

# Discovery Biology

# Trusted Partner to Accelerate Your New Drug Discovery

### The BioDuro-Sundia Advantage

- Broad target class and therapeutic disease area expertise
- Individualized project management ensures timely project execution & deliverables
- Complete offerings include enzymatic, epigenetic, phenotypic, target-based, protein marker-based, and custom assays
- Broad selection of primary cells and cell lines for phenotypic assays serving immunology, oncology, immuno-oncology, metabolic diseases and general safety (e.g. hERG, Ames, MNT)
- Custom stable cell line generation: overexpression of target gene(s), KO/KI with CRISPR-Cas gene editing such as HiBiT cell line generation for PROTAC development
- SPR and BLI services for studies of drug-target interactions
- Fragment library screening (FBS) using an in-house fragment library

#### **Biochemical Assays**

- Enzymatic Assays for Kinases and other Targets
- GPCR membrane Prep Binding Assays
  Epigenetic Targeted Assays

#### Cellular Assays

- Target-based Assays
- Phenotypic Functional Assays
- Protein Marker-based Assays

#### **Specialized Services**

- CRISPR-Cas Gene Editing
- Stable Cell Line Generation
- Recombinant Protein Production
- PROTAC Assay Platform
- Biophysics Platform
- FBDD Library Screening









### **PROTAC Discovery Platform**



- Does my PROTAC selectively degrade its target?
- Is my PROTAC cell permeable and what is the target affinity?
- Dose my PROTAC form a ternary complex?
- What is the phenotypic consequence of POI degradation?
- What happened if no degradation is observed?

## **Assays to Systematically Evaluate PROTACs**

#### Target protein degradation

Is my target degraded?

- HiBiTLytic
- HiBiTKinetic
- WB Fluor WB
- FLISA
- In-cell ELISA
- FCM

#### Ternary complex formation

IdegradationDoes my PROTAC form a ternary complex?

- NanoBRETPPI

#### Target engagement & permeability

Is my target degraded?

- NanoBRET
- TR-FRET
- HTRF AlphaLISA
- SPR
- FP
- TSA

#### **Proteasome** recruitment & Ubiquitination

Does my target become ubiquitinated?

NanoBRET

#### Degradation phenotype

consequence of target degradation?

- Cell viability
- signaling regulation
- T cell function
- Cell cycle

### Fragment-Based Drug Discovery Platform

#### 1000 Life Chemicals

Cherry-picking from commercially available libraries to cover essential pharmacophores with high diversity

Fragments selected with accessible synthetic vectors, and/or easy analoging by commercial cataloging

Fragment Library  $(\sim 2000)$ 

#### ~1000 Fragments w. Novelty

Total internal synthesis ~ 1500 NP - Like Fragements ~ 240 Final after QC 960

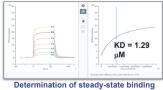
Fragments with novel scaffolds will differentiate BioDuro-Sundia Fragment Library from the competitions, increase its value (delivering novel hots) and attractiveness

### **SPR for Drug Target Interactions**

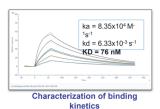


#### **SPR for Biologics**

- Affinity Maturation
- Hot Spot Analysis/ Stress Test
- FC Engineering
- Anti-drug Antibodies (ADA)
- Epitope Binning/Mapping



affinity



#### SPR for NCE

- · Compound Binding Affinity
- Full binding kinetics and binding stoichiometry
- · Residence time
- · Fragment library screening