



Pharmacology and Safety Pharmacology Service

Pharmacology and Safety Pharmacology can support all phases of the Drug Discovery process from Target Validation to Candidate Selection, FIM and beyond, in a fully integrated manner with other preclinical disciplines. Our fully integrated approach, working closely with colleagues in Medicinal Chemistry and DMPK, allows us to produce high-quality candidates and reduce candidate attrition rates. We have experience and expertise in a wide variety of target types including: GPCR targets, ion-channels, transporters and enzymes.

Moreover, individual packages of pharmacological services can be offered based on a specific phase of the process (e.g. Target Validation, Hit Generation, Lead Characterization etc.) and through specific assays or tests (e.g. selectivity/liability panel, mode of action studies, receptor occupancy, in vivo models, cardiovascular or CNS liabilities etc.).

Studies are designed to suit individual compounds under evaluation and to accommodate clients' specific requirements, including late stage differentiator studies, problem solving, and new indication studies.

At Aptuit, we are committed to therapeutic area specialization. Our Pharmacology services cover CNS, Respiratory and Inflammation, Oncology, Cardiovascular system and Infectious Disease.

Pharmacology and Safety Pharmacology services:

Pharmacology

- Molecular and Cellular Biology
 - RNA/DNA and Cell Biology Assays
 - Biodistribution and proteomics
 - In vitro*/*In vivo* gene manipulation
- Electrophysiology
 - Manual patch-clamp assays (hERG & selected ion channels) in recombinant & native cellular/ brain slice systems
 - Rapid Ice (hERG and selected ion channels)
 - In vitro* extracellular recording
 - Automated patch clamp assays
- *In vitro* Pharmacology
 - Liability/selectivity panel
 - Hit identification
 - Assay generation

- Cell based assays
- Primary culture pharmacology
- Lead Optimization package
- In vitro* profiling for GPCRs, ion channels, transporters, enzymes in recombinant and native systems

- *In vivo* Pharmacology
 - CNS models
 - Cardiovascular models
 - Drug addiction models
 - Stress-related models
 - Sleep-related models
 - Food models
- Translational Biology
 - Receptor occupancy and PK/PD studies
 - Microdialysis
 - Target distribution
 - Biomarkers analysis
 - MRI Imaging
 - PET tracer characterization and development

Safety Pharmacology

- Electrophysiological technologies
 - Liability/selectivity panel
 - Cardiac safety panel
 - Manual patch-clamp
 - Potential for pro-convulsant liability evaluation
- *In vivo* models
 - CV in vivo telemetry
 - Echocardiography
 - Neuro-Cardio models
 - Anaesthetised models
 - Neurobehavioral tests (Irwin, FOB)
 - Pro-convulsant potential
 - Video-tEEG
 - Rotarod/motor coordination & spontaneous LMA
 - Abuse Liability assessment



Aptuit Verona

FACTSHEET



Pharmacology and Safety Pharmacology Service

Microbiology

- *In vitro* antimicrobial susceptibility tests (MIC)
- Synergy testing of antimicrobial activity
- *In vivo* antibacterial efficacy evaluation

Supplementary services that may be packaged together with pharmacology services as part of an integrated solution include:

DMPK

- In Vitro Studies - Metabolic stability, tissue binding and distribution, interspecies profiling
- ADME Studies – Pharmacokinetics, mass balance, tissue distribution
- Mechanistic PK/PD analysis

Medicinal Chemistry and Computational Chemistry

- Tool identification
- Custom synthesis of discrete compounds
- (Q)SAR or pharmacophore analysis

Analytical Science

- Ligand-target interaction studies
- Chiral method development and chiral QC

Additional Aptuit Capabilities

Aptuit offers a comprehensive suite of drug development services that range from drug discovery through to market, including consultancy services, API development and manufacture, preclinical technologies, clinical sciences, pharmaceutical development services, large and small scale manufacturing, IVRS and clinical packaging and logistics, across a wide range of compounds, dosage forms and delivery systems.

For information about Aptuit's services, please call or email:

+44 131 451 2451 Europe

+1 816 767 3900 North America

email: info@aptuit.com

visit our website: www.aptuit.com

Engineering a better drug development process through scientific excellence.