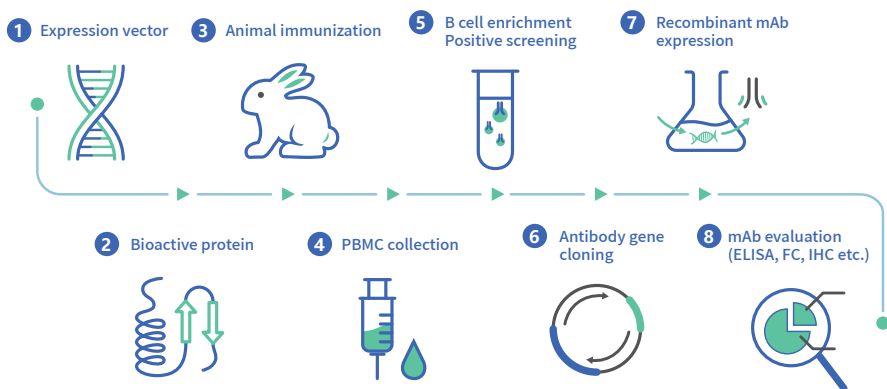


**DIMA BIOTECH**  
Recombinant mAbs and proteins

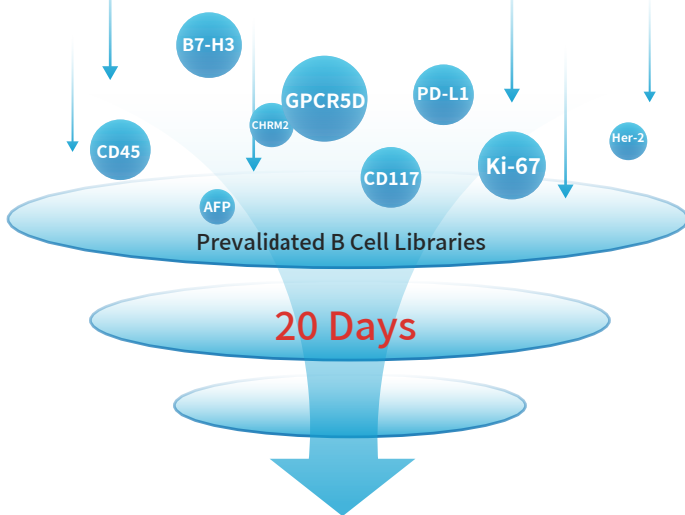
# **DIMA Highlights**

Innovations in Therapeutic Antibody Discovery  
and Functional Protein Expression

# DimAb<sup>®</sup> Single B mAb Development



## DimAb<sup>®</sup> immunized B cell libraries

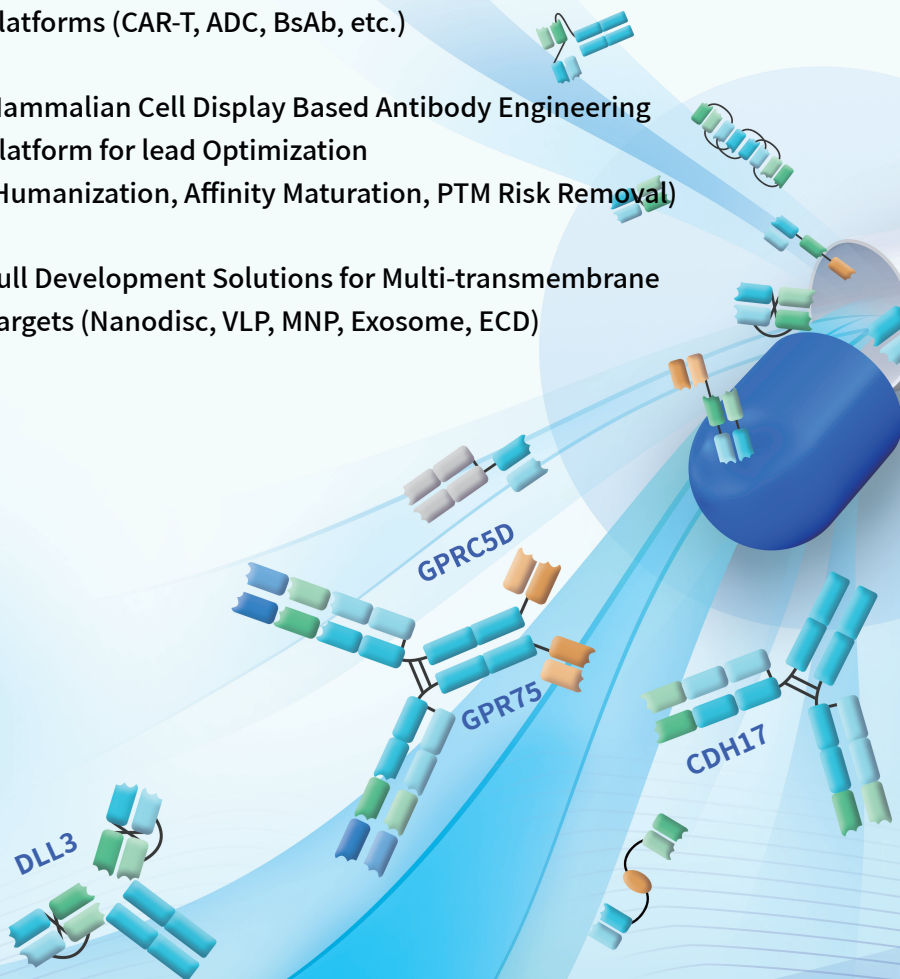


1. High Cloning Efficiency: One animal, 10,000+ positive clones
2. High Sequence Diversity: B cells from more than 5 Immunized Animals
3. Fast Cloning Speed: 20 days from B cells to validated IgG sequences

# 5000+ In-stock IgG Sequences

## 400+ Druggable Targets

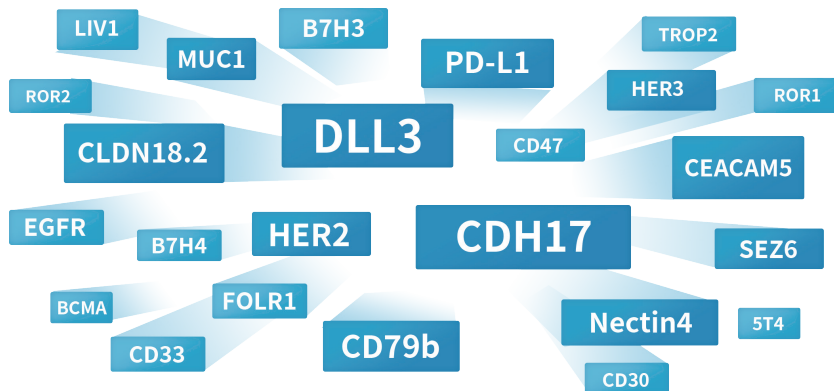
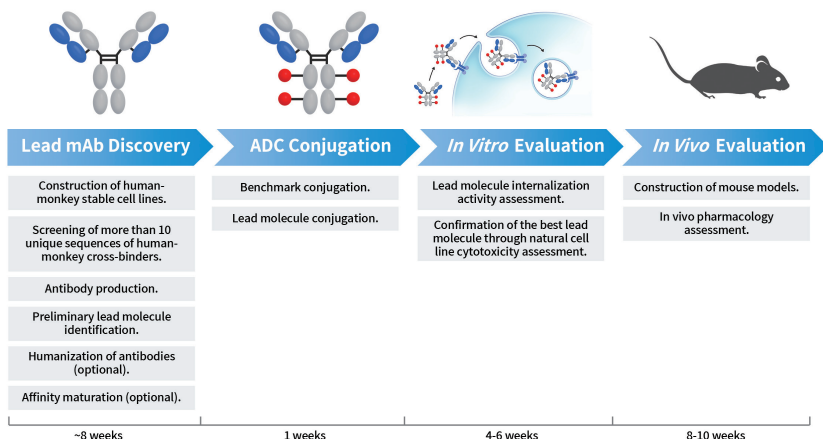
- Immediate Testing (Pre-clinical Validation Data Package available)
- Functional evaluation data on different modality platforms (CAR-T, ADC, BsAb, etc.)
- Mammalian Cell Display Based Antibody Engineering Platform for lead Optimization (Humanization, Affinity Maturation, PTM Risk Removal)
- Full Development Solutions for Multi-transmembrane Targets (Nanodisc, VLP, MNP, Exosome, ECD)



# Discovery of ADC Lead Molecules

- Off-the-shelf Proteins & Lead mAbs
- Prevalidated B Cell Libraries
- Anti-payload and Anti-linker mAbs
- Antibody Internalization Assays
- Custom ADC Projects

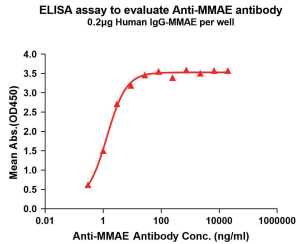
## Discovery of ADC Lead Molecules





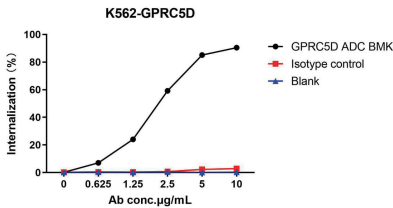
# Rabbit recombinant mAbs against ADC payloads and linker

Targets	Catalog No.	Description
MMAE	DME101003	Anti-MMAE antibody(8B4); Rabbit mAb
	DME101004	Anti-MMAE antibody(8C4); Rabbit mAb
	DME101005	Anti-MMAE antibody(9C4); Rabbit mAb
	DME101006	Anti-MMAE antibody(11B2); Rabbit mAb
	DME101007	Anti-MMAE antibody(11C8); Rabbit mAb
Dxd	DME101024	Anti-Dxd antibody(1A1); Rabbit mAb
	DME101025	Anti-Dxd antibody(1A5); Rabbit mAb
	DME101026	Anti-Dxd antibody(1A12); Rabbit mAb
	DME101027	Anti-Dxd antibody(1E6); Rabbit mAb
SN38	DME101020	Anti-SN38 antibody(1G1); Rabbit mAb
CL2A (ADC linker)	DME101021	Anti-CL2A(ADC linker) antibody(1H6); Rabbit mAb
	DME101022	Anti-CL2A(ADC linker) antibody(1G9); Rabbit mAb
	DME101023	Anti-CL2A(ADC linker) antibody(1H2); Rabbit mAb

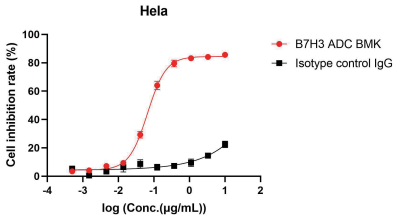


## IgG labeling reagents for mAb internalization studies

Catalog No.	Product Description
AME100001	DiTag™ pH sensitive IgG labeling reagent
AME100002	DiTag™ pH sensitive IgG labeling reagent plus
AME100003	DiTag™ MMAE IgG labeling reagent

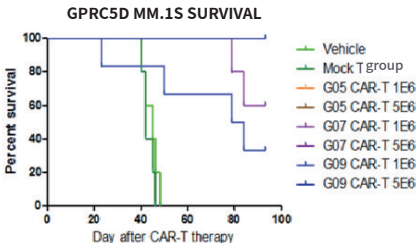
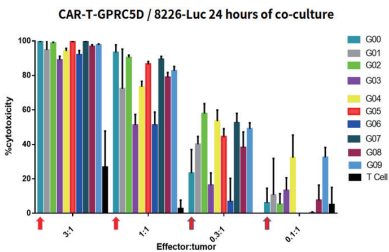
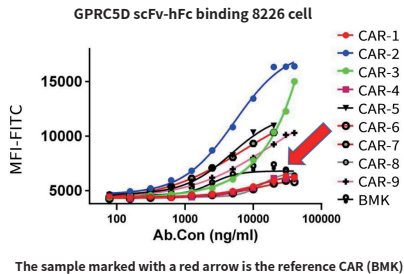
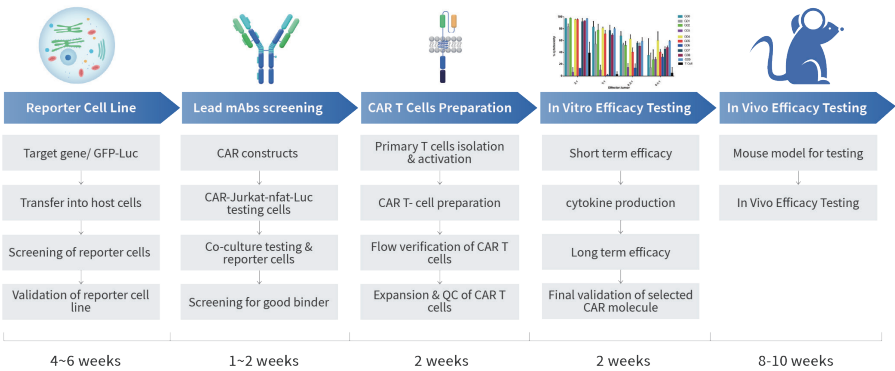


The fluorescent signal from GPRC5D ADC BMK-AME100002 conjugate is only detected in GPRC5D positive cells (K562-GPRC5D stable expression cell line), indicating specific internalization.



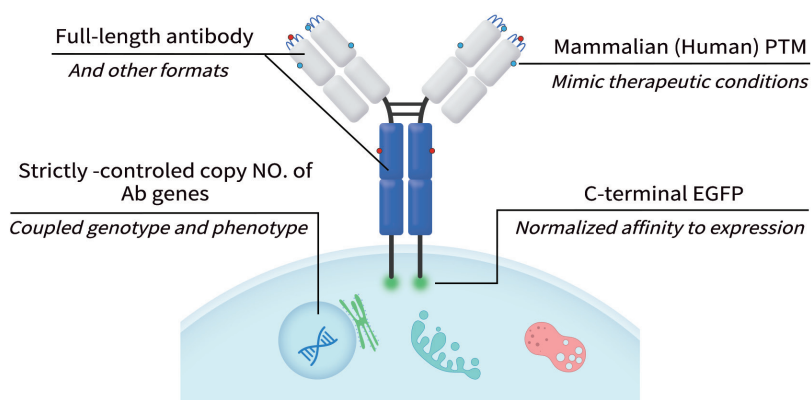
Cell inhibition detected by CCK8 method. B7H3 ADC is labeled with DiTag™ MMAE IgG labeling reagent (Cat. No. AME100003)

# Discovery of CAR-T Lead Molecules

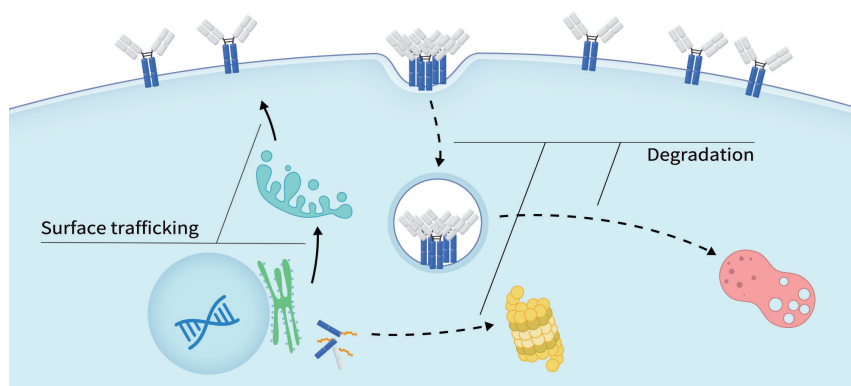


# DiLibrary™: Mammalian Cell Display Based Antibody Engineering Technology

## 1. The design:

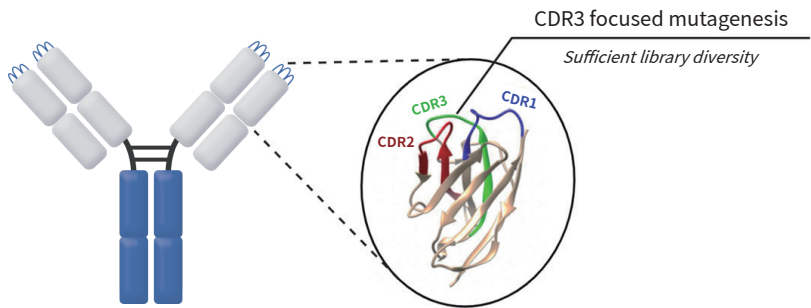


## 2. A natural screening system to fish out molecules with better developability:

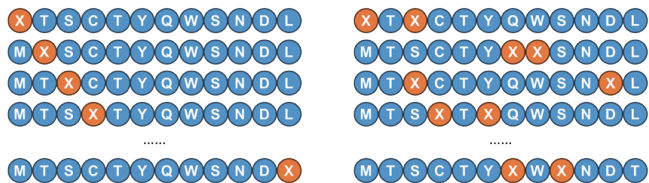


Structurally and chemically unstable molecules can be cleared out through mammalian cell internal quality control system.

# DiLibrary™ applications: Antibody affinity maturation



## AI optimized mutagenesis library



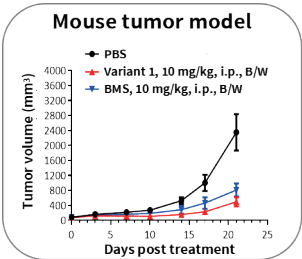
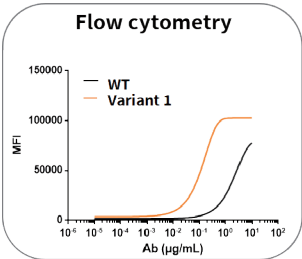
## Case study:

### Affinity maturation for CCR8 therapeutic antibody (WT)

		Ka(M-1s-1)	Kd(s-1)	KD(M)	Rmax(RU)	Chi2(RU2)
Human	WT	2.82E+05	1.49E-02	5.26E-08	24.5	0.3697
	Variant 1	1.10E+05	7.22E-05	6.58E-10	73.0	0.9563

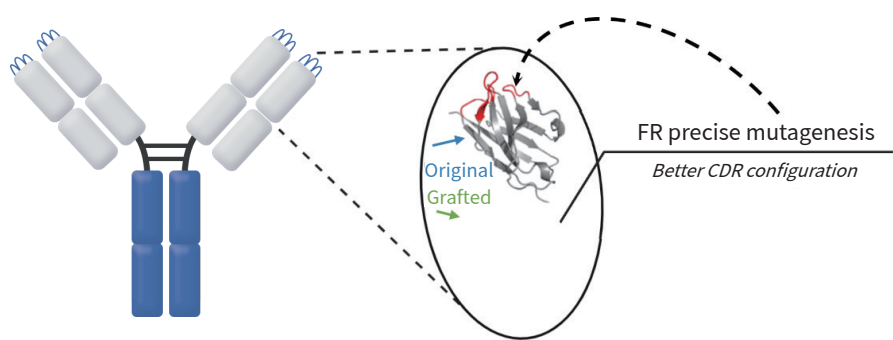
  

		Ka(M-1s-1)	Kd(s-1)	KD(M)	Rmax(RU)	Chi2(RU2)
Cyno	WT	7.56E+04	4.35E-05	5.75E-10	24.3	0.739
	Variant 1	1.21E+06	2.27E-04	1.88E-10	55.2	0.7985

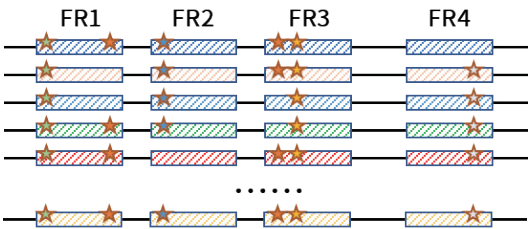


100-fold increase of affinity with only one amino acid mutation at each of LCDR3 and HCDR3.

# DiLibrary™ applications: Antibody Humanization



## Human IgG FR germline library



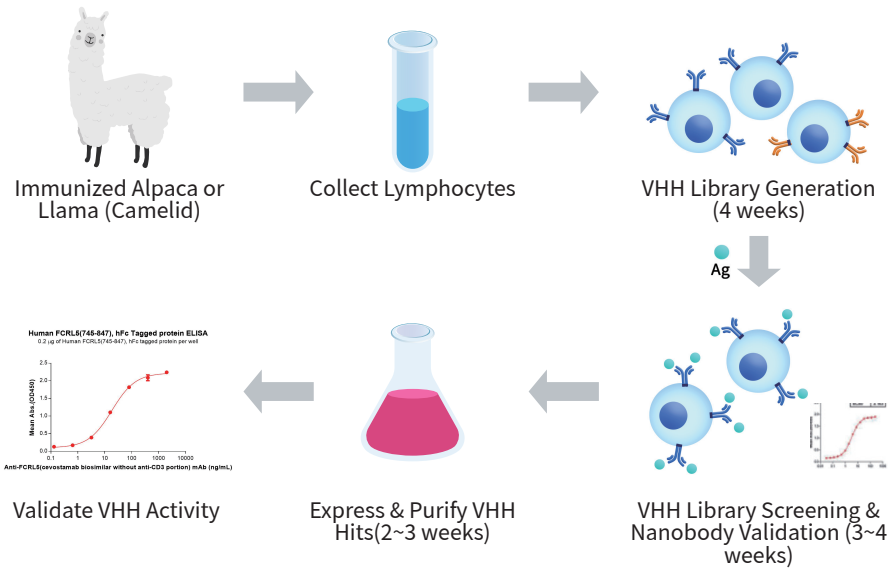
## Case study:

Humanization of Anti-BCMA rabbit monoclonal antibody

Analyte	Ka (1/Ms)	Kd (1/s)	KD (nM)	Rmax (RU)
Rabbit BCMA	4.3884E+4	1.1750E-5	0.267	65.3
Hu-BCMA1	3.1023E+4	4.3530E-6	0.14	105.2
Hu-BCMA2	2.8604E+4	4.5480E-6	0.159	78.9
Hu-BCMA3	6.4527E+4	1.0250E-6	0.015	81.3
Hu-BCMA4	3.3508+4	1.9060E-6	0.056	92.1

Comparing with parental rabbit IgG, the humanized antibody (Hu-BCMA3) exhibits 18-fold increase on binding affinity to its target.

# Custom Nanobody Development



Efficient delivery of FACS-validated nanoantibody sequences



Option for Customer Lock-in: One Alpaca, One Immunization, Exclusively Yours.



Mammalian Cell Display: Elevating Antibody Quality and Developability.



One-stop service for humanization and affinity maturation

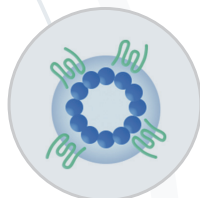


# Solutions for the Full-length Multi-pass Transmembrane Proteins

5 Production Platforms

Drug Targets for Cancer Therapy

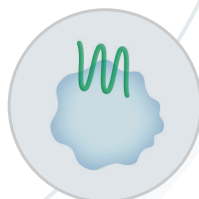
Function Validated Proteins



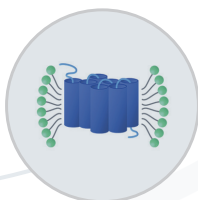
VLP



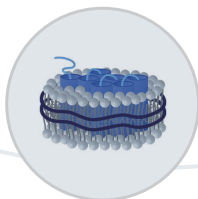
Exosome



MNP



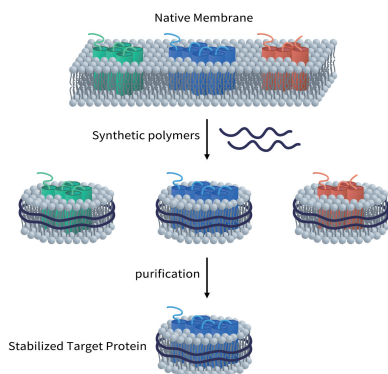
Detergent



Synthetic Nanodisc

# Synthetic Nanodiscs

Multipass Transmembrane Proteins, Right off the Shelf.

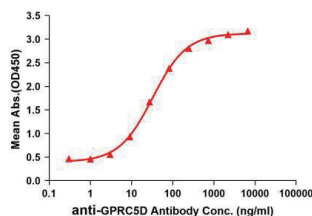


- Full length membrane proteins
- High purity validated by PAGE/SEC
- High solubility in aqueous solutions
- High stability, shipped as lyophilized powder, stable at room temperature
- Native membrane environment and remain biologically active
- No detergent, good for cell-based assays
- No MSP backbone protein

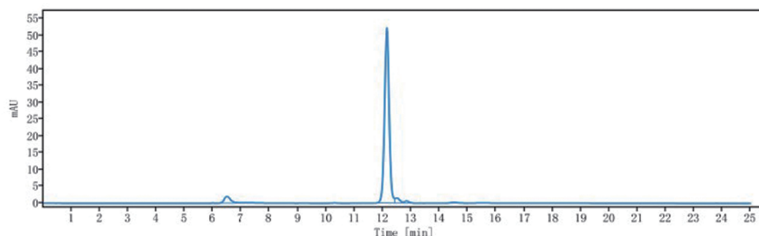


Human MDR-1 full length protein-synthetic nanodisc on SDS-PAGE  
**12-pass ABC Transporter**, Cat. No. FLP100029

ELISA assay to evaluate GPRC5D-Nanodisc  
 0.5µg Human GPRC5D-Nanodisc per well



ELISA analysis using anti-GPRC5D monoclonal antibody (Cat. No. DME100090) and purified human GPRC5D full length protein-synthetic nanodisc,  
**7-pass GPCR**, Cat. No. FLP100011



The purity of Human SLC7A11 full length protein-synthetic nanodisc is greater than 90% as determined by SEC-HPLC.  
**12-pass Cystine/glutamate transporter**, Cat. No. FLP100048



# In-Stock Synthetic Nanodiscs for Multi-Pass Transmembrane Proteins

## Featured GPCR Proteins

Target	Cat. No.	Product name
ADGRE2	FLP100090	Human ADGRE2 full length protein-synthetic nanodisc
ADORA2A	FLP100020	Human ADORA2A full length protein-synthetic nanodisc
C5AR1	FLP100086	Human C5AR1 full length protein-synthetic nanodisc
CB1	FLP100023	Human CB1 full length protein-synthetic nanodisc
CCR1	FLP100094	Human CCR1 full length protein-synthetic nanodisc
CCR3	FLP100075	Human CCR3 full length protein-synthetic nanodisc
CCR4	FLP100024	Human CCR4 full length protein-synthetic nanodisc
CCR6	FLP100059	Human CCR6 full length protein-synthetic nanodisc
CCR7	FLP100060	Human CCR7 full length protein-synthetic nanodisc
CCR8	FLP100037	Human CCR8 full length protein-synthetic nanodisc
CCR9	FLP100061	Human CCR9 full length protein-synthetic nanodisc
CXCR1	FLP100091	Human CXCR1 full length protein-synthetic nanodisc
CXCR2	FLP100066	Human CXCR2 full length protein-synthetic nanodisc
CXCR3	FLP100053	Human CXCR3 full length protein-synthetic nanodisc
CXCR4	FLP100074	Human CXCR4 full length protein-synthetic nanodisc
CXCR5	FLP100067	Human CXCR5 full length protein-synthetic nanodisc
CXCR7	FLP100095	Human CXCR7 full length protein-synthetic nanodisc
F2RL1	FLP100036	Human F2RL1 full length protein-synthetic nanodisc
FSHR	FLP100047	Human FSHR full length protein-synthetic nanodisc
FZD10	FLP100052	Human FZD10 full length protein-synthetic nanodisc
GCGR	FLP100085	Human GCGR full length protein-synthetic nanodisc
GPR75	FLP100031	Human GPR75 full length protein-synthetic nanodisc
GPRC5D	FLP100011	Human GPRC5D full length protein-synthetic nanodisc
HCRTR1	FLP100099	Human HCRTR1 full length protein-synthetic nanodisc
LGR4	FLP100072	Human LGR4 full length protein-synthetic nanodisc
LGR5	FLP100073	Human LGR5 full length protein-synthetic nanodisc
PTGER4	FLP100097	Human PTGER4 full length protein-synthetic nanodisc
SSTR2	FLP100013	Human SSTR2 full length protein-synthetic nanodisc
TSHR	FLP100045	Human TSHR full length protein-synthetic nanodisc

Discover Your Protein from Our Comprehensive Nanodisc Collection at the Following Website: <https://www.dimabio.com/synthetic-nanodisc-membrane-protein>

# DIMA Highlights Products

ADC ASSAY REAGENTS

FULL LENGTH  
TRANSMEMBRANE PROTEINS

ECD PROTEINS

DIMAB MONOCLONAL ANTIBODIES

BIOSIMILAR REFERENCE ANTIBODIES

# DIMA Highlights

## Technology Platforms

1

DiMPro™ Membrane Protein Preparation Platform

2

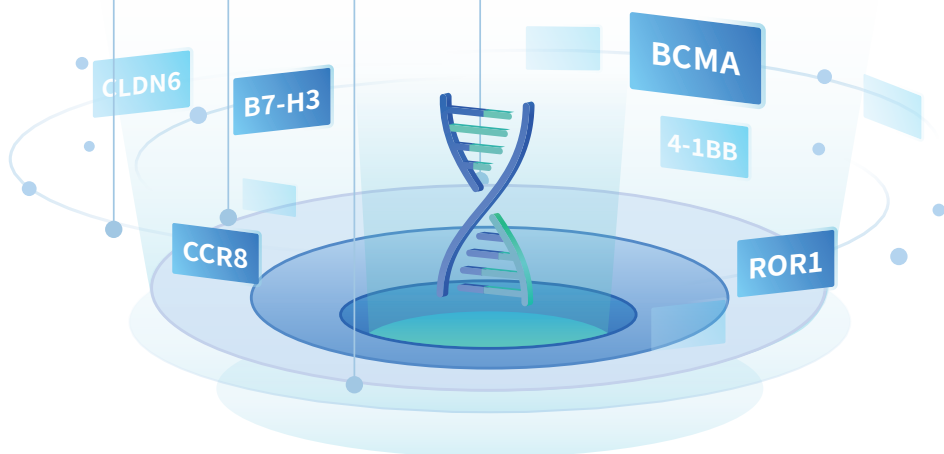
DimAb® Single B Therapeutic Antibody Discovery

3

DiLibrary™ Mammalian Cell Display  
Based mAb Engineering Platform

4

DiTag™ Antibody Evaluation  
Platform



# DIMA Biotechnology

Dedicate on immuno-oncology,  
Perfect with recombinant mAb development

## DIMA Biotechnology



+1 (410) 963 4165



info@dimabio.com



Wuhan China



www.dimabio.com



MD USA