

Discovery Biology Solutions



With wide-ranging capabilities in biology, Aragen offers high quality, seamless and cost effective solutions across the Pharma and Biotech value chain. Biological assessment of New Molecular Entities (NMEs) plays a crucial role in ascertaining structure activity relationships, potency, selectivity, druggability and *in vitro* and *in vivo* efficacy evaluation.

Our capabilities include reagent generation, highthroughput screening, assay development, biomarker validation, radiometric assays, DMPK, animal pharmacology (disease models) and exploratory toxicology for small molecules and biologics.

In Vitro Pharmacology

Primary Pharmacology

A. Target Class

- Enzymes
- GPCRs
- Transporters
- Ion channels

B. Assay Platforms & Technologies

- Real Time QPCR (Quantstudio 6 Flex)
- Absorbance / Luminescence / Fluorescence (HRTF/FP/ TR-FRET)

- Radiometry
- FLIPR-based screening
- Chromatography (TLC/ HPLC/ LCMS / MS)
- HTMS (Rapid Fire System)
- Flow cytometry (BD FACSVerser)
- SPR (Biacore T200)
- Manual Patch Clamp (Axon)
- Automated Western Blotting (WES)
- Multiplexed Detection (MAGPIX)
- Next Gen Sequencing (Ion Torrent S5)

- High Content Screening (Cellinsight Cx7)
- Precision Nanoliter Liquid Handling (ECHO 550)
- High Throughput Screening

C. Model Systems

- Cell lines
- Normal primary cells
- Patient-derived primary cells
- Stem cells
- 3D cell culture

Reagent Generation

- Gene synthesis
- Cloning/sub-cloning
- *E.coli* expression
- Baculovirus expression
- Yeast expression
- Mammalian (CHO/HEK)
- Lentiviral expression Tagged / Untagged / Radiolabeled protein production

Cosmetics & Personal care

- Skin care assays
- Hair care assays
- Anti-ageing assays
- Anti-pollution test
- REACH/OECD guided assays
- Bio compatibility testing

In Vitro Toxicology

- Genotox (AMES/ Micronucleus etc.)
- Hepato toxicity
- Cardio toxicity
- Dermal toxicity
- Ocular toxicity
- Mitochondrial toxicity
- Neuro toxicity
- Vaginal toxicity
- Toxicogenomic profiling
- Endocrine disruptor screening

DMPK Services



Assessment of Physiochemical & *in vitro* ADME Properties

- In Silico properties
- Solubility
- Log D
- Metabolic stability
- CYP inhibition

Optimisation of Physiochemical & Druggable Properties

- Metabolic stability
- CYP inhibition
- Permeability
 - PAMPA
 - CACO – 2
- Plasma / Tissue protein binding
- Reactive metabolite
- *In Vivo* PK (rodent)

Optimisation of Druggable Properties, IVIVC, PK/PD Correlation

- Permeability
 - CACO - 2
- Plasma / Tissue protein binding
- Blood / Plasma partitioning
- Met id (soft spot)
- PK (non-rodent)
- PK (rodent)
- Target tissue exposure
- IVIVC, renal / biliary CL
- Mass balance
- PK/PD

Dose Range Finding, Safety/Tox Assessment, Interspecies Scaling

- Dose range finding studies (rodents and non-rodents)
- PK/PD
- Tissue distribution
- Food effect
- Gender effect
- Metabolite profiling / Metabolism pathway
- Safety profiling
- Toxicokinetics
- CYP induction
- Interspecies scaling

In Vivo Pharmacology

Our animal facility is accredited by **AAALAC** and **CPCSEA** (India) for ethical treatment of animals. All the animal experiments are conducted in accordance with **IAEC** approved protocols.

Aragen's rodent facility is also certified by **OHSAS** for strictly following all recommended rules for health and safety of our employees.

Animal Models of Oncology

- Xenograft cancer models
- Syngeneic tumor models

Animal Models of Metabolic Disorders

- Obesity
- NASH STELIC
- Diabetes

Animal Models of Pain

- Neuropathic pain models
- Incisional/Post-operative pain models
- Inflammatory pain models

Animal Models of Inflammation

- Acute inflammation
- Colon inflammation
- Dermal inflammation
- Neuro inflammation

Animal Models of Fibrosis

- Pulmonary fibrosis
- Liver fibrosis

Integrated Services

Ability to provide solutions across chemistry, *in vitro* pharmacology, DMPK, *in vivo* pharmacology and safety

Experience in driving programs from target validation to clinical candidate selection

Project management provided as a resource to handle all non-scientific logistical aspects of an integrated program

Let's begin the
Conversation

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