

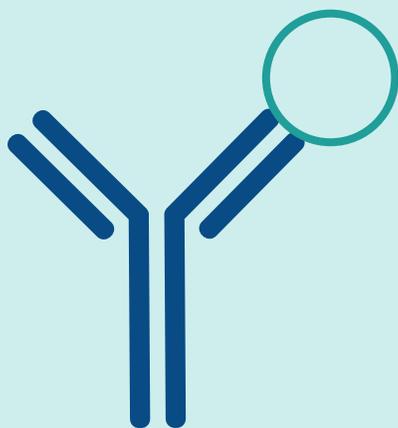
Biophysical Characterization

Cayman's biophysics and structural biology experts have proven experience in biophysical characterization to advance your drug discovery, hit identification, hit-to-lead, and lead optimization efforts. We offer a variety of biophysical methods, including surface plasmon resonance (SPR), thermal shift assay (TSA), and dynamic light scattering (DLS), to help you characterize small molecules and proteins, understand molecular interactions and binding mechanisms, and optimize drug-target interactions.

Surface Plasmon Resonance (SPR)

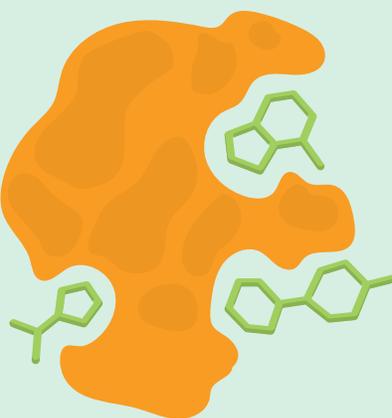
We offer high-quality structure-function analysis, screening, and characterization of drug candidates, including small molecules, proteins, peptides, and lipid nanoparticles (LNPs), using the industry-leading Biacore™ 8K. We can screen and rank order drug-protein and protein-protein interactions, measure interaction kinetics (K_{on} , K_{off}) and affinity (K_D), and determine interactant concentrations in samples. Our SPR services can be utilized for a variety of applications, including:

Biologics/Antibody Screening



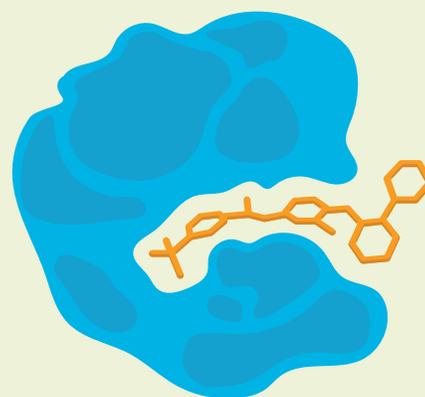
Antibody + antigen

Fragment-Based Drug Design (FBDD)



Target protein +
fragment library*

Small Molecules



Target protein + compound(s)
of interest

Ligands and analytes for SPR can be provided by either the customer or Cayman.

Choose from our extensive catalog of antibodies, antigens, proteins, small molecules, and fragment and small molecule libraries.

OR

Rely on our scientists for custom antibody production, protein production, and chemical synthesis.

*Available fragment libraries provided by Cayman for FBDD include the BIONET Premium and PROTAC Fragment Libraries from Key Organics, as well as libraries from Liverpool ChiroChem and SpiroChem

Thermal Shift Assay (TSA)

TSA measures the thermal stability of proteins and offers qualitative assessment of compound binding.

Dynamic Light Scattering (DLS)

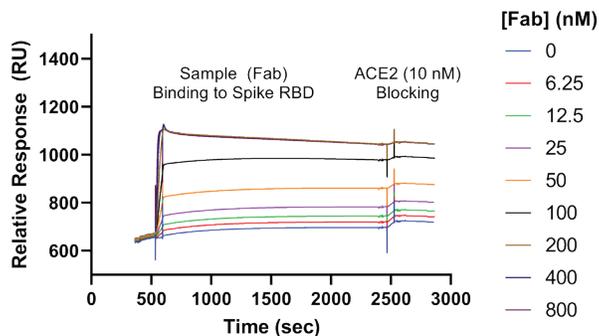
We offer high-throughput DLS measurements of protein, small molecule, and LNP concentration, hydrodynamic size, and polydispersity, as well as detection of aggregates, using the Stunner by Unchained Labs.

Case Study

Cryo-EM and SPR Analysis of SARS-CoV-2 Spike Protein Neutralization by Cayman Antibody Complex

Learn how our scientists used SPR to evaluate the ability of Cayman's SARS-CoV-2 (human) neutralizing recombinant antibody to block binding of SARS-CoV-2 S1 receptor-binding domain (RBD) variants to human angiotensin-converting enzyme 2 (hACE2).

S1 RBD Beta (Ligand) with Fab (Sample) and 10 nM ACE2 Enhancement Competition Assay



SPR data for SARS-CoV-2 nAb (Fab) and ACE2 with S1 RBD WT.



Find this case study on our website and browse all of our case studies, scientific posters, and peer-reviewed publications to discover the latest developments in and applications of our biophysical characterization methods.

www.caymanchem.com/biophysicalcharacterization

Our biophysical characterization services can be used as stand-alone services or incorporated into larger projects as part of Cayman's suite of integrated drug discovery services.

Complementary services include:

- Antibody Production
- Protein Production
- Structural Biology
- Functional Screening
- Medicinal Chemistry/SAR Studies
- Custom Chemical Synthesis
- *In Silico*/Computer-Aided Drug Design (CADD)
- Assay Development

Learn more about our Biophysical Characterization Services and request a quote at www.caymanchem.com/biophysicalcharacterization