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veeda clinical research®

BIONEEDS

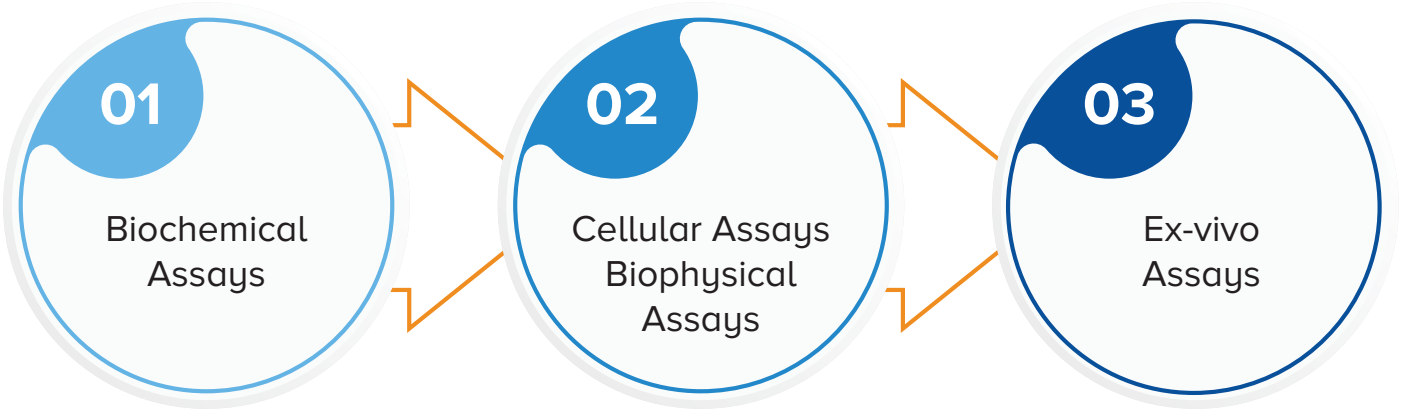
Biopharma Solutions: Discovery Biology

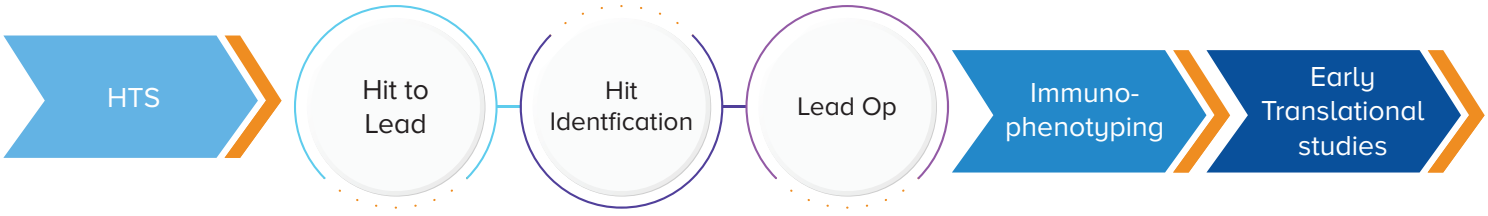
Overview

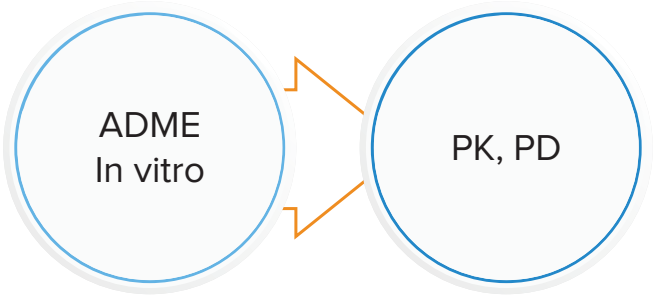
Discovery Biology at Veeda Biopharma division, with its Assay Biology and ADMET/ DMPK solutions offers a large suite of In vitro assays to support your stand-alone research needs or integrated solutions. With a wide array of assays, assay formats, industry-standard technologies and capabilities, Veeda Biopharma is uniquely positioned to provide critical data to accelerate your drug discovery and characterization.

Our highly trained scientists with experience in working with global pharma research groups, offer innovative and valuable solutions for your research-intensive programs.

Assay Biology & Screening







ADME / DMPK

Assay Biology & Screening Solutions

Biochemical Assays (NCE)

- **Activity and Binding Assays:** Multiple assay formats, various enzyme classes
  96-well and 384-well formats
  Characterization of Mechanism of action
- **PROTAC Assays:**
  Ternary complex assay Ligase binding assays
- **Primary Screening**
- **Profiling Screening:** potency estimation & off target activity.
- Mechanism of inhibition and action assays

Cellular Assays (NCE)

- Target binding Assays
- Target phosphorylation Assays
- cAMP Assays
- Target degradation Assays
- Proliferation & viability Assays
- Apoptosis Assays
- Cytokine profiling
- Immunophenotyping
- Cell cycle analysis
- Reporter gene Assays
- Protein expression
- Biomarker Assays
- Multiplexing Assays

Assay Biology & Screening Solutions

Other Assays

- **Biophysical Assays:**
  Surface plasmon resonance:
  Association and dissociation rate constants, k_a and k_d
- **Ex-vivo Assays**
- **Multiple formats**
  Luminex
  Fluorescence
  Gene expression
  Biomarkers assays
- **Early Translational Biology**
- **Multiple formats**
  Flow cytometry
  Luminex
  Fluorescence
  Gene expression
  Biomarkers assays

Functional Characterization (Biosimilars)

- Innate immunogenicity
- Adaptive immunogenicity
- Receptor and Fc binding:
  SPR
- ADCC
- CDC
- C1Q
- MLR Assays (1-way, 2-way)
- cAMP Assays
- Potency Assays

Diverse class of Targets

Screening solutions

- Assay Development & Validation
- Screening
- Weekly TAT
- FFS, FTE models

Assay QC

- Validations with multiple references
- Reproducibility of the assays
- Z`
- Reference compounds
- Run charts for QC monitoring

Assay Technologies:

- Absorbance
- Fluorescence
- Fluorescence polarization
- TR-FRET, HTRF®
- Luminescence
- AlphaScreen®
- LC-MS/MS
- 96 and 384 well plate formats, Automation and barcoding
- Experience in working with global pharma research groups
- ALCOA++
- 21 CFR part 11 compliance
- Audit ready labs

ADMET / DMPK Solutions

Absorption

Permeability
PAMPA,BBB-PAMPA, Caco-2, MDCK

Transporter
Efflux transporters: BCRP, P-gp, BSEP, MRP2, MRP1, MATE1, and MATE2-K,
Uptake transporters:
OATP1B1, OATP1B3, and PEPT1/2

Metabolite Identification

Metabolite Identification
in relevant metabolizing enzymes (hepatocytes, S9, microsomes, recombinant enzymes, whole blood, plasma)

- Soft spot assessment
- Metabolite finger printing
- Reactive metabolite screening

Physicochemical Characterisation

Aqueous Solubility (KS,TS), :
multiple pH, FaSSGF, FaSSIF, FeSSIF

Lipophilicity: Log P, Log D

Stability : Chemical, plasma. chemical reactivity (GSH adduct formation)

Quantitative Bioanalysis

Rapid and sensitive LC-MS/MS methods in various biological matrices

Qualified for purpose methods

Distribution

Protein binding (RED and ultrafiltration)
Plasma, blood, microsomal, tissue
Red blood cell distribution B/P Ratio

In vitro Toxicity study

In vitro Hepatotoxicity study
In vitro cardiotoxicity study
(hERG screening – FP assay)

Metabolism and DDI

Metabolic Stability/ Intrinsic clearance
Liver, Intestinal microsomes, S9, cytosol, hepatocytes, recombinant enzymes

CYP/UGT Phenotyping
Phase II metabolism

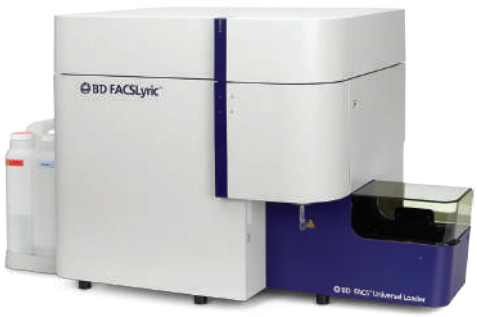
DDI (CYP and UGT)

- **Reversible CYP Inhibition:** 1A2, 2B6, 2C8, 2C9, 2C19, 2D6, 3A4/5
- **Mechanism based CYP inhibition:** IC_{50} shift, K_{obs}, K_I/k_{inact}

CYP induction:

- HepG2 cell line (CYP3A4)
- Hepatocytes - enzyme activity and mRNA (AhR, PXR, CAR)

Analytical Capabilities



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