

Antibody Characterization and Developability Assessment Services

Next-Generation Biotherapeutic Applications

Twist Biopharma Solutions provides a comprehensive gene to antibody production service that enables a streamlined, high throughput approach to antibody production. In addition to production, we also offer a suite of characterization services that can guide lead candidate selection to optimize downstream characterization that can often burden the lab. Our developability package assigns a score from a series of biophysical assays to serve as additional selection criteria for therapeutic leads.

KEY BENEFITS

Throughput

- Increase screening throughput from tens to thousands of antibodies.

Flexibility

- Allow for flexibility in antibody production scale, throughput and assay combination.

Speed

- Free up time by employing Twist expertise to rapidly assess affinity and epitopic coverage.

Lead selection

- Provide valuable data to help select the most robust antibody candidates for downstream development and formulation.

Service offerings

AUTOMATED, HIGH THROUGHPUT ANTIBODY PRODUCTION

- Produce 10s to 1,000s of small-scale antibodies to rapidly screen in less time
- 1 mL and 8 mL scale available depending on characterization need
- Buffer exchange & normalization options are available for downstream processing

HIGH-THROUGHPUT ANTIBODY CHARACTERIZATION

- ELISA (binding and blocking)
- Flow Cytometry for detecting mAb binding on cell surface receptors
- Binding kinetics and epitope binning (Carterra™ LSA SPR & Octet™ BLI)
- Cell-based assays
- Endotoxin testing

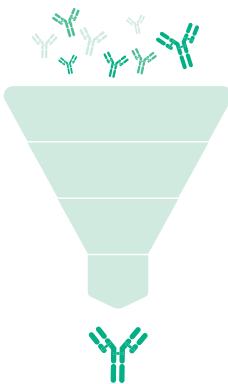
DEVELOPABILITY ASSESSMENT

- **CIC** (Cross-interaction Chromatography): Rank and understand cross-interaction with other immunoglobulins.
- **HIC** (Hydrophobic Interaction Chromatography): Rank and understand hydrophobicity.
- **AC-SINS** (Affinity-capture Self-interaction Nanoparticle Spectroscopy): Rank and understand propensity of antibody self-association.
- **DLS** (Dynamic Light Scattering): Determine hydrodynamic radius (R_h), size distribution/polydispersity index (PDI), temperature value for onset of aggregation (T_{agg}).
- **nanoDSF** (Differential Scanning Fluorimetry): Melting temperature (T_m), protein unfolding onset temperature (T_{onset}), turbidity onset temperature ($T_{turbidity}$).
- **aSEC-HPLC** (Analytical Size Exclusion Chromatography): % Monomer, presence of aggregates or degraded product.
- **BVP** (Baculovirus Particle ELISA): Non-specific binding, risk for fast clearance SDS-PAGE.

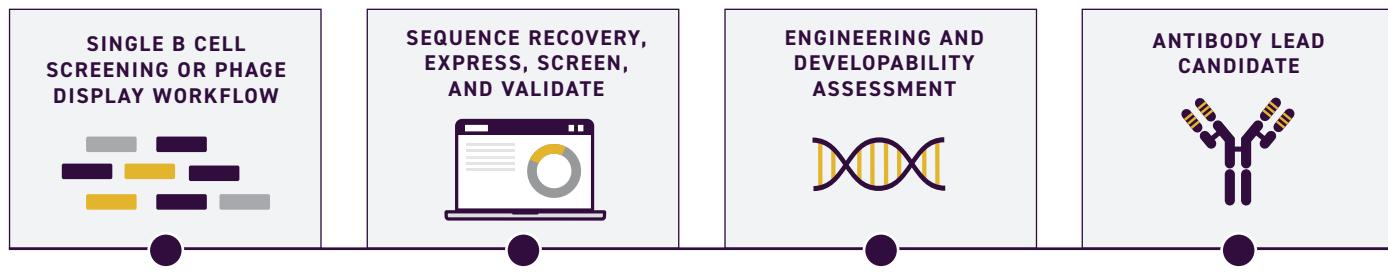
Antibody discovery

As illustrated in this figure, all antibody discovery campaigns start with a pool of antibodies. The most successful ones end with one antibody lead that has the most chance for success when it comes producing a high affinity, functional, and stable antibody.

Twist Bioscience can help you succeed the first time with our High-Throughput Characterization and Developability Assessment options, detailed on the first page of this product sheet.



TYPICAL WORKFLOW

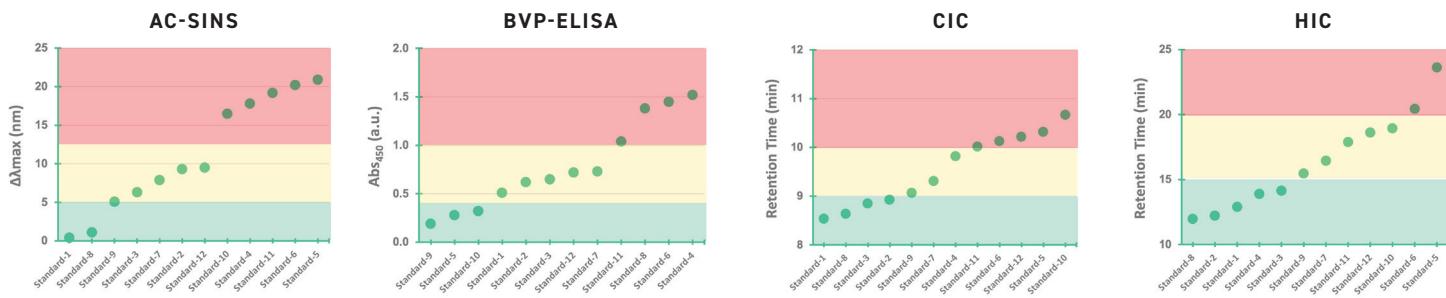


Antibody libraries, immunization and assay optimization, plasma b cell screening and sequence recovery

Humanization and optimization

Reference standards for developability assessment

Our developability packages include a suite of reference standards which consist of 6 clinically approved therapeutic antibodies that represent a range of developability profiles. Benchmarking of leads to the reference standard provides a scope for lead selection for downstream development. Data readouts are compared to 12 clinical reference standards shown below:



To view more data on our characterization and developability offering, visit twistbioscience.com/antibodycharacterization

PARTNER WITH US.

Learn more at twistbioscience.com/twist-biopharma-solutions or contact us at biopharmasales@twistbioscience.com

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