RenBiologics | BIOCYTOGEN

RenBiologics Assets

Our Fully Human Libary.
Your Pipeline.

- Fully Human Antibody Library
- Preclinical PCC and Clinical Assets
- Antibody Assets Licensing & Co-Development

RenMice® -based Fully Human Antibody/ TCR Discovery Platforms

mAb platform
RenMab™
- Target KO strategy
- Great diversity & affinity
- Novel binding epitopes
- Multi-species cross-reactivity

BsAb platform
RenLite®
- Common light chain
- Convenient assembly
- High purity and good developabilities

BsADC platform
RenLite®
- 200+ TAA targets
- Good developabilities
- Increased potency & reduced toxicity

Nanobody platform
RenNano®
- Good permeability
- Small and good building blocks for bi-/multi-specific Ab, CAR-T, etc.

TCR platform
RenTCR™
- Good T-cell immune response
- Discovery of high-affinity antigen-specific TCR
- Novel epitope discovery

TCR-mimic platform
RenTCR-mimic™
- Intracellular TAAs
- High Specificity to the target/HLA complex

GPCR platform
RenMice® KO
- Targeting challenging GPCRs
- Targeting complex transmembrane structure

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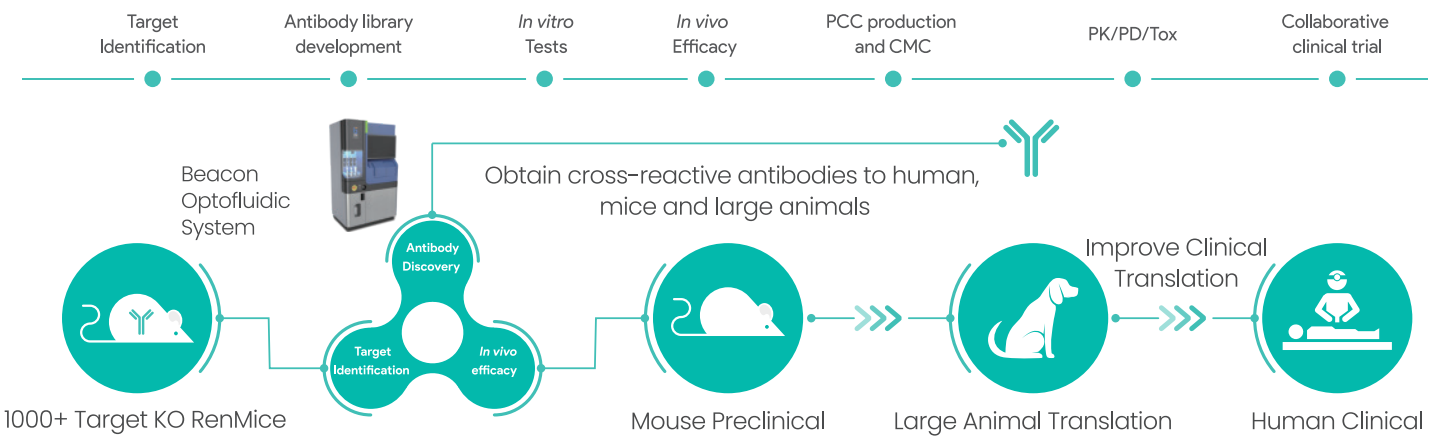
Therapeutic Antibodies Against 1000+ Targets for Partnerships

Generated using target-specific knockout RenMice

Fully Human Antibody Sequence Library

400k - 500k	900+	40+	50
Fully human antibody sequences	Target antibody discovery projects	PCC	Partnerships

Streamlined Antibody Discovery



Available Hits

› Oncology

B7-H3	ROR1	TNFR2	AMHR2	TIGIT	B7-H4
MUC1	PSMA	GUCY2C	Nectin-4	CD40	HER3
LILRB4	ADAM9	CAIX	CD47	CD70	CDCP1
CDH11	CDH17	CEACAM5	Claudin 18.2	DLK1	EPHB2
FOLR1	GPC-1	HER2	HLA-G	ITGB6	KIT
LGR5	LYPD3	MSLN	MUC16	MUC18	PRLR
PTK7	SEZ6	TROP2	EPHA2	CD73	CTLA4
IL2RA	NKG2D	OX40	PD-L1	CD24	4-1BB
AXL	BTN3A1	CD155	CLDN6	CRTAM	CSF1R
EGFR	FLT3	GDF15	GITR	5T4(TPBG)	and more

› Inflammation and Autoimmunity

CD40	TNFSF15(TL1A)	OX40
OX40L	OSMR	OSM
IL4RA	IL4	IL36R
IL2RB(CD122)	IL25	IL23R
IL7A,IL17F	FLT3LG	FCER1
CXCL13	ST2	KIT
CD83	IL7RA	IGHE
IFNAR1	C2	CD6
CSF2RA	DR6	IL13
IL15RA	IL3	IL6

› Neurology

CD71	AQP4	APE4	VLDLR	TTR	PRNP	C6	NOGOR (RTN4R)	CADM3	MAG

› Metabolism

CCR2	FGF21	GIPR	GITRL	IL11	LGALS3	UPAR	ACVR2B	ADIPOQ	ADIPOR1
APOE4	ASGR1	CCL11	CCL24	CMKLR1	CXCL14	FSTL3	GDF8	GGT1	ALK7

› Cardiovascular

ACE2	ADAMTS1	APOA5	APOH	CD41	CD42	CD62P	CLEC10A	FXI	GP1BB
GP6	KLKB1	LOX1	PAI1	SEMA7A	SERPINF2	TLT1	VLDLR	VWF	and more

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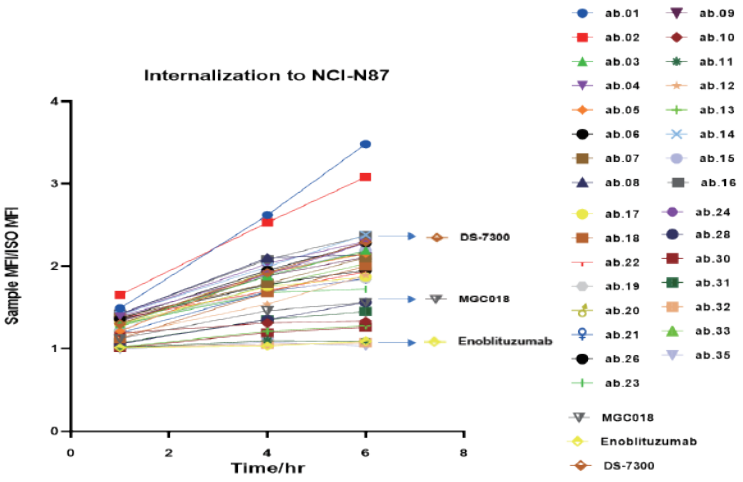
PCC-stage Fully Human mAb Assets

BCG001

› B7-H3

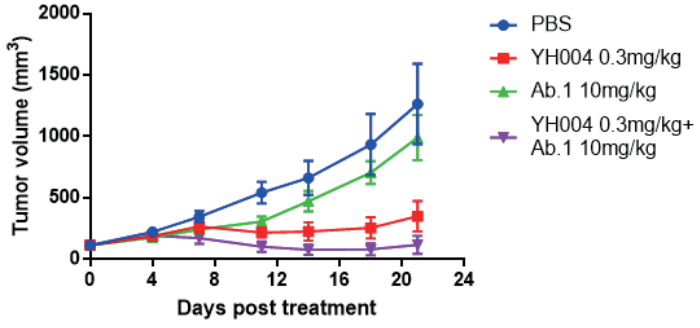
- Fully human IgG1 mAbs from RenMab KO mice
- Several clones with high internalization available for novel ADC development
- Clone 6B5: higher affinity and specificity to tumor cells with enhanced ADCC
- Clone 10F7: higher internalization activity to tumor cells but not human DCs
- 6B5 and 10F7 showed excellent developability and are under CMC development



BCG008

› Siglec-15

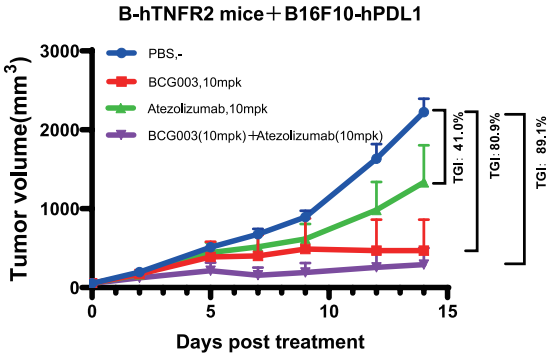
- Fully human antibody generated from RenMab KO mice
- High affinity for human and cynomolgus monkey Siglec-15
- Fc-silenced IgG1 format with longer half life and longer half-life
- Strong anti-tumor efficacy and a good safety profile *in vivo*
- Under CMC development. IND submission expected in 2024 Q4



BCG003

› TNFR2

- Discovered by unbiased *in vivo* efficacy screening
- Non-blocking fully human antibody generated by RenMab
- Depletion of Tregs via ADCC
- Enhanced *in vivo* efficacy of PD-(L)1 mAb
- Good PK and safety in monkeys
- IND submission expected in 2024 Q1



i.p., biw×5

40+ PCC-stage mAbs from RenMice platform

MUC16 NKG2D ROR1 TIGIT

IL2RA AMHR2 CD73 CD40i etc.

Fully Human BsAb & BsADC Assets

BCG028
OX40 x OX40 bsAb

- Biparatopic OX40 antagonistic antibody with best-in-class potential for autoimmune diseases
- Superior *in vivo* efficacy compared to benchmark OX40 mAbs
- Engineered Fc for longer half-life and high dose formulation
- Excellent developability

BCG021
4-1BB x CD40 bsAb

- Conditional 4-1BB and CD40 agonist activity
- Desirable physiochemical properties
- Potent *in vivo* anti-tumor activity
- Significantly improved tumor growth inhibition when combined with PD-1 mAb

BSA01
EGFR x MUC1 bsADC

- RenLite-derived common light chain bsAb backbone
- Targeting cleaved, membrane bound MUC1-C*
- Reduced skin toxicity
- Superior *in vivo* anti-tumor activity compared to benchmark ADCs

70+ TAA-targeting backbones for plug & play

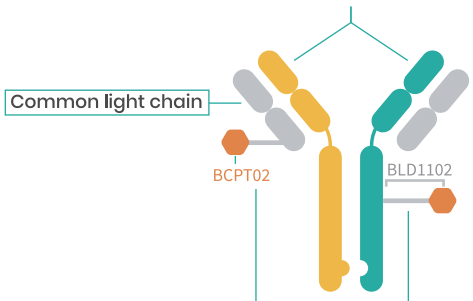
MUC1 | 5T4 | PTK7 | FOLR1 | CEA | PSMA | B7-H3 | CDH3

DLL3 | SEZ6 | HER3 | HLA-G | LIV-1 | ROR1 | MUC16 | etc.

20+ ongoing bsADC programs

Therapeutic Area	Disease Target(s)	Immunization	Discovery: Hits selection	Discovery: Leads selection	Discovery: Candidate selection	Preclinical	IND
BsADC							
Oncology	HER2×TROP2						
	EGFR×MET						
	TROP2×EGFR						
	HER3×MUC1						
	EGFR×MUC1						
	5T4×MUC1						
	EGFR×HER3						
	TROP2×NECTIN-4						
	5T4×MET						
	PTK7×EGFR						
	PTK7×TROP2						
	PTK7×MUC1						
	TROP2×MUC1						
	PTK7×MET						
	EGFR×5T4						
	HER3×MET						
	HER3×EPCAM						
	EGFR×EPCAM						
	FOLR1×MUC16						

Bispecific Antibody
· RenLite® mice platform
· 200+ TAAs High purity bsAb & Good developability characteristics



Payload
· Novel topoisomerase I inhibitor
· High potency
· Strong bystander killing effect

Linker
· Super hydrophilicity
· Cleavable
· Highly stable in circulation

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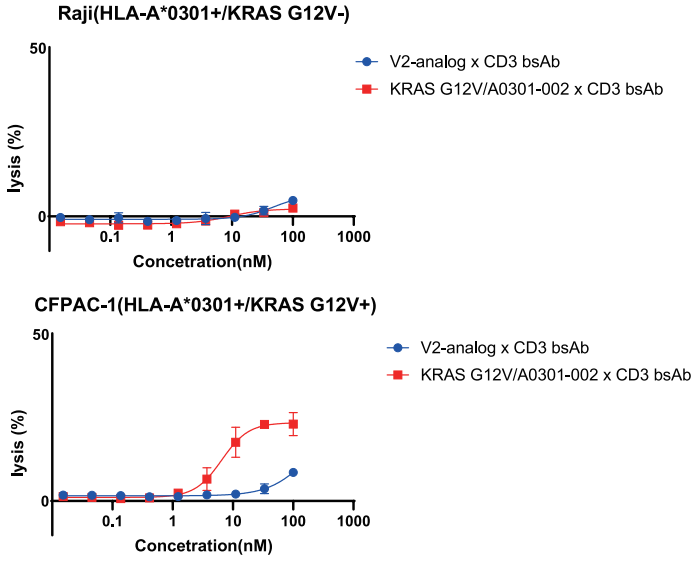
Fully Human TCR-mimic Antibody Assets

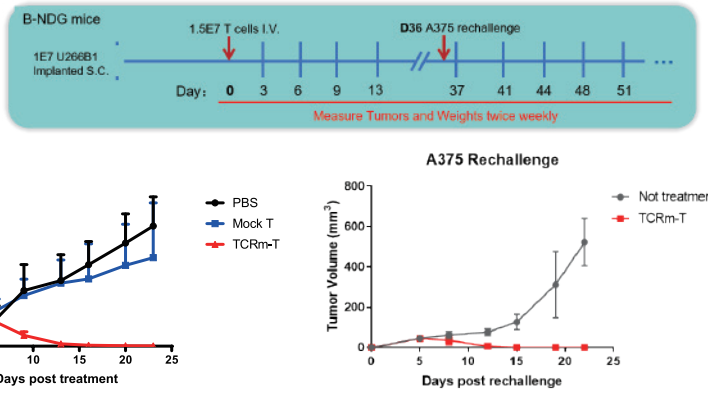
KRAS G12V$_{7-16}$/HLA-A03 TCRm Antibodies

> Excellent specificity for the HLA-A03-bound KRAS G12V complex
> High affinity
> No binding to potential off-target peptides
> Bispecific T cell engager (KRAS G12V$_{7-16}$/HLA-A03 x CD3na-no) has specific *in vitro* cytotoxic activity

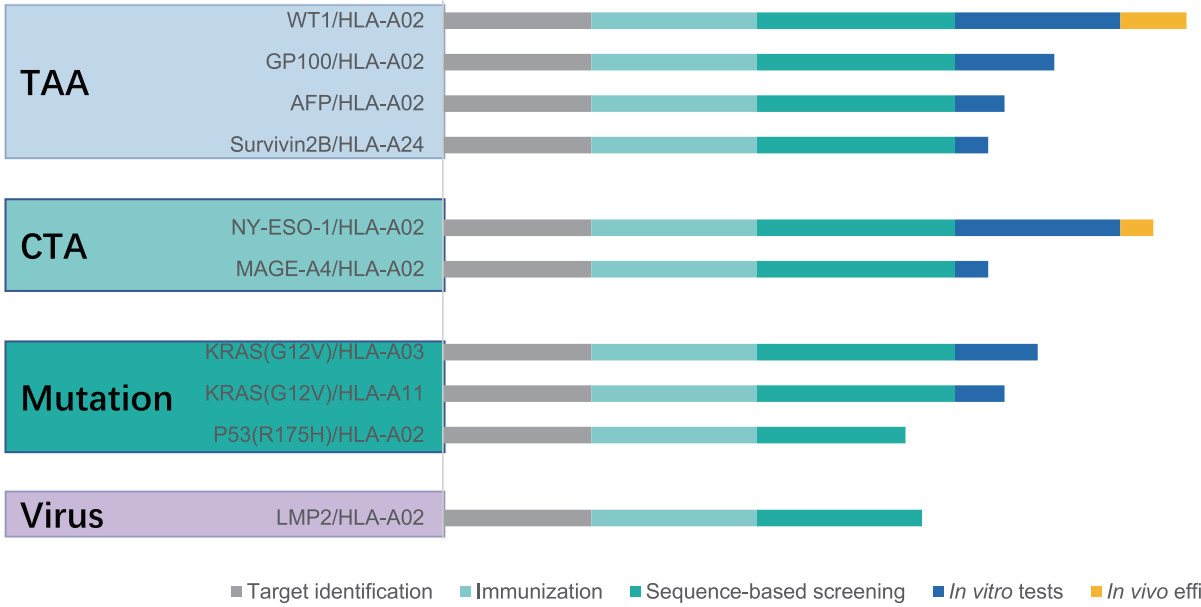


NY-ESO-1/HLA-A02 TCRm Antibodies

> High specificity and affinity
> Diversified binding pattern and low off-target risk
> TCRm-T cell therapy showed specific killing of target cells *in vitro*
> TCRm-T cell therapy showed rapid and obvious clearance of NY-ESO-1+/HLA-A02+ tumors *in vivo*



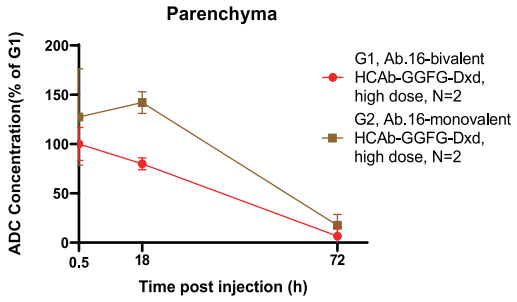
Progress of TCRm Antibodies

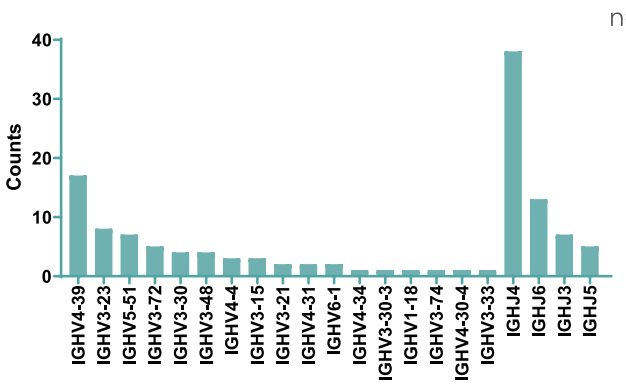


Human Heavy-Chain-Only Antibody/Nanobody Assets

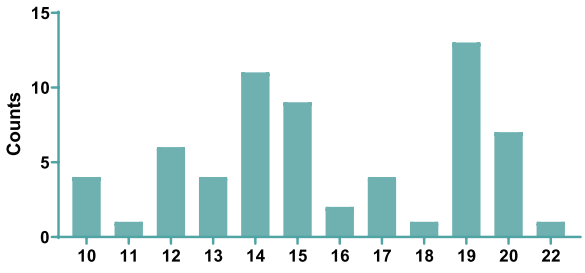
TFR1 HCAbs

> Rich germline gene usage diversity
> Many with longer CDR3
> High purity after one-step purification
> Superb hydrophilicity and specificity
> Favorable thermostability
> Higher blood-brain-barrier crossing than benchmark bivalent HCAb-ADCs
> Monovalent TFR1 HCAb-ADC penetrates better than bivalent format



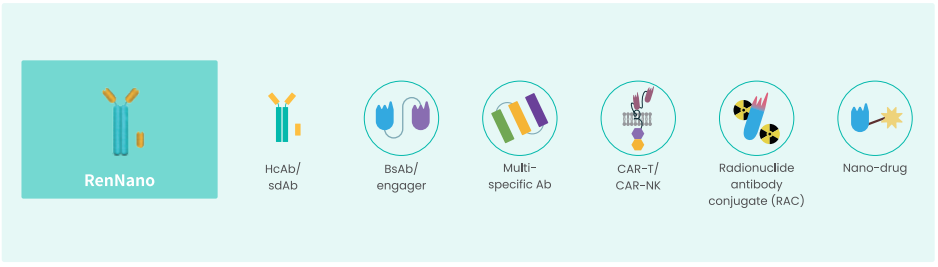


Germline gene usage



CDR3 length

Nano 100 Project



Nano 100

>Biocytogen is creating a nanobody library for high potential therapeutic targets including **tumor associated antigens, GPCRs, immune-checkpoints, cytokine/chemokines, and factors related to neurological diseases.**

>Biocytogen is actively seeking collaborations with global pharmaceutical and biotech companies to combine its large-scale nanobody development abilities with collaborators' expertise in nanobody-related therapeutics, such as **cell therapies, BBB shuttles, bispecific and multi-specific antibodies, ADCs and RACs,** to develop novel drugs with first-in-class and/or best-in-class potentials.

Targets with nanobody sequences available for partnership:				
4-1BB	CDH17	GUCY2C	Nectin-4	ROR1
ALB	DLL3	HER3	OX40	RSV
BCMA	EPHA2	IL3RA	PD-L1	TPBG (5T4)
CD16A	FOLR1	LIV-1	PSMA	TROP2
CD71 (TFR1)	GPRC5D	MUC16	PTK7	and more

Fully Human GPCR Antibodies

CCR8 mAbs

LiberoThera

- Fully human antibodies against CCR8 with multi-species cross-reactivity.
- Improved anti-tumor immune response as monotherapy or combination therapy with PD-(L)1
- Shows best-in-class potency with high specificity, multispecies cross-reactivity, ADCC enhancement, CCL1-mediated CCR8 signal inhibition, and strong in vivo efficacy.

> Selected GPCR Targets Under Development

CCR8	CCR9	FZD7	CXCR6	GPR84	PROKR1	CB1	CXCR3	5HT2AR	GPR87	GIPR
GPRC5D	ADIPOR1	CCR1	FSHR	F2RL3	GPR55	CCR4	CXCR5	ADORA2A	HCRTR1	GPR132
LGR5	GLP1R	ADGRE1	GLP2R	GRM2	GCGR	CB2	CCR7	CCR3	PGE2	HRH3
CCR2	FZD10	APLNR	BK2R	GRM7	C5AR1	CRTH2	CCR6	PAR2	FFAR1	MC4R
CCR5	SSTR2	CMKLR1	LGR6	NTR1	ADGRE5	GPR77	CX3CR1	AGTR1	XCR1	and more

Clinical Assets
1 Global Phase II, 3 Global Phase I, 1 China Phase I

YH003 – CD40 mAb

A **front-runner** CD40 Agonist antibody entering Phase II.

- **Australia Phase I:** 1 CR + 2 PRs + 9 SDs from 19 evaluable subjects combo with PD-1, NO Drug-related SAE even at 3.0mg/kg
- **Ongoing Phase II MRCTs :**
  > 1L PDAC: 1 CR + 12 PRs + 22 SDs from 43 evaluable subjects (combo with PD-1 and Chemo)
  > 2L PDAC: 4 PRs + 10 SDs from 40 evaluable subjects (combo with PD-1)
  > 1L Mucosal melanoma (China): 7 PRs + 7 SDs from 20 evaluable subjects (YH003+PD-1+ Nab-PTX)

YH001 – CTLA-4 mAb

Phase I best-in-class hCTLA-4 antibody with **outstanding safety and promising efficacy**

- **Ongoing Australia Phase I** showed outstanding safety and efficacy: 5 PRs + 11 SDs from 26 evaluable subjects in combo with PD-1, MTD is determined to be 4mg/kg
- **Ongoing Phase I/II** combo with Envafolimab / Doxorubicin the US targeting sarcoma (Tracon)

YH008 – PD-1 x CD40 bsAb

World's first PD-1 x CD40 bsAb entering clinical study

- First patient dosed in a China phase I trial of advanced solid tumors on Jan 2024 by Greater China licensee Chipscreen NewWay
- US FDA IND cleared
- PD-1 dependent CD40 agonist
- Superior *in vivo* anti-tumor efficacy
- No signs of systemic toxicity

YH002 – OX40 mAb

Phase Ia Single dose escalation is completed
Phase Ib Combo dose escalation started in Q2 20223

3 SDs from 15 evaluable patients
Dose escalate to the predefined highest level

Showed **potent Tregs depletion via ADCC and CD8+/Tregs ratio increase**

YH004 – 4-1BB mAb

Phase I: BIC potential in safety profile with significant **reduction of hepatoxicity**

We aspire to accelerate innovation through external partnerships

Established Partnership

50 assets-based collaborations

42 target-nominated RenMice licensing projects

Assets-based partners

Merck KGaA | ADC Therapeutics | PHEON THERAPEUTICS | MyricxBio

RenMice® platform-based partners

Merck KGaA | Janssen | xencor | BeiGene

Clinical pipeline-based partners

TRACON | syncromune | RemeGen 荣昌生物 | 微芯新域 NEWAY CHIPSCREEN

Various modalities:
mAbs /BsAbs /Cell Therapy /ADC /Oncolytic Virus

Various targets:
TAA, IO, autoimmune, metabolic, TCRm, GPCRs, etc.

Our Global Sites