

Production of Superior Anti-Idiotypic Monoclonal Antibodies

Introduction

At Abpro, we have developed a high-throughput platform that optimizes hybridoma production. Using our proprietary HTP mouse and our state-of-the-art automated lab equipment, we have not only shortened the antibody production period to two months but also regularly generate antibodies with subnanomolar affinities¹.

Purpose

To develop high quality mouse monoclonal antibodies specific to an antigen-specific human IgG that specifically neutralizes ligand binding. Abpro has produced functional ligand blocking antibodies that have been extensively characterized and validated in ELISA studies. In addition, our team develops an anti-idiotype ligand binding inhibition assay to identify functional ligand blocking antibodies. Vials of frozen hybridomas and/or purified supernatants with known concentrations from the hybridoma project are provided, enabling normalization of all downstream assays and characterization.

Synthesis

- Immunized HTP mice are titer tested for specific immunogen reactivity by ELISA
- Mouse lymph nodes are fused with murine myeloma cell lines and hybridomas are selected in HAT media
- Fusion hybridoma supernatants are tested for specific reactivity to immunogen vs. human IgG control by ELISA
- ELISA positive clones are assayed for their capacity to neutralize binding of specific ligand by an ELISA-based assay.
- Antibody candidates that both exhibit specific inhibition and sustain a relatively high level of specific inhibition at lower antibody concentrations are subcloned.

Data

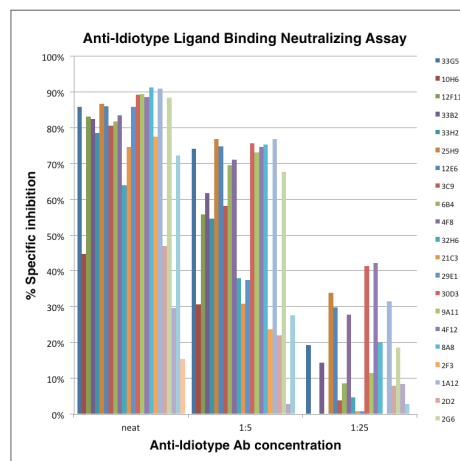


Figure 1: Anti-Idiotype mAb candidates screened for specific functionality in a neutralization assay. Control (CTRL) is supernatant from non-specific Ig+ hybridoma (n=3).

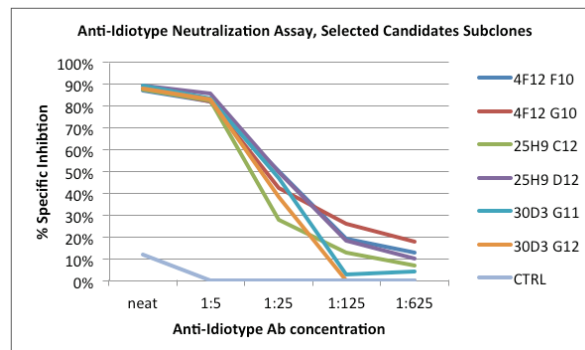


Figure 2: Specific inhibition of anti-Idiotype mAb candidates in a neutralization assay. Control (CTRL) is supernatant from non-specific Ig+ hybridoma (n=1).

Conclusions

Abpro has the capabilities to successfully generate a large panel of anti-idiotypic mouse monoclonal antibodies that demonstrate a strong capacity to neutralize specific ligand binding.

Citations

1. Bodin K, Ellmerich S, Kahan MC, Tennent GA, Loesch A, Gilbertson JA, et al. Antibodies to human serum amyloid P component eliminate visceral amyloid deposits. *Nature*; 468:93-7.

Quality Monoclonal Antibodies
In Two Months

Abpro Inc.
101 Hartwell Avenue
Lexington, MA 02421

Ordering (617) 225-0808
sales@abpro-labs.com
www.abpro-labs.com

abpro
Antibodies and Proteins