glaucoma, corneal wound healing, corneal neovascularization, conjunctivitis, keratitis, diabetic retinopathy
- **Additional Established Models:** Hemostasis, intestine mobility, anemia, wound healing, renal failure, psoriasis, cardiovascular disorders such as aneurysm and myocardial infarct, respiratory disorders, thrombosis, cough

ex vivo Analysis Capabilities

- Compound exposure in blood and tissue
- Biomarkers in blood and tissue levels
- Gene or protein analysis platforms
- Flow cytometry analysis of cells, blood and tissue samples
- Cell sorting
- Histology, IHC, IHF with automated staining
- Blood sample analysis with biochemistry and hematology
- Analysis of body fluid, urine and feces extraction
- Pathology

Study options

- Development and validation of new animal models
- Maximum tolerated dose and dose range finding
- Efficacy and proof-of-concept studies
- PK/PD readouts for evaluation of compound exposure, target engagement, and pharmacologic effects of the drug
- Small and large animal testing capabilities

By the Numbers

- Over 2000 tumor cell lines for *in vitro* compound testing
- Over 1100 tumor models
- Over 40 metabolic disease models
- Over 65 neurologic and other disorder models

Why work with Pharmaron?

- **Fast Turnaround Times:** 24-hour philosophy for quoting, protocol generation, animal procurement, study amendments, and study updates*.
- **A Decade of Experience:** Each study director has a minimum of 10 years of relevant experience.
- **Model Selection:** Standard of care data are available for all animal models for sponsor's reference.
- **AAALAC Accreditation:** We follow high standards for rigorous animal care and ethical research practices that meet requirements of international regulatory bodies such as FDA, EMA, NMPA.
- **Transparency:** All data – with no exception – is shared with our clients.
- **Continuity:** Our standard operation procedures (SOPs) result in reliable study outcomes.
- **Seamless Communication:** Clients work with one dedicated study director who oversees all phases, from protocol generation to reporting.

* Complex studies may require longer timelines



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