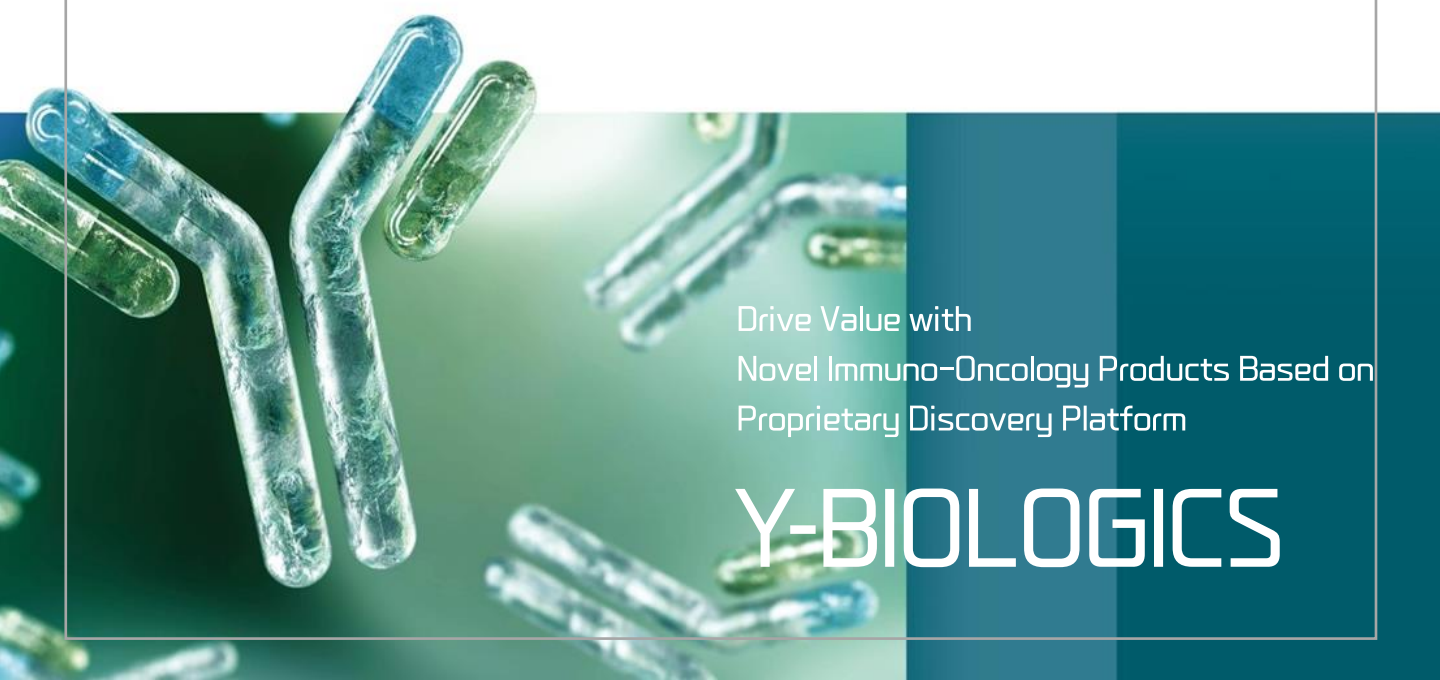
Human Nanobody Screening

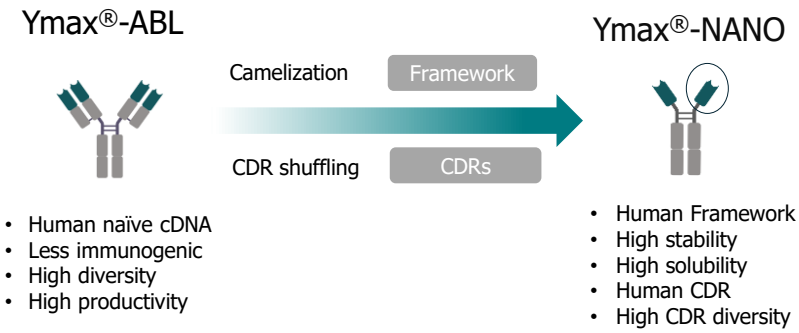


Drive Value with
Novel Immuno-Oncology Products Based on
Proprietary Discovery Platform

Y-BIOLOGICS

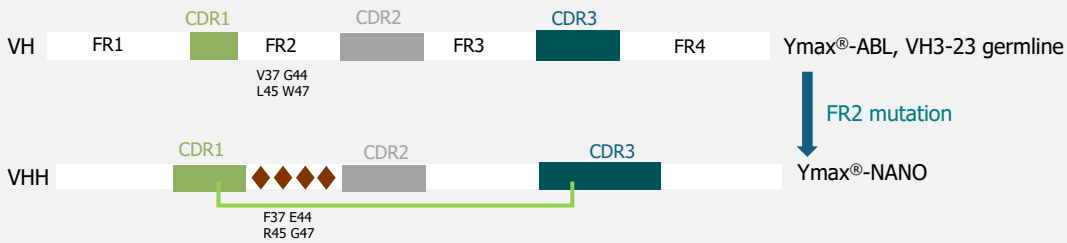
Human Nanobody Screening

We can provide heavy chain antibody(VHH) candidates through screening using our own single-domain antibody library(Ymax®-NANO).



• Ymax®-NANO

Framework	CDR Source	CDR3 Lengths	Library Size (CFU)
Human Germline	Naïve(human)	CDR3 : 8-22(A.A.)	1 x 10^{10}



• Advantage of the Nanobody screening

- Small Size and High Stability
- Ease of Production
- High Affinity and Specificity
- Versatility
- Reduced Immunogenicity

• Our Unique Advantages

- Unique platform to discover antibodies : Ymax®-NANO
- Binders : At least 2-3 unique binders
- IP free : Provide full rights to the generated antibody

• Service Process

Service Step	Service Description	Period
Biopanning	Library preparation : Ymax®-NANO	1 Month
Monophage analysis	Monophage ELISA, Clone sequencing	1 Month
IgG conversion & production	Cloning for final hit phage clone Transient expression and purification of antibody	1 Month
Antibody characterization	ELISA, BLI, SPR analysis	1-2 Months

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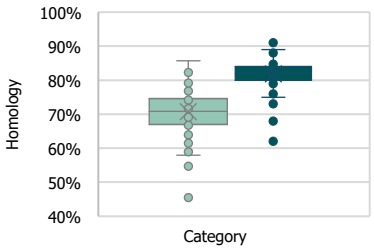
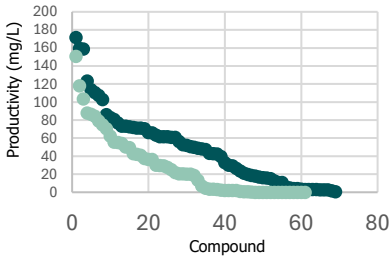
- ## Lama Library vs. Ymax®-NANO

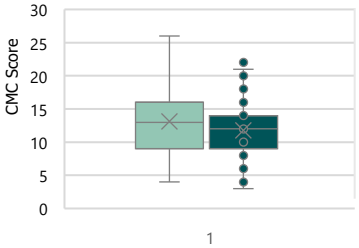
Homology with Human Germline	
Lama Library	Ymax®-NANO
70%	82%

Productivity	
Lama Library	Ymax®-NANO
28 mg/L	48 mg/L

CMC Score	
Lama Library	Ymax®-NANO
13	11.7







Lama Library Ymax®-NANO

- ## Case Study

Case 1. VHH Antibody Screening of various targets & small scale

No	Target	Mono	Hit	Unique clones	ELISA binder	FACS binder
1	B7-H3	192	97	6	6	6
2	GPRC5D	384	243	54	50	50
3	HSA	384	110	15	11	-
4	BCMA	384	13	5	4	3
5	TROP2	384	284	28	28	11

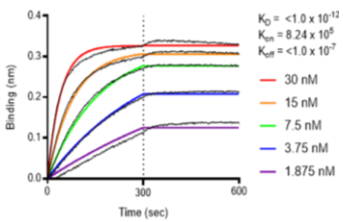
Case 2. VHH Antibody Screening (Target : B7-H3)

ELISA Data

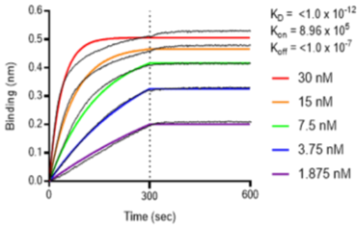
No.	Name	B7-H3
1	CELL ONLY	NA
2	anti-mIgG-FITC	NA
3	TAR0045DO01·	4.000
4	TAR0045DO01·	4.000
5	TAR0045DO01·	4.000
6	TAR0045DO01·	3.961
7	TAR0045DO01·	3.825
8	TAR0045DO01·	3.981
9	hIgG1	0.044

BLI Data

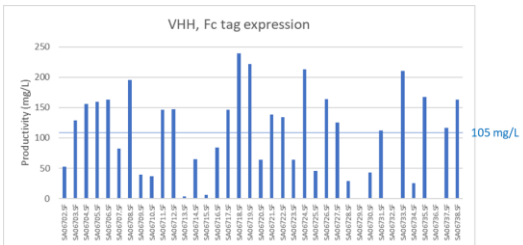
Binding affinity of Positive Control to hB7-H3

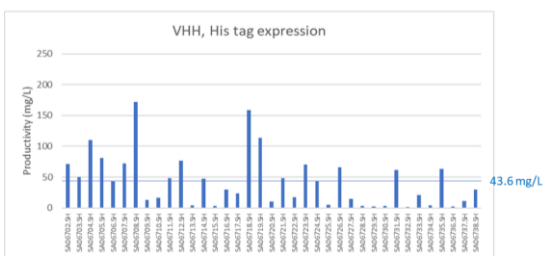


Binding affinity of No.6 to hB7-H3



Production





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