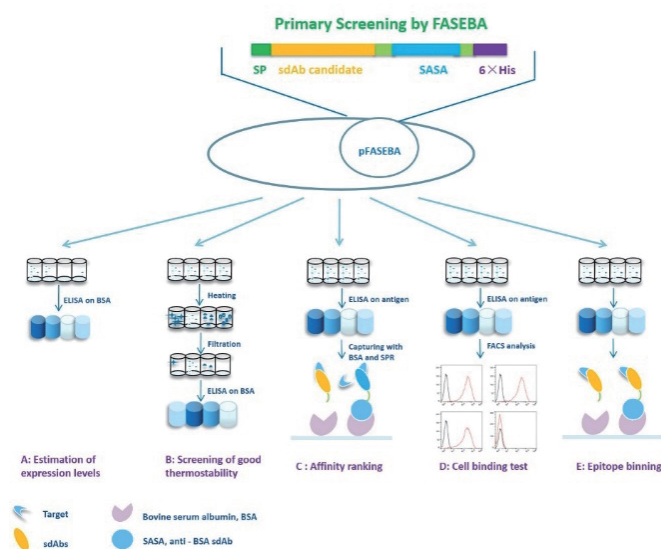


Antibody Affinity Maturation

50+ affinity maturation projects delivered
As fast as 8 weeks to deliver your antibody sequences with desired affinity
5-100 fold affinity improvement

Antibody Affinity Maturation Service Features

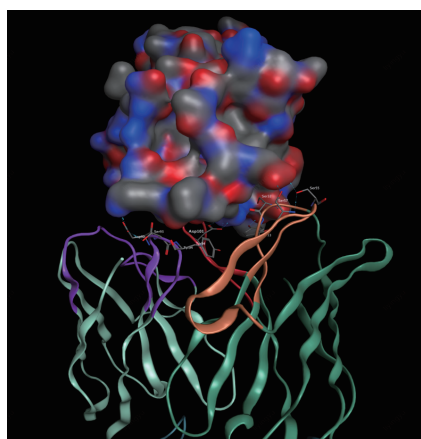
FASEBA Platform



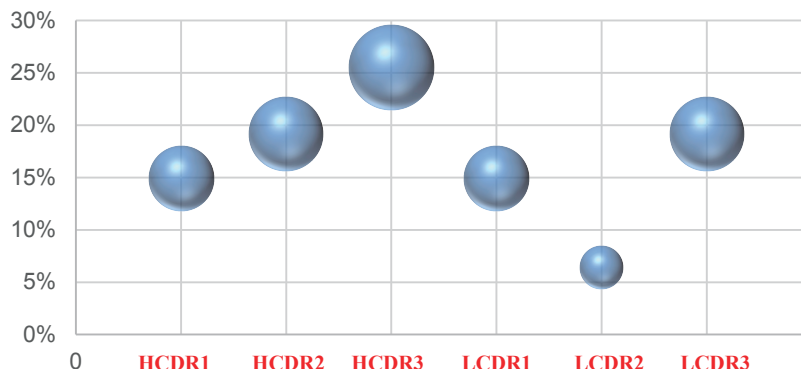
FA Fast
S Screening of
E Expression
B Biophysical-properties and
A Affinity

Patented high-throughput screening platform to express soluble antibodies and in the meantime screen affinity, thermostability, expression level, binding epitope with no royalty burden.

MOE Structural Simulation Design



Potential site analysis by internal database



Homology modeling was performed by MOE, potential residues were identified by structure modeling combine with internal database, and then saturated mutagenesis screening of potential residues were carried out by our FASEBA platform.

PML Library Based Deluxe Package

Precise mutagenesis library(PML) was conducted and evaluated by NGS, all 18 amino acids except cystein were totally covered with equal ratio, which significant improve the screening process.

1

Parental IgG binding
confirmation

2

PML library
construction

3

FASEBA screening
and ranking(single
residues)

4

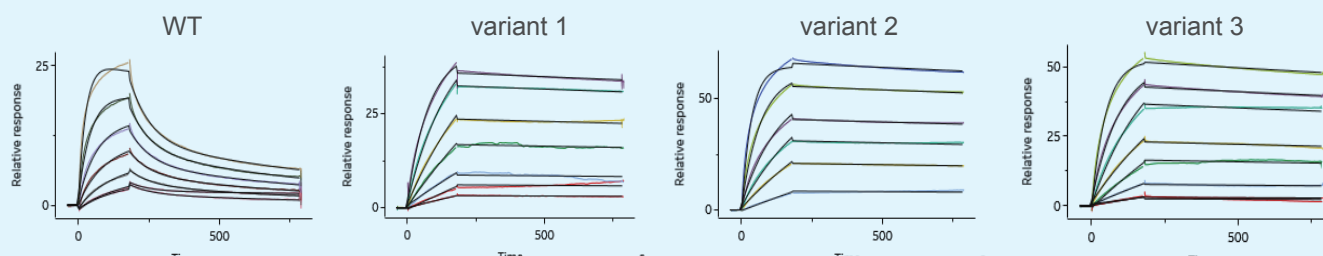
Combinatorial mutation library
screening and ranking
by FASEBA

5

Affinity matured IgG
production and
characterization

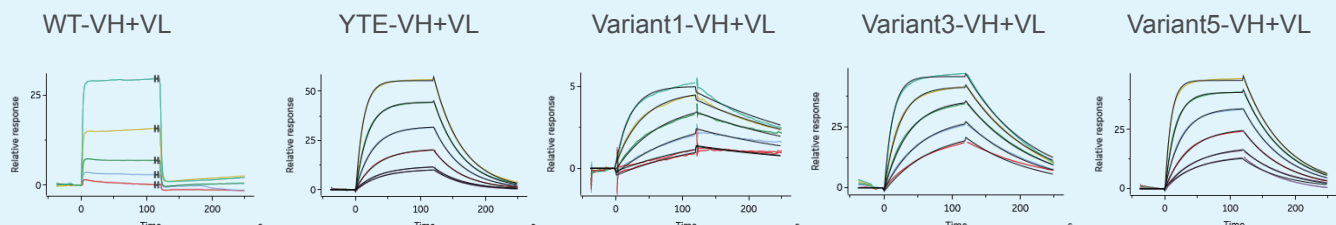
Case study 1: Affinity from 10^{-7} to 10^{-10} , up to 750 fold higher

Ligand	Analyte	k_a (1/Ms)	k_d (1/s)	KD (M)	Rmax (RU)	Chi ² (RU ²)
Target C	WT	8.15E+04	9.88E-03	1.21E-07	18.3	7.63E-02
Target C	variant 1	5.31E+05	8.54E-05	1.61E-10	35.4	1.62E-01
Target C	variant 2	4.32E+05	1.24E-04	2.87E-10	49.1	3.11E-01
Target C	variant 3	2.91E+05	8.85E-05	3.04E-10	64.1	5.45E-01



Case study 2: Fc Engineering Modification (including human/canine/feline)

Ligand	Analyte	Chi ² (RU ²)	k_a (1/Ms)	k_d (1/s)	KD (M)	Rmax (RU)
WT	FcRn	1.14E-01	NA	NA	1.43E-06	146.6
positive control	FcRn	6.92E-02	1.63E+05	2.30E-02	1.41E-07	74.1
Variant1	FcRn	1.35E-02	1.02E+05	4.45E-03	4.38E-08	5.2
Variant3	FcRn	4.84E-01	1.81E+05	1.05E-02	5.81E-08	48.7
Variant5	FcRn	1.46E-01	2.43E+05	1.61E-02	6.62E-08	52.4



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