

Bispecific Antibody Discovery Service

One-stop solution for bsAb discovery

Extensive experience in major Bispecific Antibody (bsAb) formats, GenScript ProBio provides one-stop bsAb discovery solution **from target discovery to preclinical candidates(PCC)**, including bsAb format design for different MOA and target , bsAb construction and expression, *in vitro* functional validation, *in vivo* efficacy study and developability.



Excellent bsAb track record

- Over 20 bsAb discovery projects
- Most advanced project has finished 500L GMP production
- Partner with 5 companies on SMAB co-development



Customized bsAb formats

- Compatible with almost any mAb and bsAb sequence
- Provide insight and suggestion based on the target, MOA and existing antibody candidates
- NO license fee



One-stop bsAb discovery solution

- From target to PCC
- Comprehensive antibody discovery platform
- Comprehensive antibody discovery platform

Obtain best-in-class bsAb PCC in 6 months

Design & Construction

4 weeks

Affinity
Format
Epitope
Valency
Linker
Titer

Functional Validation

12 weeks

Binding
Blocking
In vitro assay

In vivo assay Developability

16-20 weeks

in vivo efficacy
PK profile
Temperature stability
pH stability
Freeze-thaw stability

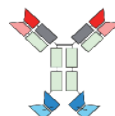
Compatible with almost any mAb and sdAb sequence



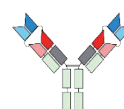
Knob into hole(KIH)



CrossMab



IgG fused with scFv



DVD-Ig



SMAB

Building Block	mAb	mAb	mAb+scFv	mAb+VH+VL	mAb+sdAb
Engineering	H chain heterodimerization by introducing mutations into two CH3 domains	<ul style="list-style-type: none"> • KIH • Exchange CH1 and CL within a unique Fab arm 	IgG fused with scFv	Tandem Fab on IgG	IgG fused with sdAb
Structure	Asymmetric	Asymmetric	Symmetric	Symmetric	Symmetric

*GenScript ProBio can provides a series of bispecific antibody formats to satisfy various customers' needs.

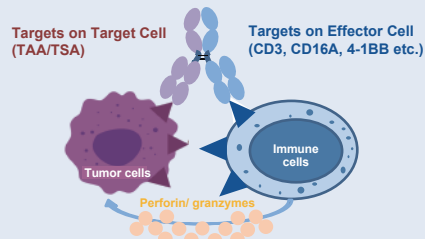
4 types of bsAb bioassay platforms based on MOA

GenScript ProBio offers 4 categories of bsAb bioassays solutions for bsAbs screening and characterizing.

- **200+** tumor cell lines, **200+** overexpressing cell lines, **10+** reporter gene cell lines available for bsAb validation
- Delivered **40+** bsAb bioassay projects

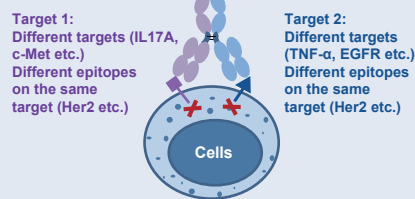
• Cell-engager

(Tumor-targeted effector cell immunomodulators and redirectors)



Types of bsAbs	Target Cell	Targets on Target Cell	Effector Cell	Targets on Effector Cell	In Vitro Assay
T cell engager				CD3	1. Primary immune cell assay(TDCC etc) 2. Cytokines release assay 3. Reporter cell line assay
NK cell engager	1. Target overexpressing engineered cell lines	TAA/TSA	1. Primary cells(T cell /NK cell/macrophage/DC etc.)	NK cell activating receptors (CD16A, NKG2D, Nkp46, Nkp30 etc.)	1. Primary immune cell assay (tumor cell killing with primary NK etc.) 2. Reporter cell line assay
Anti-TAA x co-stimulatory immune checkpoint	2. Tumor cell lines		2. Reporter cell lines	Co-stimulatory immune checkpoint (CD40, 4-1BB, CD28 etc.)	1. Reporter cell line assay 2. Primary immune cell assay(immune cell activation, tumor cell killing, mixed lymphocyte reaction (MLR) etc.)
Anti-TAA x TAA/co-inhibitory immune checkpoint				NK cell activating receptor CD16A, macrophage activating receptor CD32A	1. Reporter cell line assay 2. Primary immune cell assay (ADCP etc.)

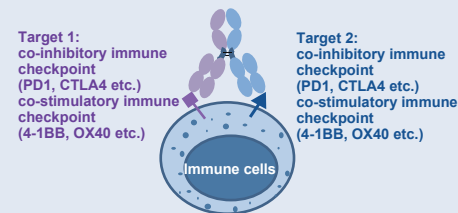
• Dual-target blockade



Types of BsAbs	Targets	In Vitro Assay
Blocking angiogenesis and/or tumorigenesis	VEGF & ANG2, Her2 & Her2, EGFR & c-Met, VEGF & DLL4 etc.	1. Cell signaling pathway assay 2. Reporter cell line assay 3. Enzyme activity assay
Modulating tumor microenvironment (TME)	TGFβ & PDL1, TGFβ & CD73, TGFβ & CD39 etc.	4. Cytokines/chemokines release assay
Targeting inflammatory/autoimmune diseases	TNFα & IL17A, IL4 & IL13, BAFF & IL17A etc.	5. Antibody internalization assay 6. Cell proliferation assay
locking angiogenesis and/or tumorigenesis x Anti-immune checkpoint	VEGF & PD1, EGFR & PD1, Her2 & PD1 etc.	7. Primary immune cell assay (ADCC, MLR etc.)

• Immune cell activation

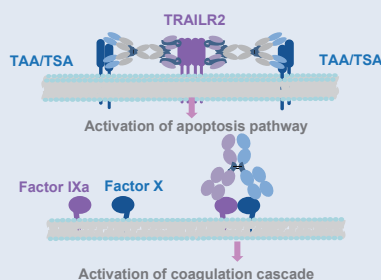
(Dual immunomodulators)



Types of BsAbs	Targets	In Vitro Assay
Anti-co-inhibitory immune checkpoint x co-inhibitory immune checkpoint	PD1 & TIGIT, PD1 & CTLA4 etc..	1. Reporter cell line assay 2. Primary immune cell assay (immune cell activation, MLR etc.)
Anti-co-inhibitory immune checkpoint x co-stimulatory immune checkpoint	PD1 & 4-1BB, PD1 & OX40 etc..	
Anti-co-stimulatory immune checkpoint x co-stimulatory immune checkpoint	4-1BB & CD40, 4-1BB & OX40 etc..	

• Cell surface protein bridging

(Triggers cellular signaling pathway)



Types of BsAbs	Targets	In Vitro Assay
Apoptotic signaling pathway	DR5 & TAA etc.	Cell activity assay
Coagulation pathway	Factors IXa & Factors X	Coagulation time determination

Company Information

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