

Novel Human Antibody Discovery

AvantGen's novel human antibody discovery technology platform is comprised of (i) a proprietary and robust yeast display system, (ii) a comprehensive natural human antibody database where the frequencies of each amino acid at each position of all 6 CDRs were determined based on deep-sequencing of natural human antibody repertoires, and (iii) multiple Germliner™ human antibody libraries with more than 100 billion antibody clones displayed.

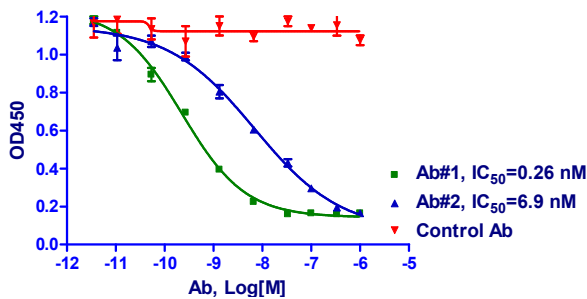
To ensure the highest developability of antibodies isolated from our libraries, the following quality features have been incorporated into the libraries:

- ✓ Human antibody germline frameworks selected with favorable expression, thermostability, and solubility
- ✓ Post-translational modification sites avoided in CDRs to increase levels of homogeneity in production
- ✓ CDR residues incorporated into the libraries based on each amino acid's frequency used by natural human antibodies

These libraries have been screened against more than 100 antigens, and panels of high affinity antibodies have been successfully isolated for each of these antigens.

AvantGen Technology Platform	
Attributes	Performance
Affinity	Majority of antibody clones isolated from our libraries exhibit affinity in sub-nM to single digit nM range
Specificity	Antibody specificity can be tailored to be highly specific to the antigen of interest with or without cross reactivity to other homologous proteins or isoforms
Diversity	Typically a panel of 10s-100s unique antibody clones can be isolated from our libraries against a given antigen
Developability	Antibody designed to be of high developability (described to the left of this table)
Humanness	Libraries rationally designed to mimic diversity in human antibody database compiled from >500 diverse individuals
Speed	Antigen-specific antibody clones can be isolated in 5-6 weeks and full-length IgG produced from mammalian cells in 8-10 weeks

Blocking Antibody Isolated from the Libraries



Isolated Antibody with Desired Specificity and Cross-Species Reactivity

