HARBOUR BIOMED

智耀和铂 汇创星辰

INNOVATION HARBOUR, SHINING GLOBAL

和铂医药全球研发日

HARBOUR BIOMED GLOBAL R&D DAY

2025

10.28 中国·上海

October 28 Shanghai, China

HARBOUR BIOMED

和铂医药2025全球研发日

探界拓新，永无止境

王劲松 博士

和铂医药创始人、董事会主席及首席执行官

和铂医药2025：全球领先的可持续创新范式

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诺纳生物：世界顶尖的生物技术创新引擎

全球稀缺的**全人源抗体平台**，结合领先的“**抗体+**”技术模块

技术边界持续拓展，延伸至：**体内CAR-T、小核酸、核药**等新领域

AI+全球最大的**全人源仅重链抗体数据库**，打造独家算法

全球创新平台和产品出海：面向世界的出海王者

2025年对外授权交易总额突破**60亿**美金

与**阿斯利康**达成长期深度战略合作，与多家跨国药企及顶尖Biotech开展合作

创新孵化成果覆盖多治疗领域

和铂制药：免疫与肿瘤产品开发第一梯队

20+差异化产品管线，具备全球BIC/FIC竞争力

聚焦免疫、肿瘤**2**大主战场。致力于解决重大未满足临床需求

和铂医药的创新能力、合作成果及业绩表现广受关注

HARBOUR BIOMED

媒体报道

代表奖项

诺纳生物进入2025年盖伦奖 Best Startup候选名单

2025年行业引领Biotech公司
2025中国医药决策者峰会

2024年中国医药创新企业双抗赛道TOP5
E药经理人

和铂医药2028：全球领先的平台型制药集团

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产品开发及商业化平台

5+款商业化及准商业化产品*，全球潜在销售峰值超200亿元

3+款以上产品完成全球概念验证，全球潜在销售峰值超50亿美元

每年3+产品进入IND阶段，未来3年累计递交10+IND申请

AI+抗体工程技术集群

NONA BIOSCIENCES

营收保持50-80%高速增长

实现10亿人民币常规化收入**

构建装载人工智能内核的抗体工程技术集群

全球创新赋能平台

年均达成2笔以上规模化产品授权，总金额 >15亿美元

以与跨国药企长期合作为基石，实现可持续的固定合作模式。平台出海模式将拓展至更多跨国药企

利用平台优势和资源禀赋，至少孵化3+“和铂系”创新药企

* 通过合作伙伴、联合开发、自建商业化团队等方式，高效推动管线建设和商业化

** 常规化收入指非BD产生的一次性收入

未来三年，和铂医药将进入跨越式发展时期

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	2025	2028 愿景
疾病领域	肿瘤、自免 全面升级为以临床需求为导向的平台型公司	拓展至代谢、中枢神经、抗衰 …
技术平台 & 治疗模式	抗体+ 分子类型不断丰富 以内部拓展、投资等路径探索拓展技术边界	拓展至 体内Car-T、 siRNA、mRNA、小分子等领域
即将商业化及全球概念验证产品	3+款 每年3+项目进入临床阶段 撬动中国临床优势和效率，高效推进管线 积极探索外部产品引进机遇	8+款
收入性质	授权合作收入为主 构建多元化业务，整合合作伙伴网络、联合开发与自营团队等渠道，实现投资回报最优化	授权合作+产品销售收入 双引擎

持续挖掘“抗体+”复杂分子在多种疾病领域的治疗潜力

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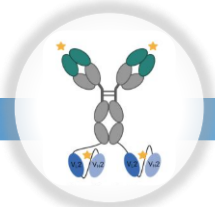
全面升级为以产品为核心的平台型公司，从技术导向转向临床需求导向

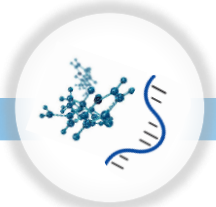
分子类型

双抗



多抗

XDC

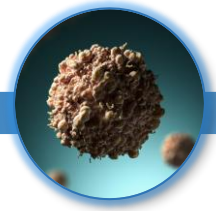


小分子等多样化创新分子

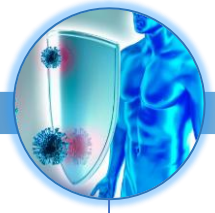
药物递送

疾病领域

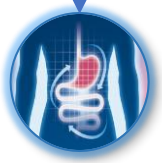
肿瘤



免疫疾病

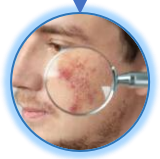


炎症性肠炎



呼吸科

皮肤科



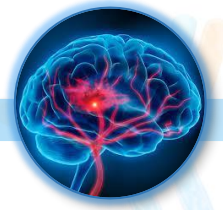
肾病

代谢疾病

内分泌疾病

心血管疾病

神经退行性疾病



五大创收源头驱动多元增长，重塑平台型制药集团独特价值

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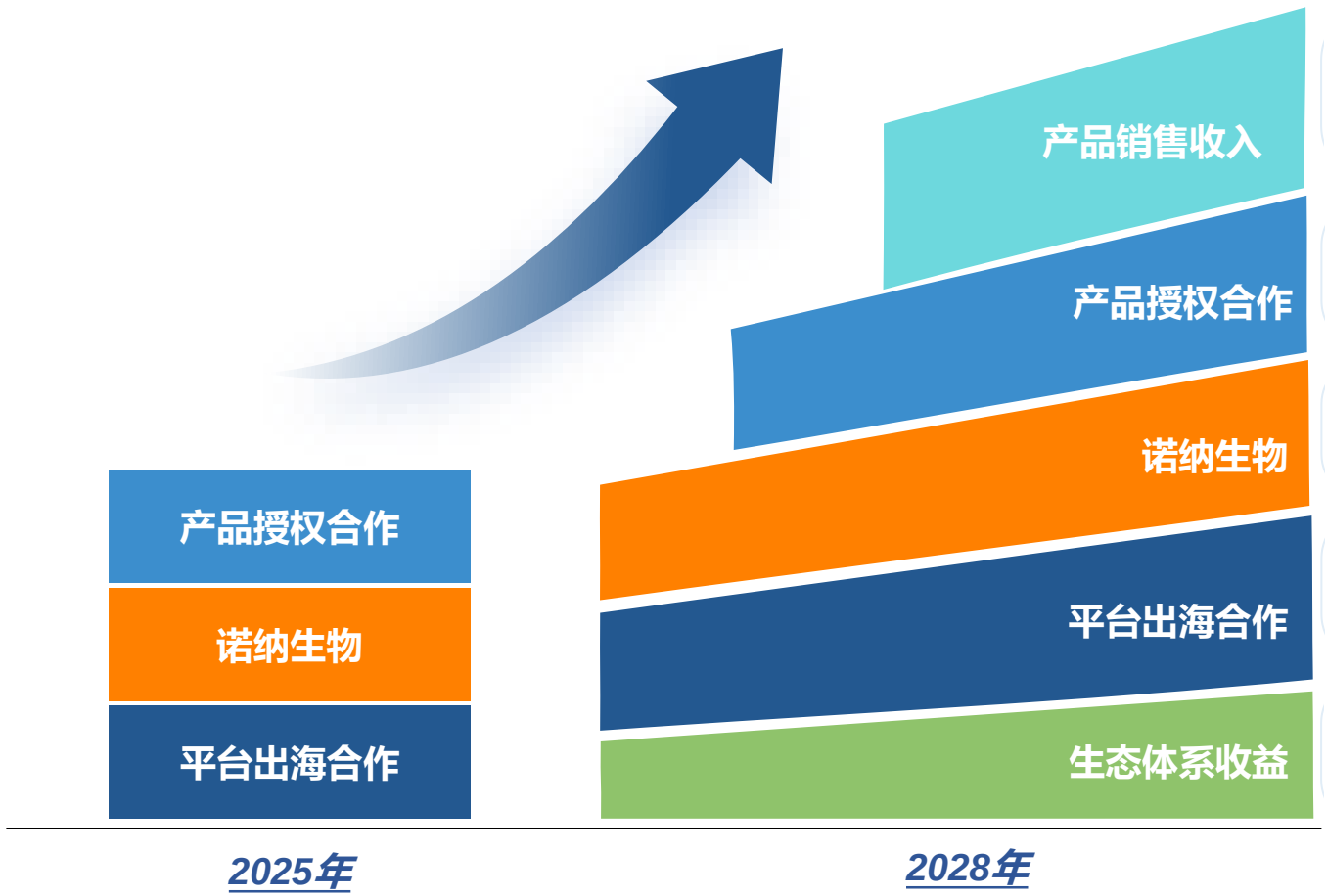
未来三年收入增长示意图



2028年目标

- 实现至少**5款**商业化及准商业化的自免、肿瘤领域产品矩阵
- 潜在全球销售峰值 > **200亿人民币**

- 年均达成**2笔**以上规模化产品授权，总金额 >**15亿美元**
- 年均转化**数千万美元**高可见度里程碑收入

- 诺纳生物保持**50-80%+**高速增长
- 实现目标**10亿人民币**常规化营收规模

- 以**阿斯利康长期合作**为基石，实现年均可持续**固定收入**贡献，并持续获得**项目选择权**及**里程碑**等可持续收入
- 拓展至更多**全球前二十大跨国药企**…

- **Hub and Spoke模式**孵化多家创新药企
- **Windward Bio、某NASDAQ上市公司**少数股权
- 与**中国科学院院士**共同孵化前沿技术创新药企

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Beyond Harbour • Into Future

初心为舵，创新为帆
驶出港湾，奔赴蓝海

HARBOUR BIOMED

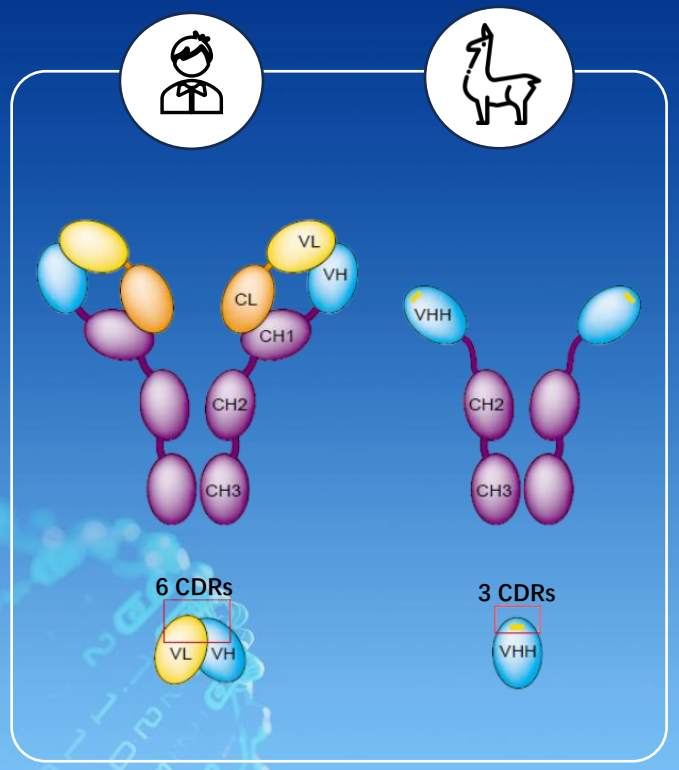
智耀和铂 汇创星辰 INNOVATION HARBOUR, SHINING GLOBAL 和铂医药全球研发日 HARBOUR BIOMED GLOBAL R&D DAY

加速抗体研发的未来：AI HCAb模型发布

Accelerating Next-Gen Antibody Discovery: The AI HCAb Model Launch

Human HCAb from Harbour Mice® is a New Class of Biologics as Foundation for Complicated Modalities

Naturally occurring classical antibody from Human and Heavy Chain Only Antibody (HCAb) from Camelidae



Harbour Mice® HCAb is the first transgenic mice platform to develop human HCAb

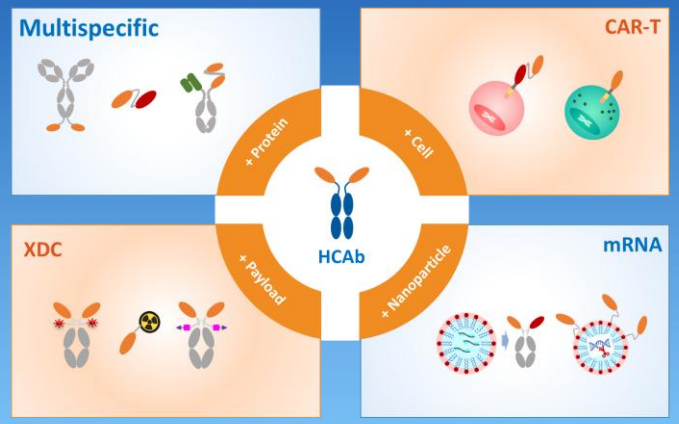
Harbour Mice® HCAb

Human V,D,J

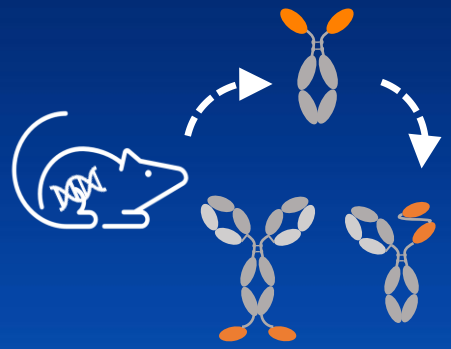
Fully human HCAb & single domain VH

Human HCAb is foundation to generate various complicated modalities for next-gen innovative biologics

- ✓ Clinically validated
- ✓ Global IP protection
- ✓ Excellent affinity and properties
- ✓ Plug and play



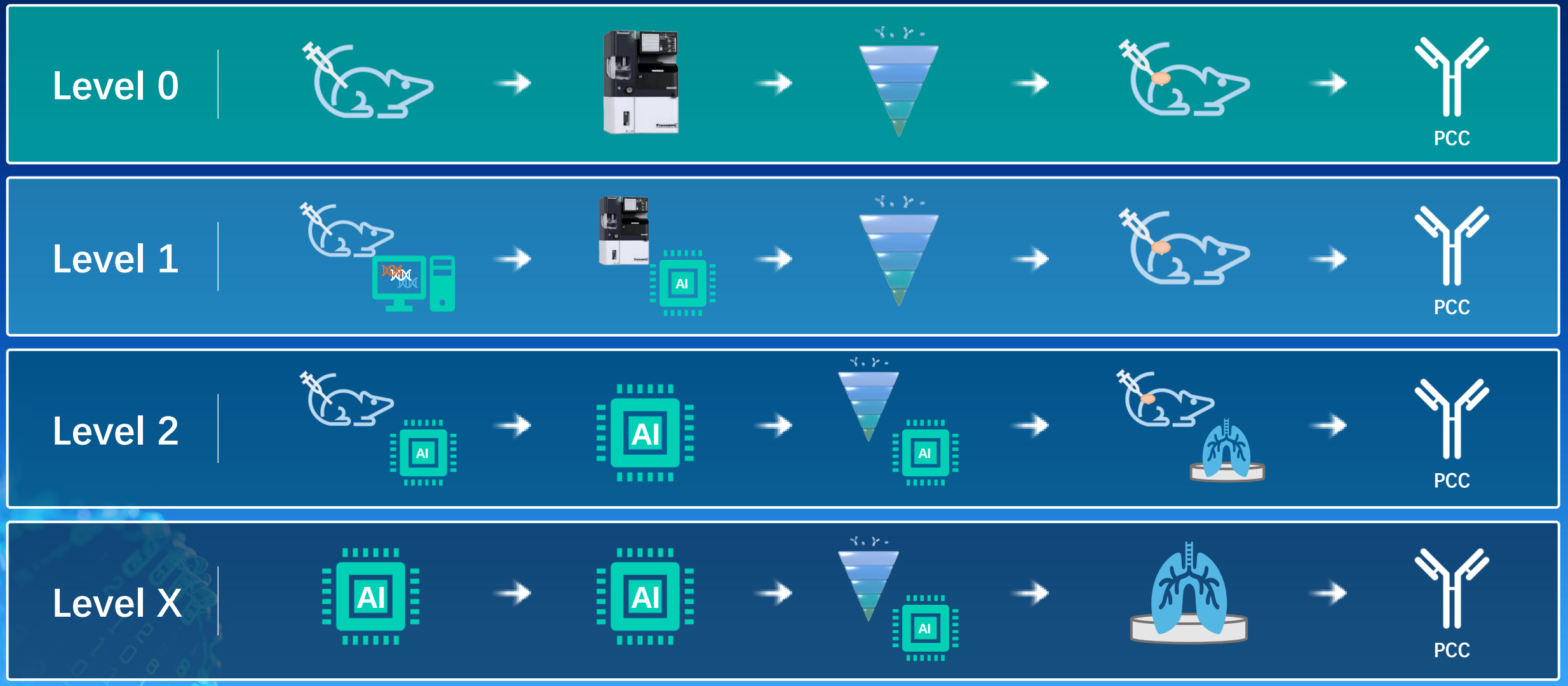
Cutting-edge Antibody Platforms Enable Sustained Invention of Novel Molecules



- Next-gen CTLA4 HCAb
  HBM4003, Phase II
  HARBOUR BIOMED
- CLDN18.2×CD3 HBICE®
  AZD5863, Phase I
  AstraZeneca
- B7H4×4-1BB HBICE®
  HBM7008, Phase I
  HARBOUR BIOMED
- BCMA×CD3 HBICE®
  HBM7020, Phase I
  Otsuka 華蘭生物 HUALAN BIO
- PDL1×CD40 HBICE®
  HBM9027, US IND
  HARBOUR BIOMED
- B7H4×CD3 HBICE®
  HBM7004, IND-enabling
  HARBOUR BIOMED

IDEA → Antigen Design → Immunization → Discovery → *in vitro* → *in vivo* → Engineering → CMC → IND

How AI is Reshaping the Antibody Discovery?



End-to-End Workflow from Sequence Generation to Wet Lab Validation

1. AI HCAb Sequence Generation

Generate candidate antibody sequences using a fine-tuned LLM

2. AI Guided Design

AI HCAb Classification Model
HCAb classification model to filter sequences

AI HCAb Developability Prediction Model
select the sequences with good properties

Structural Analysis
structure prediction by multiple models and rank high-potential sequences

3. Wet Lab Validation

Produce selected candidates and analyze their biological activity in the lab.

Generation of Human HCAb: The First Puzzle

Facts and Mysteries about Harbour Mice® HCAb

❖ Facts

- Human VH can't stand alone without VL.
- "Hallmark residues": signature of Camel VHH different from Human VH.
- Harbour Mice® HCAb incorporates natural human germline V,D,J genes, and generate soluble and functional human HCAb without camel hallmark residues.

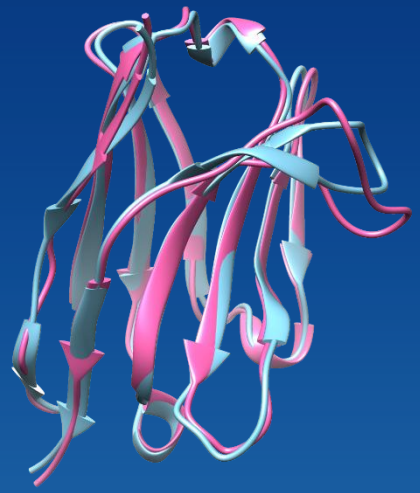
❖ Mysteries

- How does human HCAb fold into soluble structure ?
- What is the difference between the VH from human HCAb and the VH from human H2L2 ?

First puzzle: how to distinguish VH of human HCAb and VH of H2L2

Example:
anti-CTLA4 human HCAb VH (PDB: 7DV4) and anti-SARS-CoV-2 human antibody C098 VH (PDB: 7N3G) have similar sequences (90% identity) and structures (0.7 Å RMSD)

VH structures superposed (PDB: 7N3G, 7DV4)



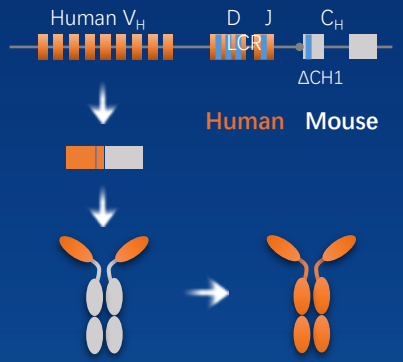
VH sequence alignment

```
                                    20                  40                  60
7DV4 - HCAb VH  EVQLVESGGGLIQPGGSLRLSCAVSGFTVSKNYMSWVRQAPGKGLEWVSVVYSGGSKTYA 60
7N3G - FAB VH   EVQLVESGGGLIQPGGSLRLSCAASGFTVSSNYMSWVRQAPGKGLEWVSVIYSGGSTYYA 60
                                    80                  100
7DV4 - HCAb VH  DSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARAVPHSPSSFDIWGQGTMVTVSS 119
7N3G - FAB VH   DSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDL-YSSGGTDIWGQGTMVTVSS 118
```

AI HCAb Sequence Generation Model

HCAb libraries
9 million HCAb sequences from NGS

Harbour Mice® HCAb



Pre-trained Protein LLM
50 million sequences from public dataset

Embedding Layer

Autoregressive Transformer Language Model

Masked amino acid prediction

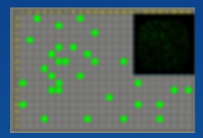
Experimental binding data
hundreds of HCAb sequences per target

Immunization
by protein/cell/DNA/mRNA

Library construction
by inserting VH into Fc-bearing vectors

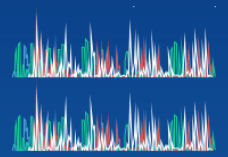
Hight-Throughput Screening
by ELISA/FACS/Mirrorball

Mirrorball



FACS

Sanger sequencing
to retrieve VH sequences of positive clones



Fully human HCAb libraries

Target specific HCAb

Compared to conventional immunization, the AI-assisted approach can generate an order of magnitude more candidates with a significantly higher success rate

AI HCAb Classification Model

Partial Fine-tuning Architecture

1. Input Sequence
"QVQLQESGPGLVKPSETLSLT..."

↓

2. Base Model
- Base Layers (Frozen)
- Top Layers (Partially Unfrozen)

Extract Sequence Embedding

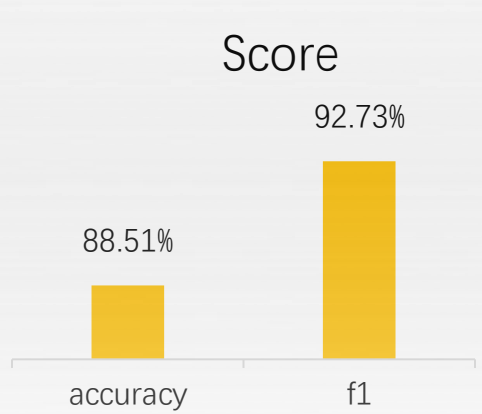
3. Classification Head
Fully Trainable

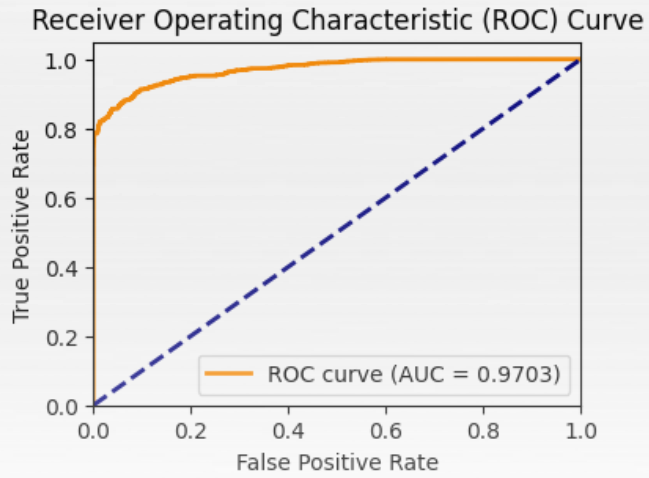
↓

4. Output Prediction
Class: HCAb/H2L2

HCAb classification model in test-set

Testing dataset: 14k

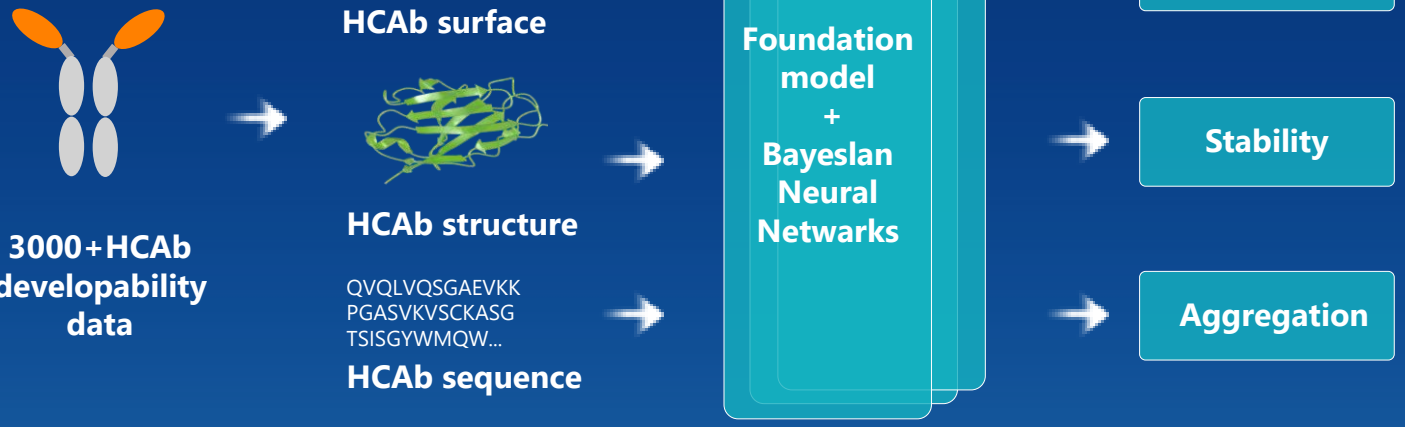




True Label	Predicted Label	Sequence
H2L2	H2L2	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGRTYYADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKHEGLGVFDYWGQGTLVTVSS
HCAb	HCAb	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCEKVVDIVATDYWGQGTLVTVSS
		FR1 CDR1 FR2 CDR2 FR3 CDR3 FR4

AI HCAb Developability Prediction Model

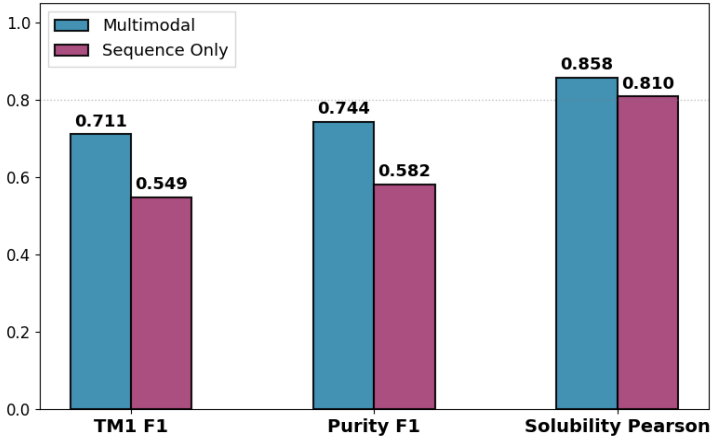
Multimodal Input → Bayesian Inference → Downstream Tasks

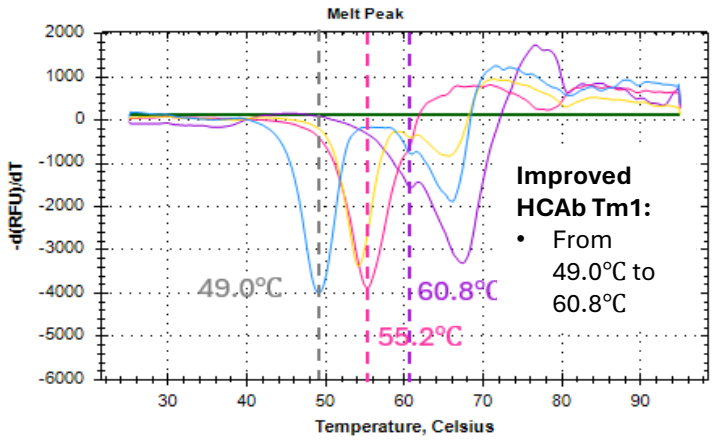


Our model achieves SOTA performance in the prediction of

- HCAb Stability (Tm1 by DSF)
- HCAb Solubility (HIC-HPLC)
- HCAb Aggregation (SEC-HPLC)

Model evaluation in wet-lab experiment





Target-specific AI-Powered HCAb Discovery

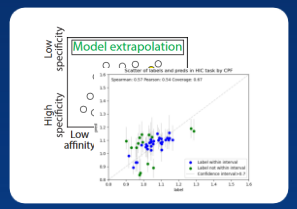
AI-Powered Antibody Discovery Paradigm 1.0

HCAb Harbour Mice® immunized with Target

Data collection

NGS for pre- and post-enrichment antibody repertoire

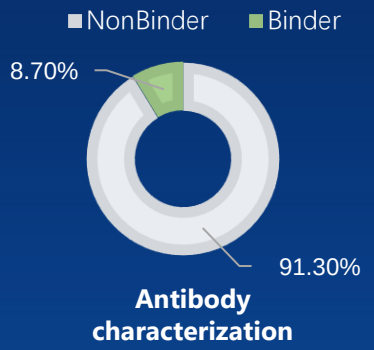
Predict binder sequences from NGS data



Score other properties by AI models

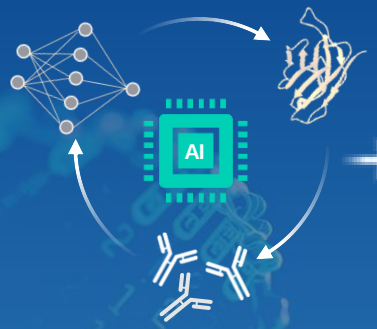
Wet-lab evaluation

Recombinant antibody production

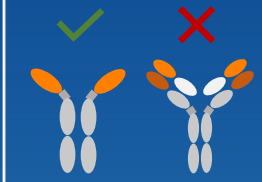


Antibody characterization

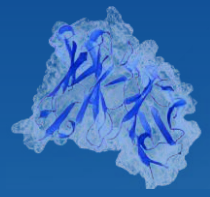
AI-Powered Antibody Discovery Paradigm 2.0



HCAb generative model

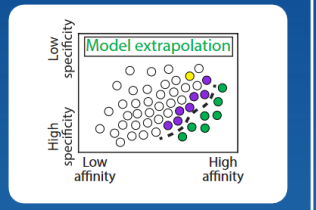


HCAb filter



Structure modeling

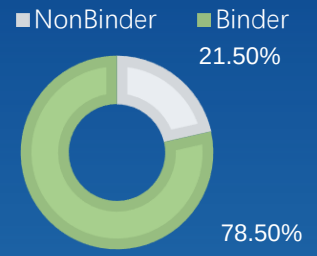
Developability



Affinity ranking

Wet-lab evaluation

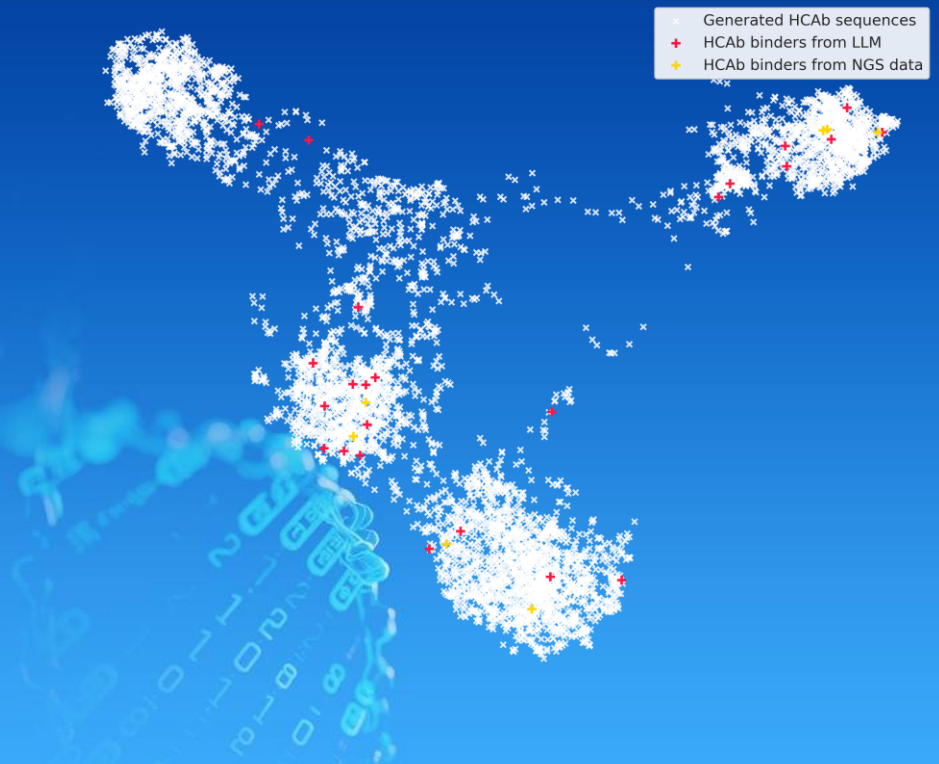
Recombinant antibody production



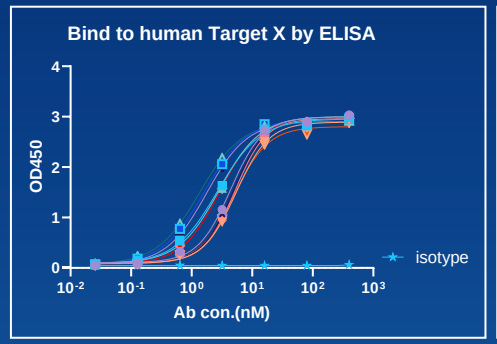
Antibody characterization

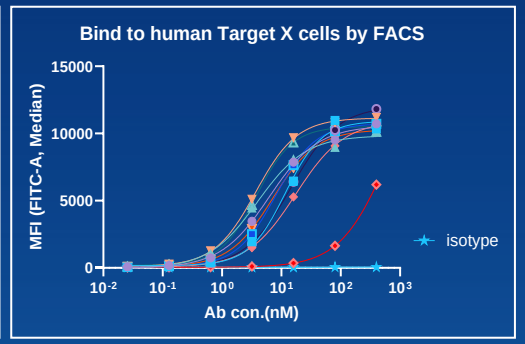
Superior Wet-Lab Performance of the AI HCAb Model

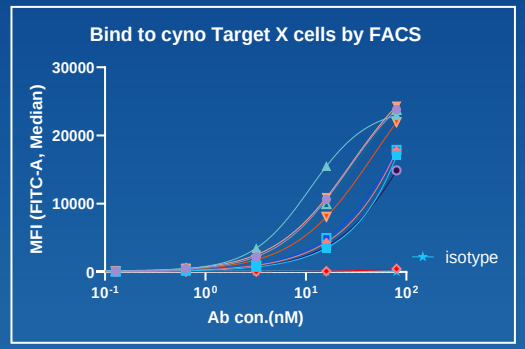
AI HCAb model generates vast sequence diversity beyond known binders, enabling the discovery of novel binders with superior properties.



Selected HCAbs with specific binding activities to both human and cyno monkey



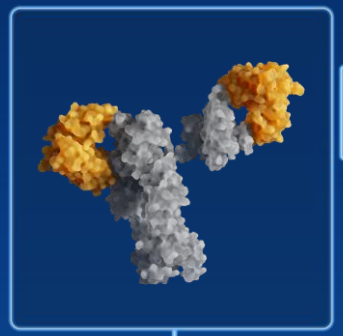




Summary of produced HCAbs:

- Average yield > 700 mg/L
- 20 HCAbs ⩽ 10 nmol (EC50)

AI Powered Dry to Wet for Next Generation of Antibody R&D Platform



Embedding Layer

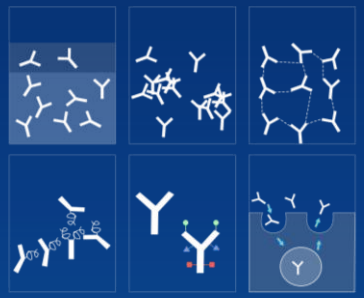
↓

Autoregressive Transformer Language Model

↓

Masked amino acid prediction

Leverage Harbour BioMed proprietary HCAb technology and inhouse data, build first-in-class generative model to make fully human heavy chain only antibodies.



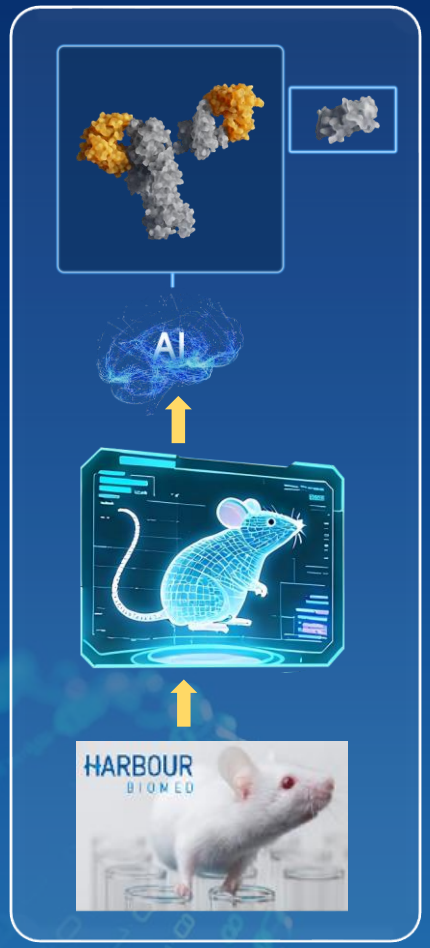
Automated Protein Expression and Characterization System

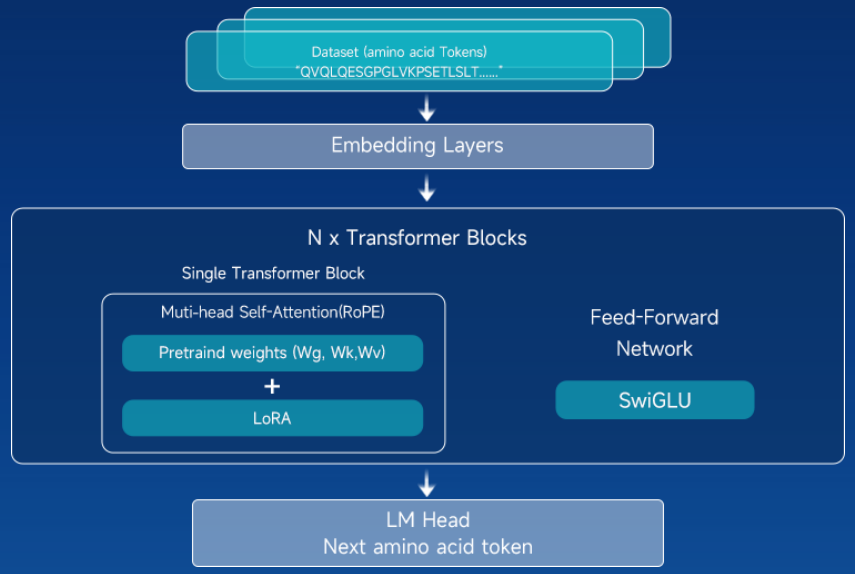
Utilizing high-throughput automation instruments significantly expands the capacity of molecule generation and characterization, enhancing the probability of identifying candidates, generating large-scale, high-throughput wet-lab data which can further enhance AI models.

We're not only discovering drugs, we're discovering the unmet medical needs with data-driven, predictive process. We welcome all kinds of partners to co-create the ecosystem with us.

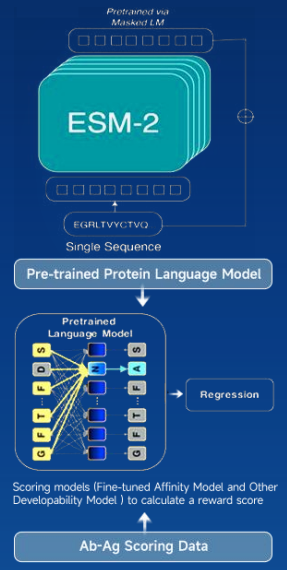
AI Accelerates a New Era of Antibody Therapeutics Across Multiple Fields

HCAb Harbour Mice immunized with Target

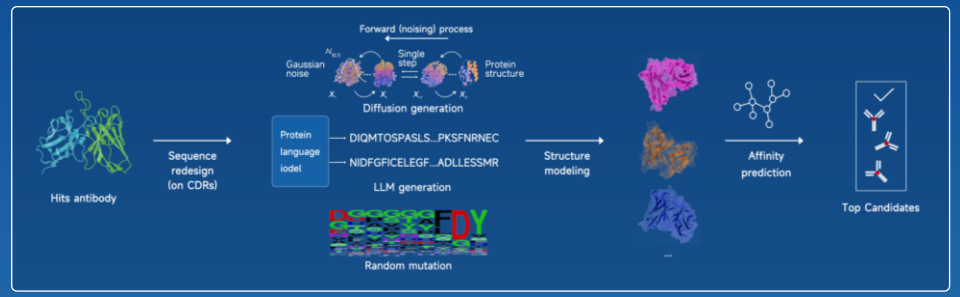




AI HCAb Sequence Generation Model



AI HCAb Binder Selection Model

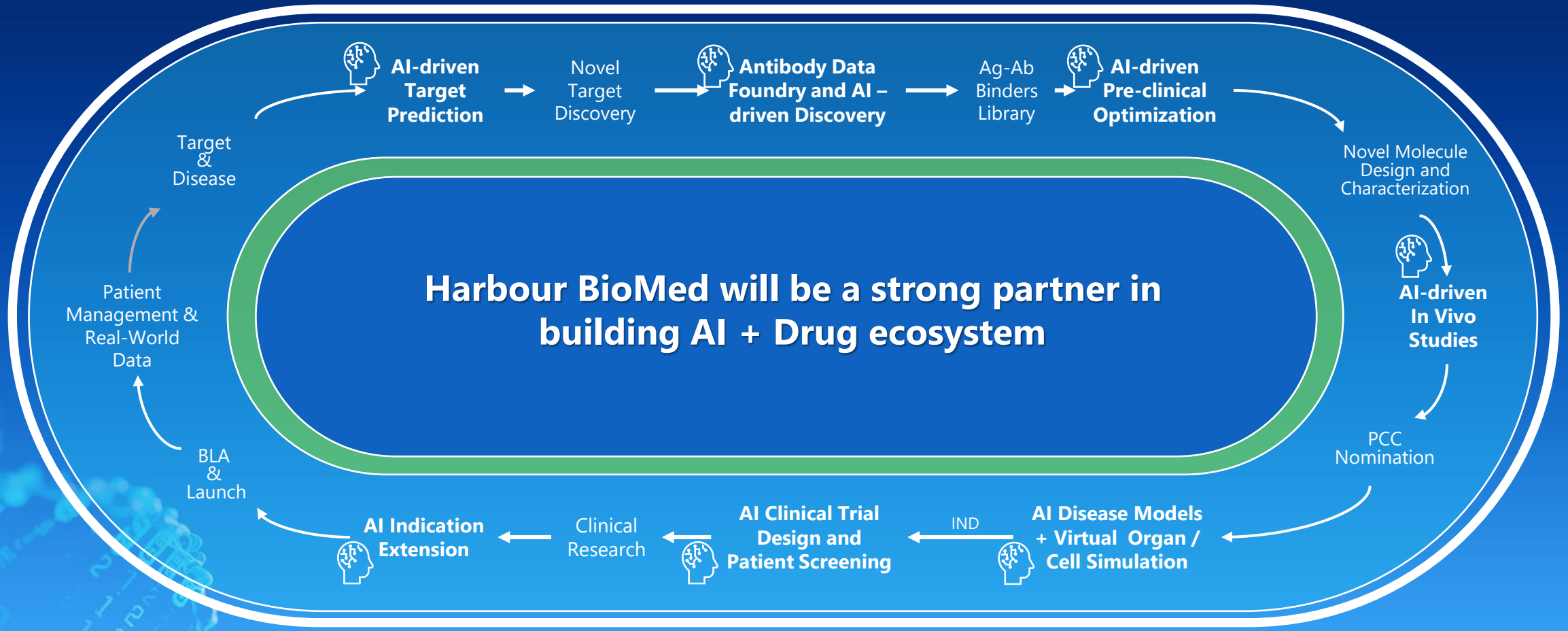


AI HCAb Affinity Maturation Model

Fully Human VH Antibody Innovative Applications

- Multi specific antibody drugs
- Targeted delivery of radiopharmaceuticals
- In vivo CAR-T technology
- Inhaled therapeutics for pulmonary diseases
- Oral therapeutics for gastrointestinal diseases

Shaping the Future of Drug Discovery



HARBOUR BIOMED

智耀和铂 汇创星辰
INNOVATION HARBOUR, SHINING GLOBAL
和铂医药全球研发日
HARBOUR BIOMED GLOBAL R&D DAY

诺纳生物创新战略及远景
Nona Biosciences Innovation Strategy and Vision

洪涤 博士
诺纳生物首席执行官

诺纳生物是以技术创新为先的平台公司

HARBOUR BIOMED

和铂医药

专注于推进公司全球产品管线及变革性疗法的研发

- 在免疫与炎症领域布局广泛且具高度差异化的产品管线
  HBM9378 HBM7020
- 通过整合外部资源加速产品开发进程
  HBM7022 HBM9033

AstraZeneca

Pfizer Seagen

诺纳生物

运用尖端技术平台，及开放创新模式，赋能全球医药创新

- 诺纳生物成立于2022年
- 不断创建生物医药尖端技术平台

Bispecific Abs/mRNA/ADCs/CAR-T/NK...

- 为全球医药创新客户提供 Idea to IND (I to I™) 全链创新
- 持续构建创新孵化的生态体系

moderna Dragonfly THERAPEUTICS Dana-Farber Cancer Institute

LCB LegoChemBio DualityBio 映恩生物 MYTHIC THERAPEUTICS

诺纳生物四大技术平台关键业务进展

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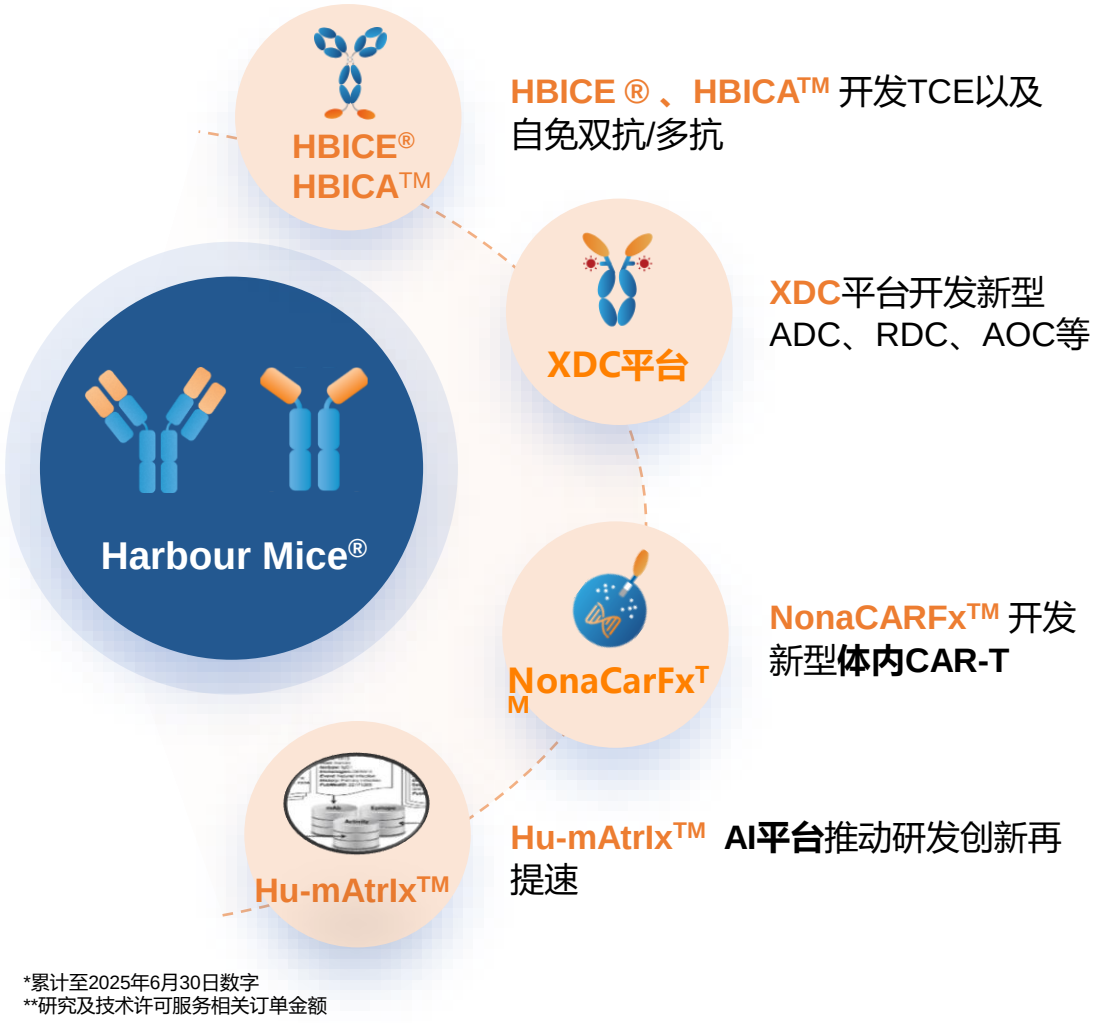


*累计至2025年6月30日数字
**研究及技术许可服务相关订单金额

关键业务进展*

PRIX GALIEN USA

诺纳生物成功提名
2025年度医学界诺贝尔奖
盖伦奖“Best Startup”

110+
合作伙伴

19+
分子进入临床开发阶段

320+
合作项目

2家
已孵化生物科技子公司

120+
早研团队

+173%
25H1订单金额**
较24H1增加

诺纳生物2028：加强临床前研发能力，拓展临床概念验证新平台

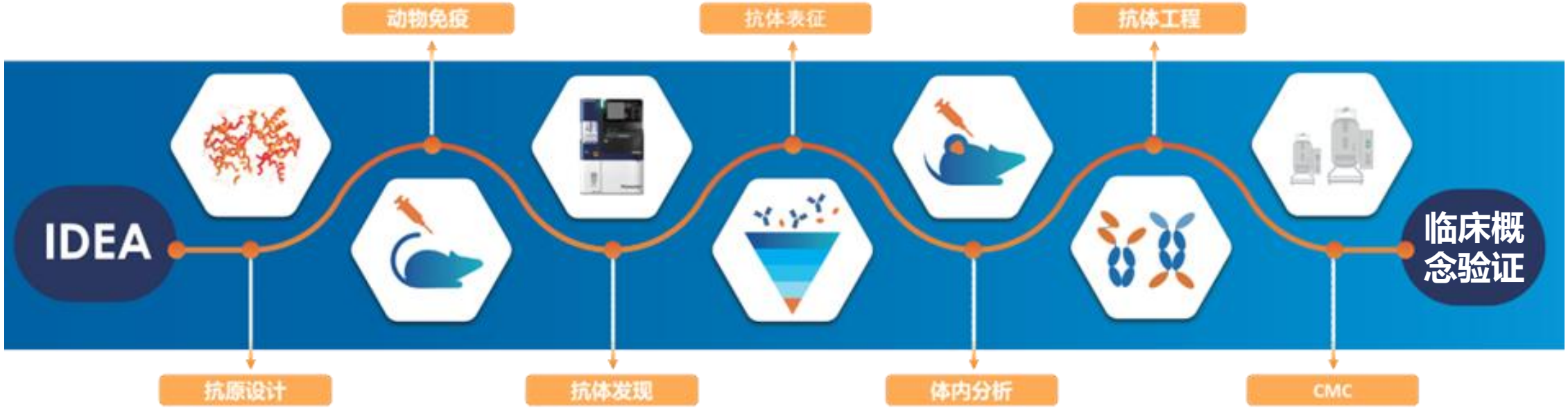
HARBOUR BIOMED

加强自身“IND Enabling”平台建设，积极拓展临床概念验证业务

GLP 毒理

CM C

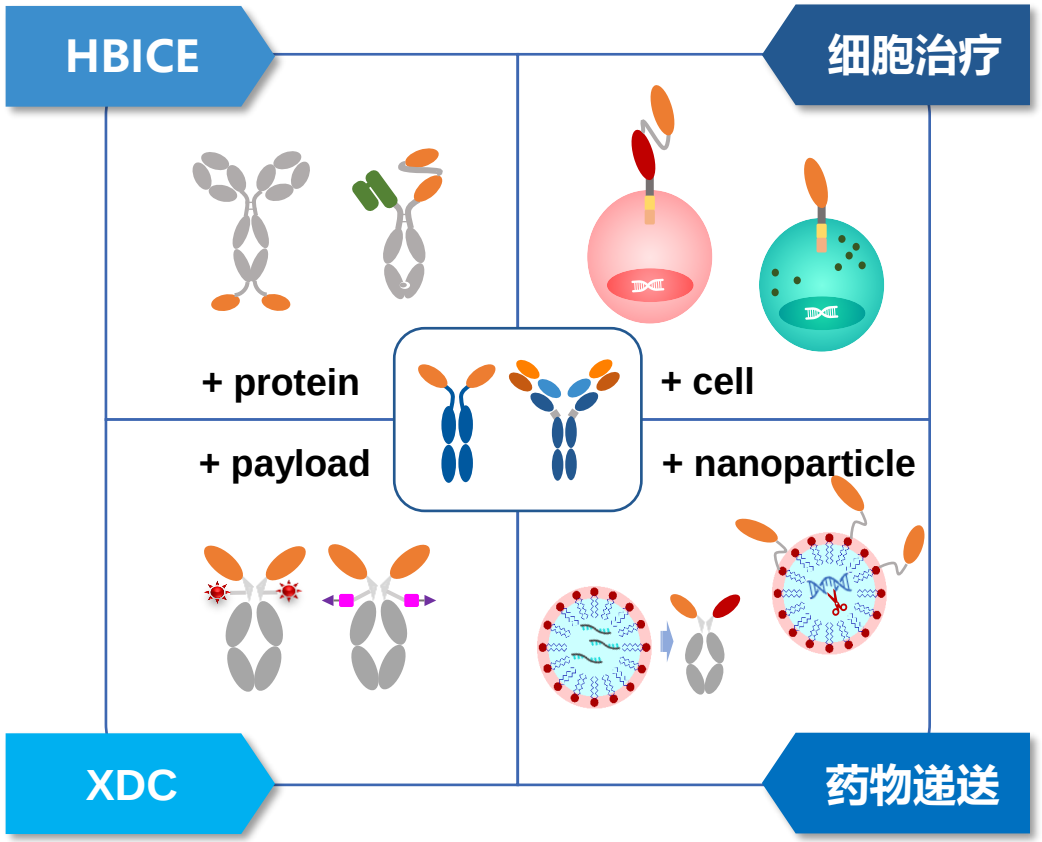
临床概念验证



诺纳生物2028：构建下一代抗体工程创新技术集群

HARBOUR BIOMED

诺纳生物四大技术平台



诺纳生物将构建更多样的技术集群

HIBCE®	类器官	XDC
药物递送	体内 CART	siRNA
细胞治疗	下一代TCE	中枢神经递送
mRNA	抗体工程AI	AOC

...

诺纳生物2028：AI平台推动医药创新全面进入人工智能时代

HARBOUR BIOMED

临床前

HBM药物研发历史数据 → 数字化拼图 → 数字化和铂小鼠

Hu-mAtrIx™

数字化抗体药物生成

- ✓ 提高药物研发成功率
- ✓ 减少研发时间
- ✓ 降低研发阶段费用

临床

患者人群 → 数字人

- ✓ 与政府、医院进行基础设施建设
- ✓ 获取临床大数据

数字化临床试验

- ✓ 提高临床试验的效率
- ✓ 极大降低临床试验的费用

诺纳生物2028：建立“自动化-AI”新药发现螺旋进化循环

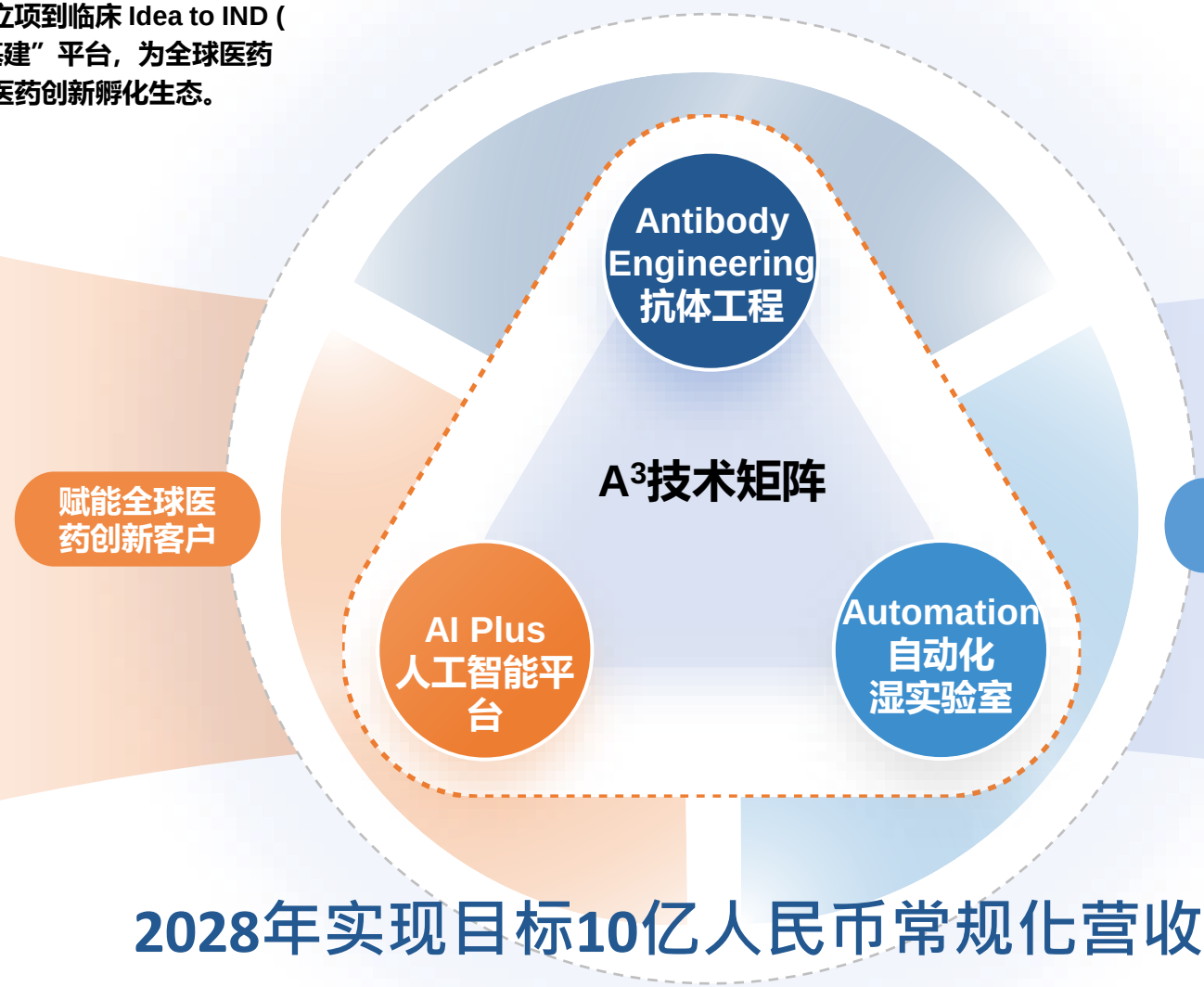
HARBOUR BIOMED

生成-验证-反馈-进化的循环

诺纳生物2028年愿景：构建A³医药创新“新基建”平台

HARBOUR BIOMED

2028年诺纳生物将进化成为通过装载人工智能内核的抗体工程技术集群，构建从立项到临床 Idea to IND (I to I™) 生物医药创新“新基建”平台，为全球医药创新客户赋能，并构建生物医药创新孵化生态。



赋能全球医药创新客户

凭借全球领先技术平台，持续赋能全球生物医药合作伙伴，加速下一代创新疗法的开发与应用

建立诺纳创新孵化生态

以全球领先技术平台为基石，与全球顶尖学术及科研机构开展战略合作，共同孵化前沿疗法

2028年实现目标10亿人民币常规化营收规模

诺纳生物愿景

HARBOUR BIOMED

NONA BIOSCIENCES

开创更前沿的技术平台

拓展更广阔的全球合作

构建更开放的产业生态

持续为病患和投资者带来更有价值的产品和服务

HARBOUR BIOMED

智耀和铂 汇创星辰
INNOVATION HARBOUR, SHINING GLOBAL
和铂医药全球研发日
HARBOUR BIOMED GLOBAL R&D DAY

和铂医药研发战略和远景

Develop the Next Generation Multispecific Medicines

- The Right Technology for the Right Therapeutics

戎一平 博士
和铂医药执行董事、首席科学官

“1T1D”Era Passed, A New Wave of Transformative Innovation - Multispecific Medicine is Now Upon Us

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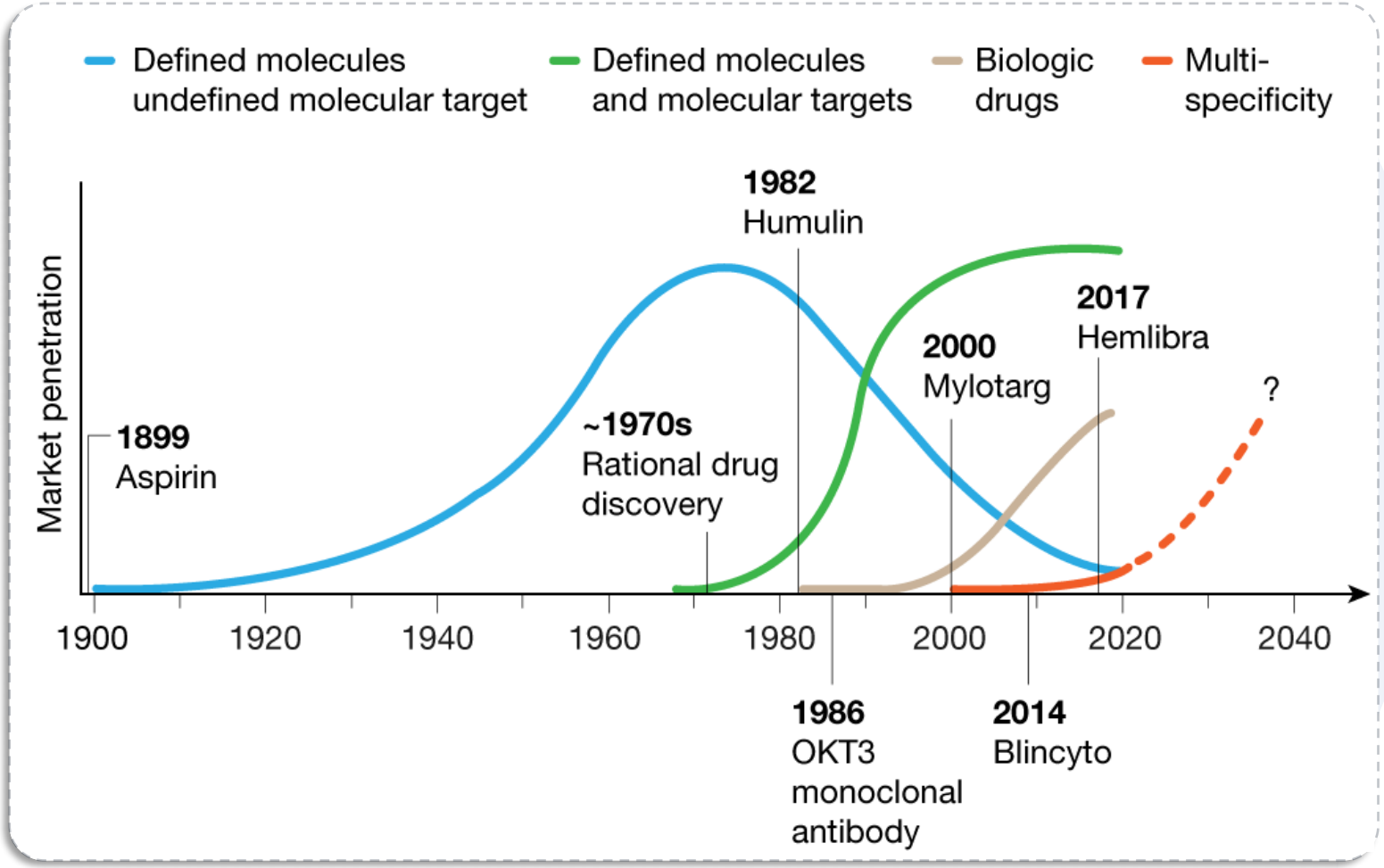

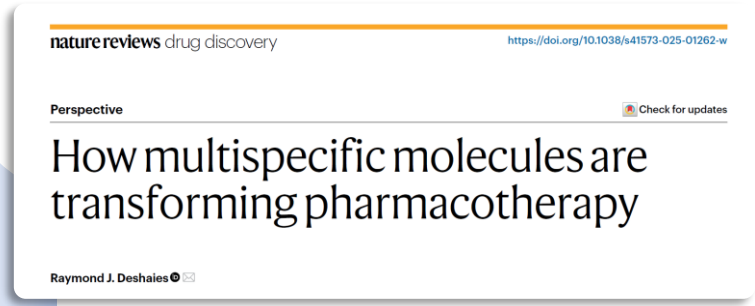
nature reviews drug discovery

https://doi.org/10.1038/s41573-025-01262-w

Perspective

Check for updates

How multispecific molecules are transforming pharmacotherapy

Raymond J. Deshaies


nature

Multispecific drugs herald a new era of biopharmaceutical innovation

Raymond J. Deshaies

Nature **580**, 329–338 (2020)

Raymond J. Deshaies, “Multispecific drugs herald a new era of biopharmaceutical innovation”, Nature (2020)

Multispecific Molecular Medicines Require Specific Targeting Moiety

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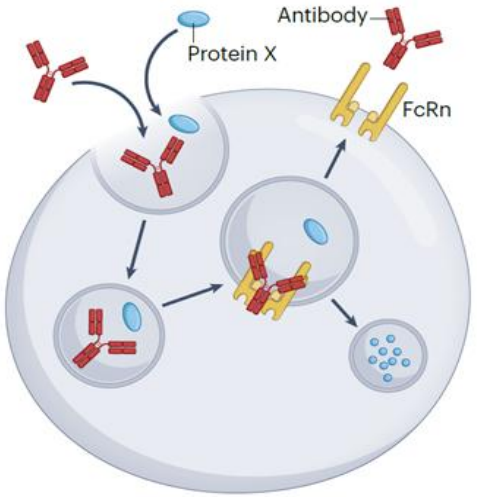
Representative Drug Classes

Fc/Albumin fusion protein
(Etanercept=TNFR-Fc,
Abatacept=CTLA4-Fc)

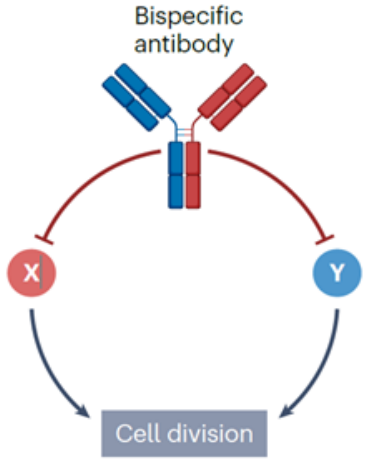
Stabilizers
Enhance persistence



Rescue endocytosed protein

Bispecific antibody
(Amivantamab-aEGFRxcMet
Faricimab-aAng2xVEGFA
Tirzepatide-GLP1xGIP)

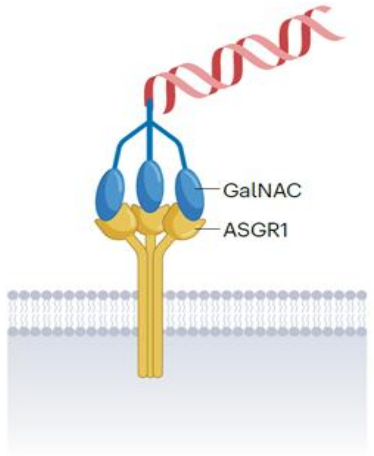
Multi-actives
Overcome redunancy



Block cancer growth

XDC
(ADC, RDC, AOC, DAC, ISAC)

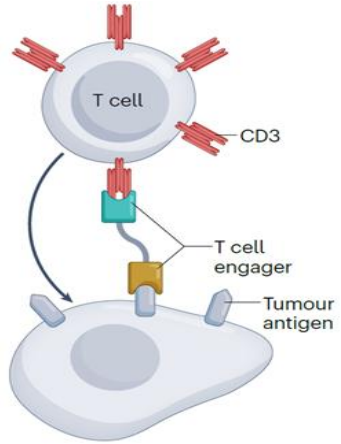
Tetherbodies
Enhance therapeutic index



Silence liver protein

TCE PROTAC
(Blinatumomab-CD19xCD3,
Risdiplam-SMA2RNA.U1snRNP
Emicizumab-aFIXa/FX)

Matchmakers
Overcome "undruggability"



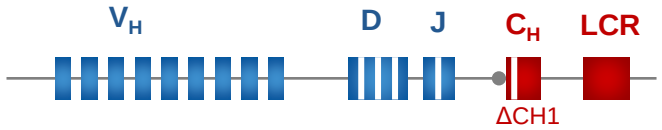
Kill tumor cell

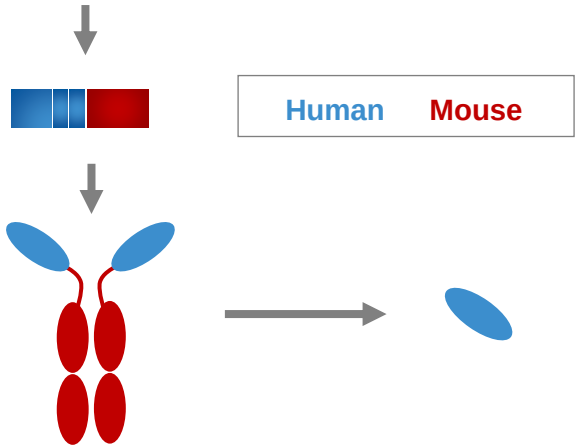
Proximity Dependent Mode of Actions

Raymond J. Deshaies, "How multispecific molecules are transforming pharmacotherapy", Nature (2025)

Human VH from HCAb Technology is Ideal Targeting "Missile" for Multispecific Medicine

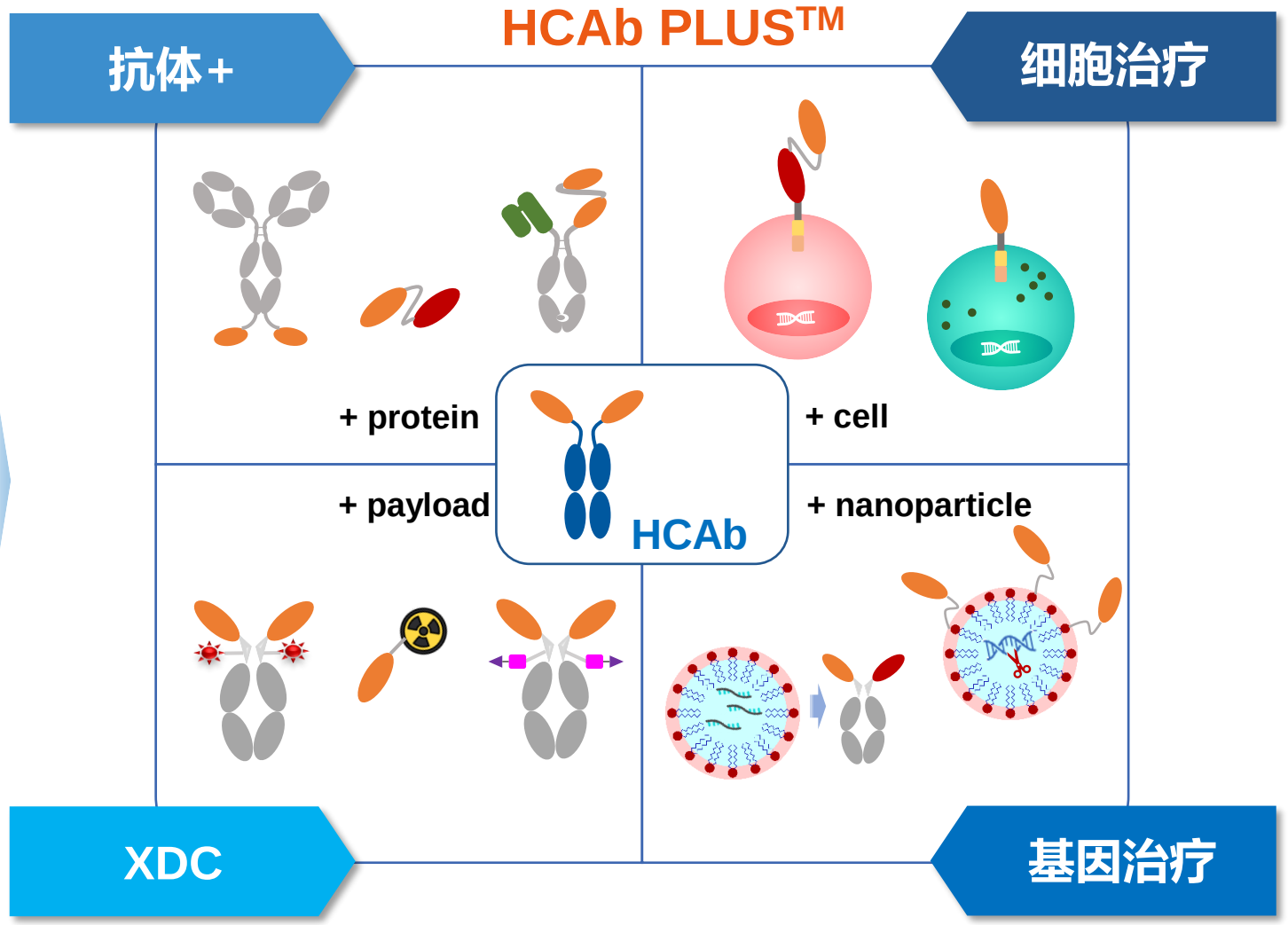
Harbour Mice® HCAb





Fully human HCAb

Human VH or single domain Ab



HCAb Plus Technology is a Systemic Modality Solution from Idea to IND

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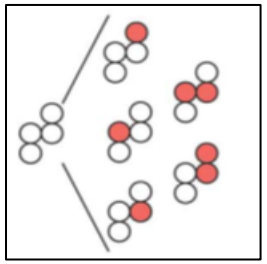
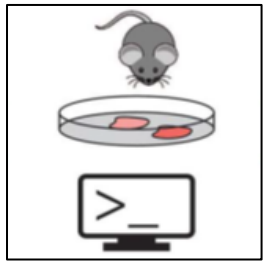
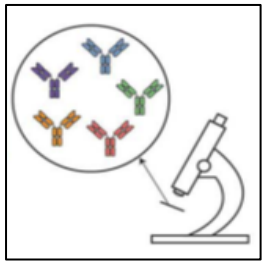
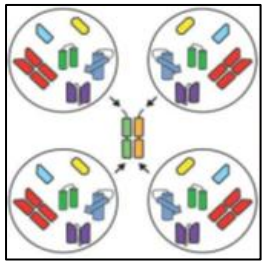
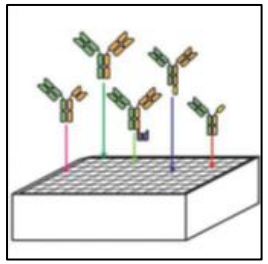
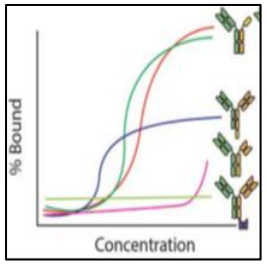
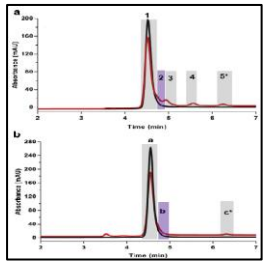
Multispecific Medicine Discovery Roadmap

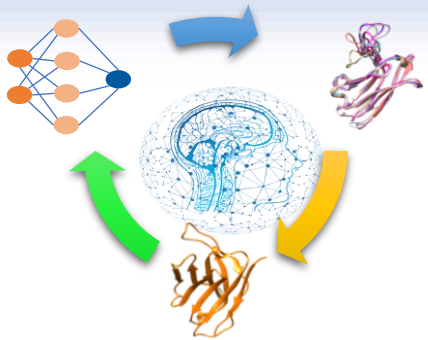
Immunogen Design	Discovery Building Blocks	Select Building Blocks	Multispecific Assembly	Multispecific Prototyping	Functional Assessment	Developability Assessment	Clinical Development
							
✓ mRNA/DNA/inducible immunizations ✓ Antigen design	✓ Harbour Mice ✓ AI Hu-mAtrIx™	✓ Single B cell tech ✓ NonaCarFx screening	✓ Multispecific protein engineering ✓ Tissue specific VH guided delivery	✓ 3D organoid models ✓ Humanized animal models ✓ In-vitro functional assays	✓ Cutoff biophysical parameters ✓ Mammalian/phage/yeast display for lead optimization ✓ AI Hu-mAtrix aided LO	✓ IIT, ph1, 2, 3, BLA	

Harbour HCAb Plus Technology – The Solution for Multispecific Medicines or Complex Biologics

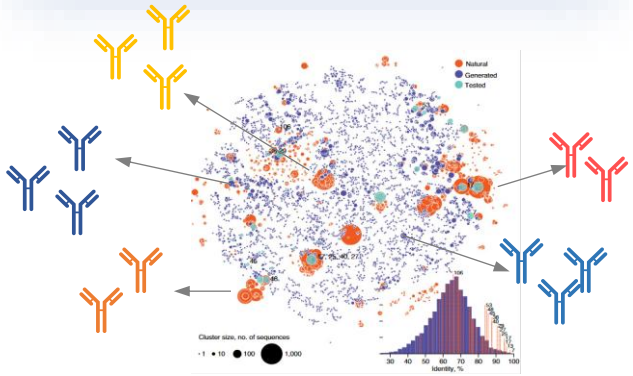
AI-aided Drug Discovery for Induced-Proximity to Solve Problems that Single-target Drugs Can Not

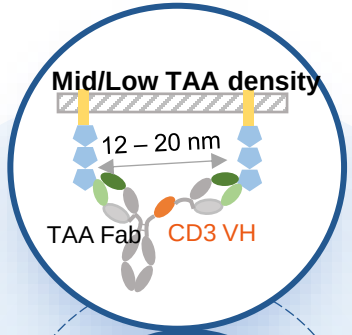
HARBOUR BIOMED

Generative Models

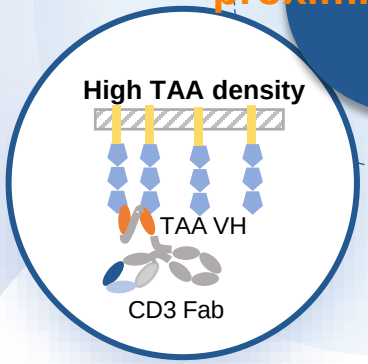


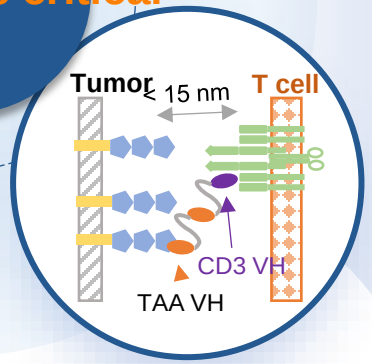
Sequence Space



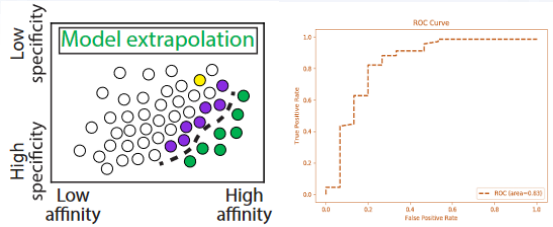


Geometry-dependent proximity is critical

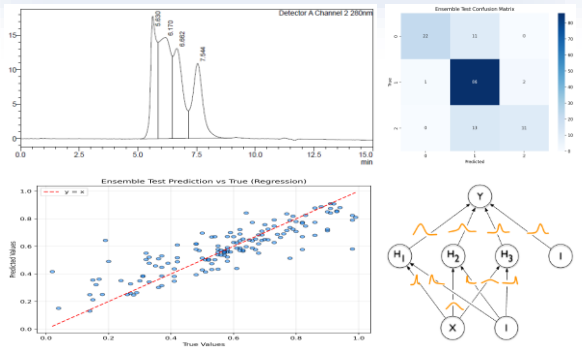




Predictive Models

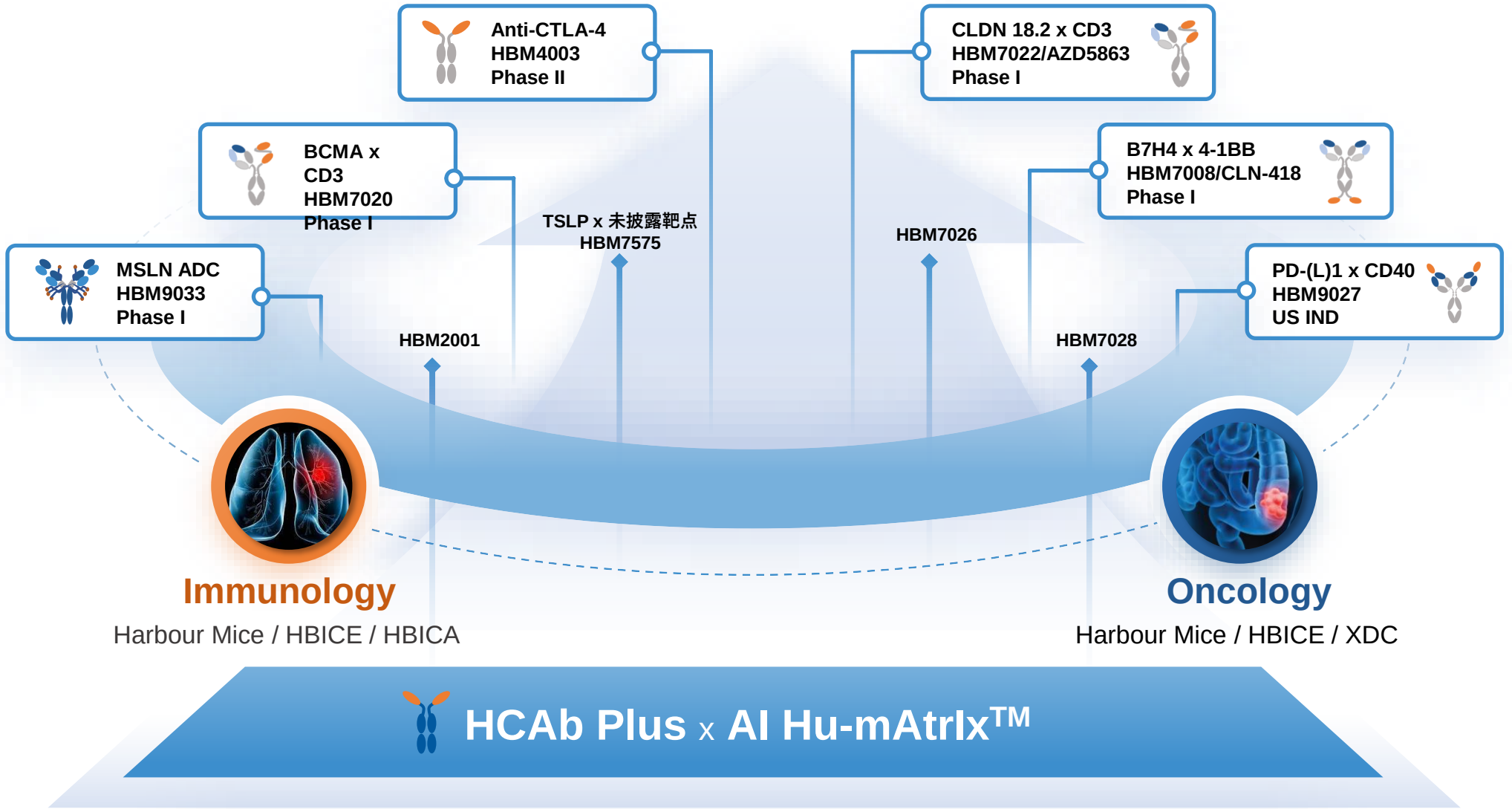


Developability, Thermal Stability, Aggregation, etc.



Platform-Led Pipeline Strategy: HCAb Plus for Next Generation Multispecific Therapeutics

HARBOUR BIOMED



HBM Therapeutic & Strategy Focus

HARBOUR BIOMED

HBM focuses on 2 key therapeutic areas to address significant unmet medical needs and drive differentiated innovation.

Immunology & Inflammation

Respiratory

- **COPD**
- **Ashma**

Dermatology

- **Atopic Dermatitis**
- Hidradenitis Suppurativa
- Vitiligo
- Alopecia Areata

GI

- **Ulcerative Colitis**
- Crohn's Disease
- Celiac Disease

Systemic I & I

- **SLE**
- Multiple Sclerosis
- IgA Nephropathy
- Fibrosis

Science Focus

- **Pioneering Novel Multispecific Antibodies:** *Restoring immune balance by targeting complementary pathways across the Th1/Th2/Th17 axis and key regulatory circuits (e.g., Treg, IL-2, TGF-β).*
- **Resetting the Immune System with HBICE™:** *Enabling superior safety and efficacy in autoimmune diseases through deep, specific, and durable depletion of pathogenic cells.*

Oncology

Solid Tumor

- **Colorectal Cancer**
- **Pancreatic cancer**
- Gynecology cancer
- Lung cancer

Science Focus

- **Conquering Immunologically Cold Tumors:** *Targeting tumors with low immune cell infiltration and inherent resistance to existing checkpoint inhibitor therapies.*
- **Deploying a Diversified Modality Toolkit:** *Advancing novel platform, including XDC, multispecific antibodies, cytokine fusion, and combination immunotherapies.*
- **Improving Overall Survival in Refractory Cancers:** *Integrating direct tumor killing with sophisticated tumor microenvironment (TME) modulation and renormalization strategies to extend patient survival.*

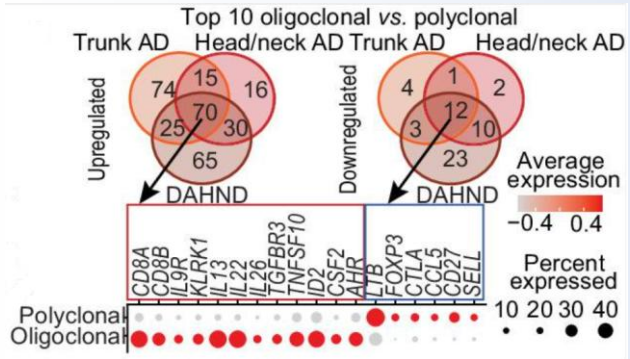
Abbr.

GI – Gastrointestinal; SLE – Systemic Lupus Erythematosus; DKD-Diabetic Kidney Disease; COPD – Chronic Obstructive Pulmonary Disease; MAFLD – Metabolic Dysfunction-Associated Fatty Liver Disease; MASH – Metabolic Dysfunction-Associated Steatohepatitis

Immunology: Address Complementary Mechanisms of Action in I&I Diseases by Multispecific Antibodies

HARBOUR BIOMED

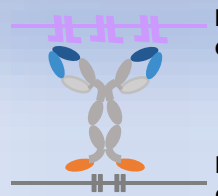
Immunology diseases are multifactorial, strongly heterogenous disorders driven by distinct inflammatory pathways



Nat Commun. 2024; 15, 2839

HBICA

HCAb-base Bispecific Immune Cell Antagonist



Immune Cell or cytokines

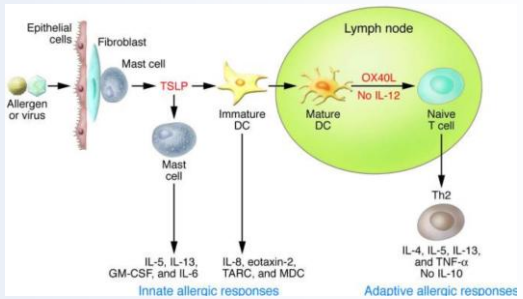
Immune cell or cytokines

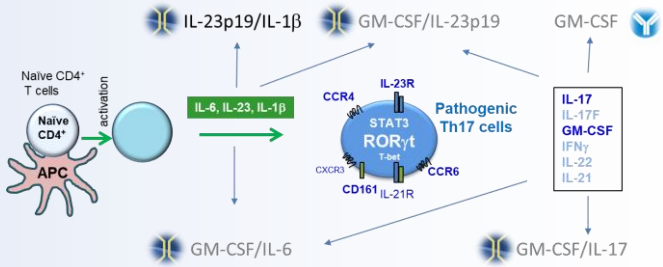
2+2 symmetric HBICA

Dual blocking immune modulator

- Fully human aa seq
- Intact Fc with HLE
- Bivalent blocking
- favorable developability

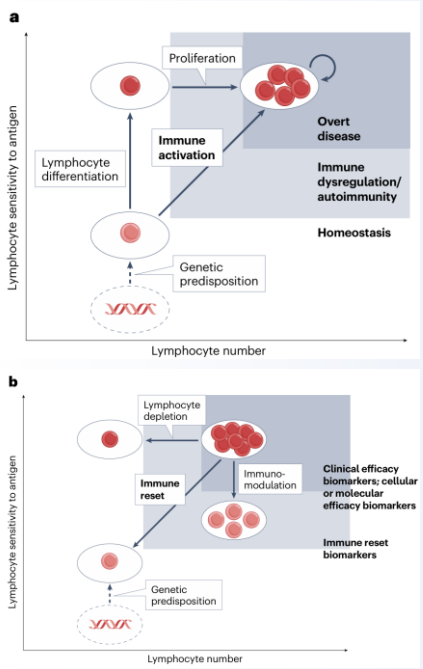
Blocking multiple pathways in Type 2 (T2)-low endotypes of asthma/AD





Immunology: Achieve Immune Reset by Pathogenic Immune Cell Depletion Mediated by HBICE/HBIME

Working model of immune reset

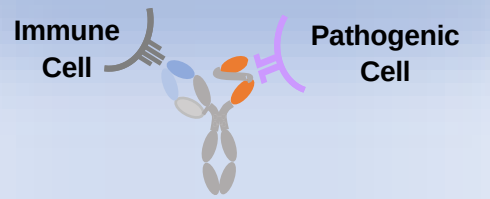


Nat Rev Immunol 25, 528–541

HBICE

HCAb-based Bispecific Immune Cell Engager

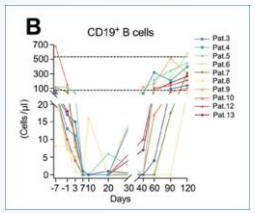
HCAb-based Bispecific Myeloid Cell Engager



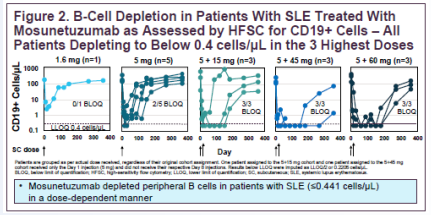
N+1 asymmetric HBICE/HBIME

B/DC/T cell depletion therapy

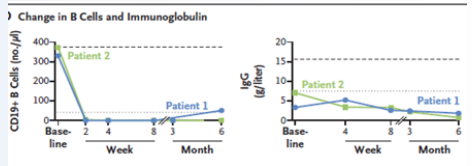
Achieve deeper and longer depletion in tissue B or LLPC



Wang W,et al. Ann Rheum Dis. 2024



EULAR-2025



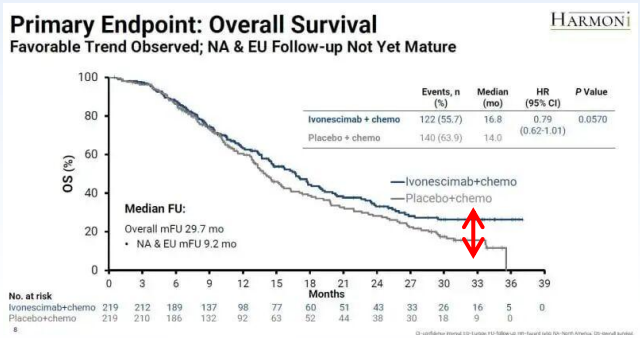
Zhao J, et al. NEJM. 2025

Oncology: Discover Next-Gen Multispecific PD-(L)1 Plus for Solid Tumor Patients

HARBOUR BIOMED

Improving Therapeutic Window by Modulating IO, Angiogenesis and Stroma of Cancers with Cornerstone PD-(L)1 Plus Therapies

- mAb → bsAb → **Multispecific Medicines**
- **Improve OS** as ultimate endpoint
- Better **safety** for combination to beat SOC



Dr Jonathan Goldman, IASLC

HBM4003 CTLA-4 Combo with PD-1

MSS CRC Ph2 Positive Readouts

HBM9027 PD-L1 x CD40

DC Cell Engager

IND US/CN Approved

PD-1/VEGF/undisclosed 1 Trispecific Antibody

IND 2026

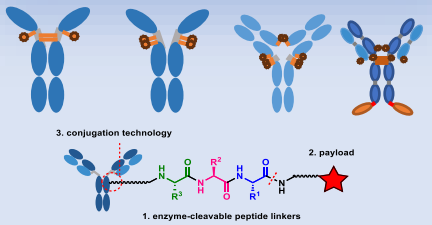
PD-(L)1/VEGF/ undisclosed 2 Trispecific Antibody

IND 2026-2027

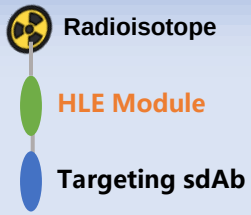
Oncology: Improve XDC for Cold Tumors with Stroma Barrier

HARBOUR BIOMED

ADC/ISAC/BsADC
TME cleavable linker/payload

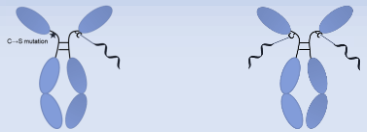


RDC
Fully human VH Moiety and HLE Module



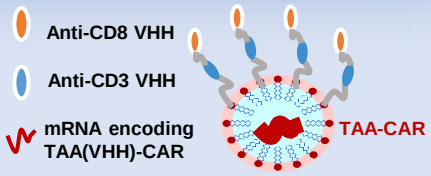
XDC

AOC
Antibody/HCAb Oligonucleotide Conjugates



HCAb-DAR1 AOC HCAb-DAR2 AOC

ALNP
Antibody/HCAb Conjugated LNP



Ongoing Approaches

1. **ADC:** Tumor microenvironment specific cleavable linker payload for soluble and stroma targets in PDAC and HCC etc.
2. Explore novel targets for CRC/NSCLC ADC or Bispecific ADC
3. **AOC:** Target intracellular oncogenes with specific cell delivery
4. Ab-LNP: Tissue specific delivery of drug to improve therapeutic window

Lead Candidates

HBM9033
MSLN ADC
Ph1 Pfizer

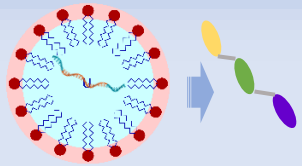
FIC ADC

BsADC

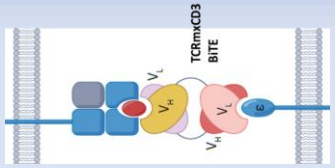
Oncology: Nextgen TCE for Solid Tumor Mono- and Combo-Therapies

HARBOUR BIOMED

mRNA-encoding Engagers (RiboHBICE)



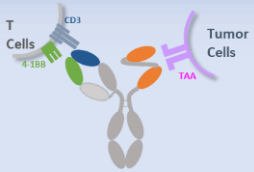
TCRm TCE for Intracellular Target



TCE

TME Conditional TCE

Multispecific TCE



Ongoing Approaches

1. Overcome TAA escape resulted resistance and/or T cell exhaustion due to lack of signal 2/3
2. Achieve multi-in-one function by mRNA encoding RiboHBICE
3. Access intracellular targets (e.g. neoantigens) by TCRm TCE
4. Improve safety window by conditional activated TCE
5. Explore novel targets and combination therapy for TCE/MCE
6. Novel engineering to control specific activation, on-off modulation and geometry dependent cytotoxic killing

Lead Candidates

HBM7008
B7H4×4-1BB
Phase I HARBOUR BIOMED

AZD5863
CLDN18.2×CD3
Phase I AstraZeneca

HBM7020
BCMA×CD3
Phase I Otsuka, 华蓝生物 HUALAN BIO

HBM9027
PDL1×CD40
US IND HARBOUR BIOMED

HBM7004
B7H4×CD3
IND-enabling
HARBOUR BIOMED

TAA Trispecific

Platform Driven Approach for Other Therapeutic Areas by Open Innovation

HARBOUR BIOMED

Metabolism

Multi-pathway modulations to achieve metabolic balance

Neurology

BBB Shuttling Tech for CNS Diseases

Rare Diseases

Deplete or modulate pathogenic cells/ proteins/ autoantbodies

Others

Pain, Stroke, Kidney, PAH …

Partnership and Co-discovery

HCAb Plus x AI Hu-mAtrIx™

From Platform Biotech to Product Development and Commercial Company

HARBOUR BIOMED

5+ Programs

10+ Assets

20+ Assets

Billions Dollar Revenue Biopharma

Immunology

2016-2020	2020-2025	2025	2028-2030
HBM9161 FcRn	HBM9161 FcRn	HBM9378 TSLP	R2006 CD19 x CD3
	HBM9378 TSLP	HBM7575 TSLP BsAb	HBM7026 BCMA x CD19 x CD3
	HBM7020 BCMA x CD3	HBM9161 FcRn	J9003 FIC novel target

Oncology

2016-2020	2020-2025	2025	2028-2030
HBM7008 B7H4 x 4-1BB	HBM7022 CLDN18.2 x CD3	HBM9027 PD-L1 x CD40	HBM4003 CTLA-4
HBM1020 B7H7	HBM9033 MSLN ADC	PD-(L)1/VEGF/UD TriAb	HBM7004 B7H4 x CD3
HBM4003 CTLA-4	HBM4003 CTLA-4		
	HBM1022 CCR8		

Others

2016-2020	2020-2025	2025	2028-2030
	HBM alpha HBM9013	Obesity BsAb and XDC	CNS BsAb and XDC

- **5+** Commercialized + commercial ready products
- **3+** POC products
- **10+** INDs

HARBOUR BIOMED

智耀和铂 汇创星辰
INNOVATION HARBOUR, SHINING GLOBAL
和铂医药全球研发日
HARBOUR BIOMED GLOBAL R&D DAY

Thank You