

Antibody Affinity Maturation and Optimization

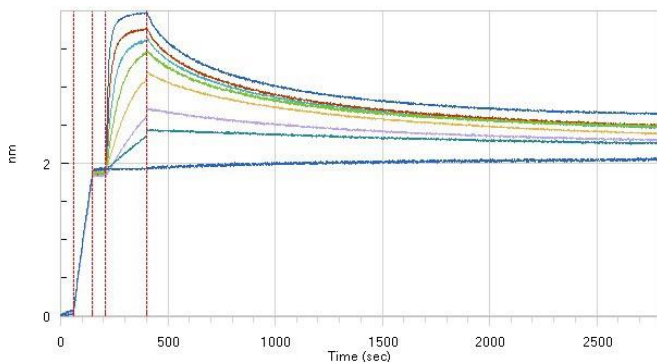
AvantGen's proprietary antibody affinity maturation and optimization platform is comprised of a comprehensive human antibody database that informs the rapid design of focused libraries based on the antibody to be optimized, and a proprietary eukaryotic yeast display system that enables the use of ultra-high-throughput, highly precise FACS to screen the focused libraries simultaneously for antibodies with higher affinity, expression levels, and thermo-stability. The system routinely yields affinity improvement of ≥ 10 to 1,000 folds compared to the parental antibodies.

AvantGen Technology Platform	
Attributes	Performance
Affinity	Improve affinity by 10-1000 folds, primarily by reducing off- rate
Specificity	Fully retain parental antibody's antigen binding specificity
Cross-reactivity	Engineering-in species cross reactivity, or engineering-out isoform cross-reactivity, etc.
Developability	Removal of undesirable residues, post-translational modification sites, increase of thermo-stability to improve developability

Sample ID	K_D (M)	K_{on} (1/Ms)	K_{off} (1/s)	Full R^2	Fold Improvement
Wild Type	5.24E-07	2.75E+05	1.44E-01	0.99	1
Clone 1	2.60E-10	6.08E+04	1.58E-05	0.99	2,000
Clone 2	<1.0E-12	8.28+04	<1.0E-07	0.99	>1,000

Affinity maturation results in antibody (Fab) clones with more than 1,000-fold improvement of affinity

Parental Antibody (WT)



Affinity Matured Antibody

