

YBL-Vega™

The Animal-free Antibody Discovery Platform



Accelerate your pipeline with YBL-Vega™

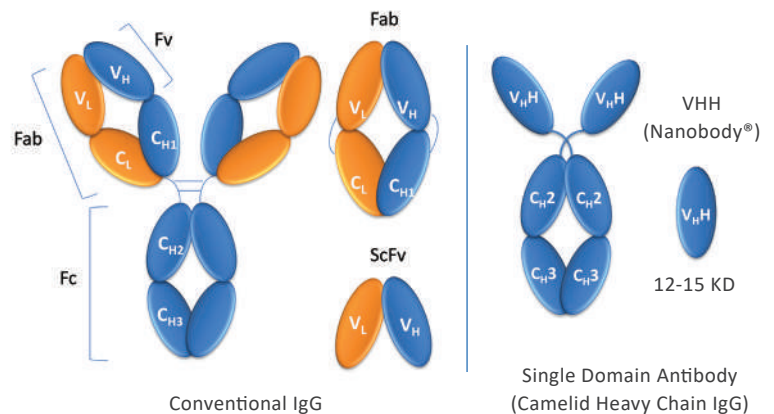
YBL's Animal-free, Synthetic VHH Antibody Phage Display Library Platform

- Synthetic Camelid Library
- High-Affinity Binders.
- Rapid Timelines.
- Zero Ethical Constraints.

Bypassing the limits of traditional Antibody Discovery

The "VHH" Advantage

- **Small Size:** 12–15 kDa
- Better tissue penetration
- Access to "hard-to-reach" target epitopes.
- Higher thermal and pH stability
- **Simple Engineering for clinical applications**
- **Easy Humanization**



Why choose YBL-Vega™ Antibody Discovery platform?

- Highly diverse, NGS-verified synthetic antibody library with 3×10^8 clones
- 100% Animal-free Development
- Reduced Discovery Risk
- Superior Target Access with High-Affinity Binders
- Absolute Batch Consistency
- Accelerated Market Entry



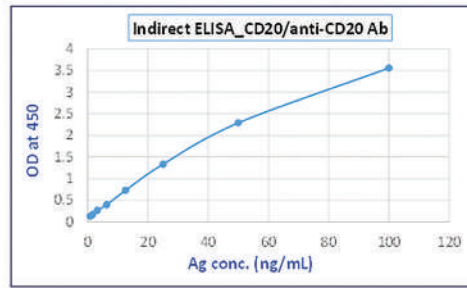
What we offer?

- 1 | High Developability & Stability** – Faster transition from lab to kit
- 2 | End to end antibody discovery solution** – With customization as per customer's requirement
- 3 | Extreme Library Purity & Functional Efficiency** – Higher quality "hits" and fewer false positives.
- 4 | Superior Binding Specificity** – Higher success rate for complex antigens and access to "hard to reach" target epitopes.

Application Data & Technical Excellence

Proven Performance Across Applications

Anti-CD20 Ab (ng/well)	A ₄₅₀ - Blank
100	3.559
50	2.291
25	1.335
12.5	0.73
6.25	0.398
3.125	0.264
1.56	0.171
0.78	0.131



ELISA

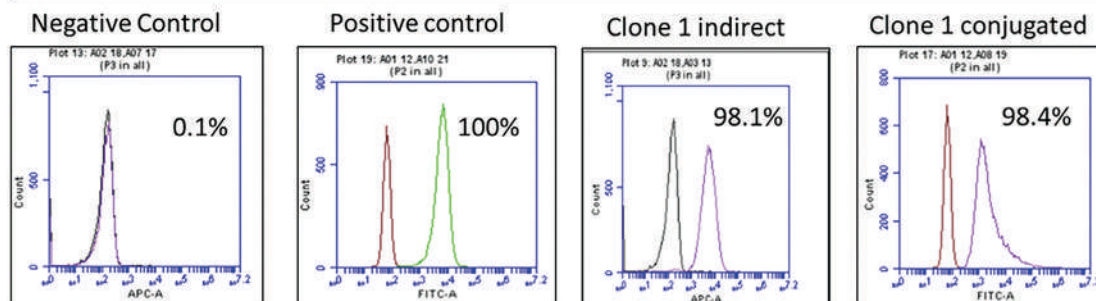


Western Blotting



Dot-Blot

Validation for flow cytometry application - on cell line expressing target on surface

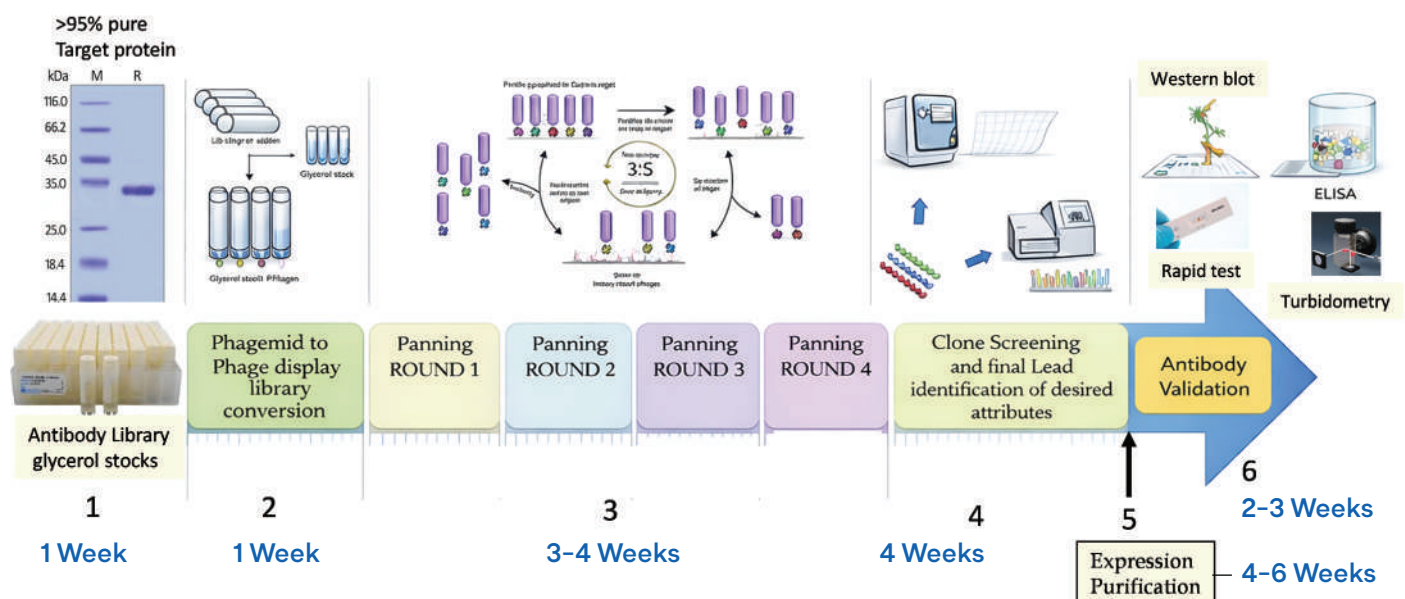


Application Specific Data: Anti-CD20 Validation

Our custom recombinant antibodies in VHH-Fc format demonstrate robust, application-ready performance across standard assays:

- **ELISA:** Strong linearity with a broad dynamic range, enabling sensitive and quantitative antigen detection.
- **Western Blot & Dot Blot:** Clear, linear signal detection across dilution series, confirming reliable antigen recognition.
- **Flow Cytometry:** Specific detection of cell-expressed surface antigens, validating performance on native targets in cellular contexts.

Process Flow & Timeline



Case Study

Development of Highly Specific Custom Antibodies for Therapeutic Drug Monitoring (TDM) using YBL-Vega™ Antibody Discovery Platform

PROBLEM STATEMENT

TDM Inaccuracy

- **Cross-Reactivity:** Current immunoassays cannot distinguish between active antibiotics and their degradation products.
- **Clinical Risk:** Leads to overestimated drug levels, incorrect dosing, and increased patient toxicity.
- **Unmet Need:** Highly specific antibodies required for precise Therapeutic Drug Monitoring (TDM).

CHALLENGE

Structural Mimicry

- **Specificity Gap:** Conventional polyclonal and monoclonal antibodies struggle to differentiate between structurally similar molecules.
- **Assay Failure:** Compromised specificity reduces clinical confidence in diagnostic results.

YBL SOLUTION

YBL-Vega™ Platform

- **Synthetic Library:** Leveraged YBL diverse camelid phage display (VHH) library.
- **Precision Engineering:** Applied tailored bio-panning and counter-selection to eliminate cross-reactive binders.
- **Validation:** Used differential screening to confirm lead candidates ignore degradation products.

IMPACT

Precision & Safety

- **Accurate Diagnostics:** Developed high-specificity reagents for reliable drug monitoring.
- **Patient Outcomes:** Enhanced safety and clinical decision-making through precise dosing.
- **YBL Capability:** Demonstrates expertise in solving complex antibody challenges for next-gen immuno-diagnostics.

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