

BioPharma Drug Development Characterization Solutions

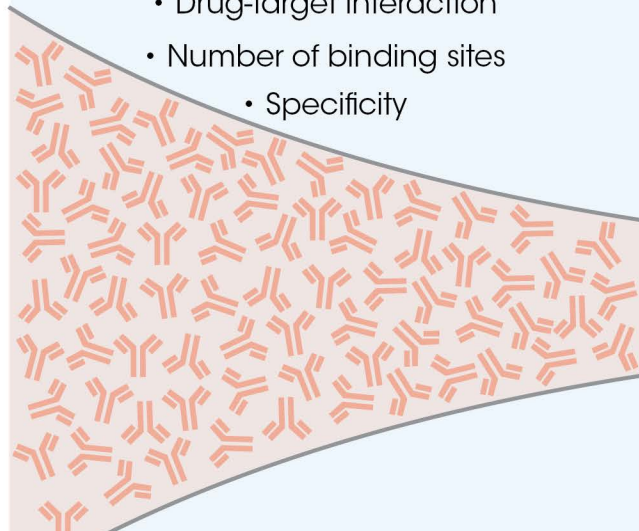


Discovery

Hits to Leads
Optimize Binding Affinity

Evaluate

- Drug-target interaction
- Number of binding sites
- Specificity



Isothermal Titration Calorimetry

Measures: Binding constant (K_D), Enthalpy (ΔH), Entropy (ΔS), Gibbs Free Energy (ΔG), Stoichiometry (n)



Candidate Selection

Down Selection of Candidates
Characterize Stability

Evaluate

- Conformational stability
- Multi-domain structures
- High affinity ligand binding



Nano DSC

Measures: Melting temperature (T_m , T_{max}), Enthalpy (ΔH), Heat Capacity (ΔC_p), Entropy (ΔS), Gibbs Free Energy (ΔG)



Formulation

Developability
Prioritize Candidates

Evaluate

NanoDSC

- Conformational stability
- Impact of formulation – pH, salt, excipients, surfactants

Rheology

- Concentration effects
- Route of administration



Nano DSC

Measures: Melting temperature (T_m , T_{max}), Enthalpy (ΔH), Heat Capacity (ΔC_p), Entropy (ΔS), Gibbs Free Energy (ΔG)

Rheology

Measures: Viscosity, Viscoelastic behavior (G' , G''), Yield stress



Delivery

Final Selection
Refine Manufacturing

Evaluate

- Conformational stability
- Processing conditions for lyophilization
- Impact storage



Differential Scanning Calorimetry

Measures: Glass transition temperature (T_g)