



## Biology

GVK Biosciences (GVK BIO) offers screening services for drug discovery to determine biological activity and properties customized to meet the research needs of the Pharma and Biotech industries. Our range of assays include Biochemical, Cellular, ADME assays & Animal models for profiling of NCEs for Potency, Selectivity, Efficacy, Drugability and Toxicity.

### Services

We provide fast, reliable, cost effective and comprehensive pharmacological profiling services, comprising of primary screening, selectivity, ADME properties, pharmacokinetics and evaluation in animal models. GVK BIO has AAALAC certified vivarium and AERB approved radioactive laboratory.

### *In vitro* pharmacology

- Binding assays
  - G protein coupled receptors/functional assay
  - Ion channels
  - Transporters
- Enzyme assays
  - Kinases
  - Proteases
  - Phosphatases
  - Monoamine oxidases
  - Cyclooxygenase
- Cellular assays
  - Cell adhesion and proliferation
  - Cytokine / Mediator release
  - Anti Inflammatory screening using whole blood & PBMC
  - Anti Platelet Screening
  - Cytotoxicity
  - Adipogenesis
  - Cell based kinase

### High Throughput Screening

- Assay development
- Fluorescent/Radiometric based screening
- Bulk cell line generation

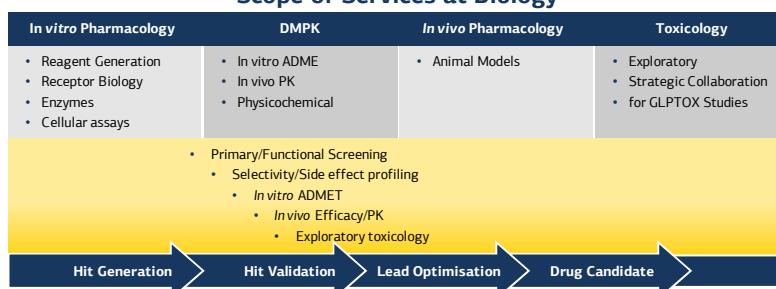
### Reagent Generation

- Molecular Biology
  - RNA isolation
  - cDNA synthesis
  - PCR amplification
  - Cloning
- Transfection
  - E.Coli
  - Insect Cells
  - Mammalian Cells

### ADME assays

- Physicochemical studies
  - LogD/ LogP
  - Solubility (Equilibrium/ Kinetic)
  - Chemical stability
  - Excipient screening
  - HTS screening
- Absorption/Distribution assays
  - Caco2 permeability / pION PAMPA
  - Pgp substrate efficiency
  - Protein binding
- Metabolism
  - Microsomes/recombinant enzymes/ cryopreserved hepatocytes & S9 fraction in various species (Human/Rat/Mouse/Monkey/Dog )
  - Metabolic stability, Half life and Intrinsic clearance
  - Drug-Drug Interaction(DDI) studies
  - CYP Inhibition (1A2, 2C9, 2C19, 2D6, 3A4, 2C8)
  - Phase I & II and Metabolite Identification
  - HTS ADME Screening

### Scope of Services at Biology



#### Animal models

- Inflammation
  - Acute Inflammation Models
  - Arthritis
  - IBD
  - Sepsis
  - MEST
- Pain
  - Nociception
  - Inflammatory pain
  - Visceral pain
  - Neuropathic pain
    - Chronic Constrictive Injury (CCI)
    - Paclitaxol Induced
    - STZ induced diabetic pain
  - Postoperative pain
  - Mechanical, Cold & Thermal Allodynia and Hyperalgesia
- Cardio-Metabolic Disorder
  - Lipid tolerance/OGTT test
  - Diet Induced Obesity model
  - STZ induced
  - Anti-thrombosis model
  - Tail transection
- GI Models
  - Transit time
  - Post-operative ileus

#### In vivo Pharmacokinetic Study

- Administration of NCE by various routes
- Single dose/ Multiple dose PK/Cassette
- Dose Proportionality Studies
- Absolute Bioavailability
- Tissue distribution Studies
- PK/PD relationship studies
- Blood Brain Barrier (BBB) study and CSF Analysis
- Specialized studies for enterohepatic/first pass effect
- Biliary excretion studies
- Determination of PK parameters using WinNonlin
- Toxicokinetics
- Bioanalysis using Watson LIMS
- Analysis by LC-MS/MS, Absorbance and Fluorescence
- Method development and validation in Biological Matrix such as Blood, Plasma/Serum, CSF, Urine, Faeces, Tissues, Cell culture supernatants

#### Exploratory toxicology studies in rodents

We offer *In vivo* toxicity evaluation of NCEs in early discovery phase to identify the potential for adverse effects. Typically, it involves the following:

- Acute/Repeated Dose
- MTD Studies
- 3 days/7 days/14 days dosing study

#### Intellectual Property

Well-defined IP security policies and procedures form the basis of a secure IT infrastructure along with periodic internal and external security audits. It is mandatory for all our scientists to sign a Non Disclosure Agreement (NDA).

#### Business Model

Our flexible business model ranges from FTE collaborations and fee-for-service to integrated models.

#### People

Our team of skilled and experienced personnel have expertise in receptor biology, enzymology, cell biology, ADMET/DMPK and experimental animal models. The team comprises of a balanced milieu of Post Doc, Ph.D, M.V.Sc, M.Pharm and M.Sc in pharmacology & toxicology, pharmacokinetics, biochemistry, cell biology and molecular biology.

#### About GVK BIO

GVK Biosciences (GVK BIO) is Asia's leading Discovery Research and Development organization. GVK BIO provides a broad spectrum of services, stand-alone and integrated, across the R&D value chain.

#### Services

- Chemistry Services
- Process R&D and Custom Synthesis
- Biology
- Informatics
- Clinical Research
- Clinical Pharmacology

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