Get to Characterization Data in a Matter of Weeks Without Making a Single Protein

## The Complete Solution for Antibody Development

For scientists and teams developing antibodies, Twist's end-to-end, high-throughput antibody production and characterization platform is the solution that combines AI/ML-ready data integration, flexible project design, and trusted manufacturing precision.
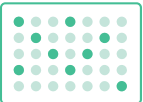
Services We Offer

ANTIBODY PRODUCTION

Small to medium scale purification of antibodies up to 5 mg.
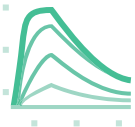
BINDING ASSESSMENT

Choose from binding confirmation, binding affinity, kinetics, and epitope binning to identify optimal binders.

DEVELOPABILITY

Identify your most promising candidates for manufacturing with 96-well or 384-well format developability assays.

ADVANCED CHARACTERIZATION

Format your antibody as you need it with intact mass, endotoxin testing, and custom characterization options.

Train Discovery Algorithms Without a Wet Lab

Twist creates high-quality, standardized datasets ready for direct use in AI and machine learning models. Every step happens in house, from gene synthesis to expression to assay readouts, so you can focus on designing the next breakthrough antibody without investing in equipment, lab, space, or specialized staff.

Why Twist

ONE END-TO-END TRUSTED PARTNER

Rely on Twist for consistent quality from DNA through fully characterized, purified antibodies.

SCALABLE FROM ONE TO THOUSANDS

Capacity to produce and screen thousands of antibodies in a single day without having to wait in a queue.

AI/ML MODEL AND DATA INTEGRATION

Customizable assay setup, advanced data analysis and delivery in model-ready formats.

NO INTERNAL CAPEX REQUIRED

Outsource your R&D to conserve precious internal resources.

FLEXIBLE PROJECT DESIGN AT ANY SCALE

CHO or HEK formats available for your project-specific data and assay needs.

SCIENTIFIC EXPERTISE

Collaborate with Twist scientists to design, troubleshoot, and interpret your complex workflows.

SPEED WITHOUT COMPROMISE

Rapid production and high-throughput screening with reproducible and dependable results.

> "Using Twist's solutions saves us hundreds of thousands of dollars annually in labor costs. The cost efficiency of Twist Express Antibodies allows us to test four times as many antibodies each year as we otherwise could."
>
> WYATT MCDONNELL, CEO & FOUNDING SCIENTIST, INFINNIMUNE

Antibody production

ANTIBODY TYPES	· VHH, scFv, Fab, and VHH-Fc · IgG
CELL LINES	· CHO · HEK
EXPRESSION SCALES (CHO | HEK)	· 1 mL (180 µg | 95 µg) · 4 mL (550 µg | 375 µg) · 8 mL (860 µg | 670 µg) · 24 mL (2580 µg | 2010 ug)
PURIFICATION OPTIONS	· Protein A (Fc-Tag) · Nickel (His-Tag)
ELUTION BUFFERS	· 83 mM Glycine 167 rnM Tris-HCI pH 6.0 · 43 mM Sodium Citrate, 147mM HEPES, pH 6.0 (Amine-free) · 10 mM HEPES, 150 mM NaCl, pH 7.0 · Buffer exchange available upon request.**
DELIVERY FORMAT	· 96 Deep Well Block · 1.4 mL Micronics · 4 mL Micronics · 2 mL Tubes · 10 mL Tubes
PRODUCT TYPES	· Purified or Supernatant Protein · Clonal Gene Provided as Glycerol Stocks
AVAILABLE QC	· CE-SDS - Digital Gel (% Purity & Size) - Default · Analytical SEC (aSEC) - Optional · Endotoxin Testing - Optional
ANTIBODY FINISHING	· Buffer Exchange · Normalization · Sterile Filtration · Aliquoting
TURNAROUND TIME	· HEK: Starting at 10 BD* · CHO: Starting at 13 BD*

Developability

ASSAY	DESCRIPTION	STANDARD TURNAROUND TIME (TAT)***
AC-SINS (affinity capture)	Measures how likely a protein is to self-associate	2-5 BD
aSEC	Measures how much of the protein is in the monomeric (single peak) or aggregated form (multiple peaks)	2-3 BD
Thermal Stability (nanoDSF: T_m, T^{agg}, T_{onset})	Measures the melting temperature of a protein (Tm), onset of melting (Tonset), and assesses the point of thermal aggregation (Tagg)	2-5 BD
DLS (rH, average scattering intensity, PDI)	Assess the particle size (hydrodynamic radius, rH), size distribution, and distribution of size populations (polydispersity, or PDI) of a protein. High polydispersity is undesirable	2-5 BD
BVP ELISA	Measures binding polyspecificity. BVP binding has been used to correlate with faster serum clearance	1-2 BD
HIC (hydrophobicity) - Plate or Column-based	Measures how hydrophobic the protein is. High hydrophobicity means more likely to aggregate and be non-specific	5-10 BD
OVA (off-target) - Plate-based	Checks for off-target binding of a protein to ovalbumin	1-5 BD
CIC (Cross-interaction)	Used to predict how likely the protein will aggregate. Proteins that stick to the column exhibit a propensity to aggregate	5-10 BD

Binding assessment

ANTIBODY BINDING CONFIRMATION (SINGLE-POINT)		
BLI (Octet) SPR (Carterra LSA)	**Affinity Ranking:** Testing antibody binding at only 1 concentration	TAT: 5-10 BD*** TAT: 5-10 BD***

ANTIBODY BINDING AFFINITY (MULTI-POINT, K_D DETERMINATION)		
BLI (Octet) SPR (Carterra LSA)	**KD affinity determination:** Testing antibody binding in a series of concentrations	TAT: 5-10 BD*** TAT: 5-10 BD***

ANTIBODY EPITOPE BINNING		
BLI (Octet) SPR (Carterra LSA)	**Epitope binning:** Tests which antibodies bind to the same region of the target protein	TAT: 5-10 BD*** TAT: 5-10 BD***

Advanced Characterization

PROTEIN MASS		
Intact Mass Spec	Determines the total molecular weight of a protein using mass spectrometry (MS) without prior digestion or fragmentation of the antibody.	TAT: 5 BD***

Custom Assays

FUNCTIONAL CELL-BASED ASSAYS		
Internalization, Immunogenicity, Cytotoxicity, Cross-Reactivity	Assess biologicial activity and safety profile of a lead antibody. Contact us for custom assay development and advanced characterization services.	TAT: Contact Us

*Standard orders, additional QC, buffer exchange and antibody finishing add additional turnaround time.

** Automated buffer exchange is executed upon request using DPBS pH 7.4 or PBS pH 6. Samples can also be normalized to 0.25, 0.50, or 0.75 mg/mL. A 0.2 µm filtration step can be added.

***Turn-Around Time (TAT) varies based on the number of samples.

Learn more about antibody production services at **twistbioscience.com/antibodyproduction.** Learn more about antibody characterization services and custom assay development at **twistbioscience.com/antibodycharacterization**. Get in touch at **sales@twistbioscience.com**