Solving Drug Development Challenges with the Power of AI and Proteomics

DeepKinase

Proteomics and Beyond

Beijing – Shanghai – Kunshan, China
London, Ontario, Canada

Our Team

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Proteomics and Beyond

Professor Shuncheng LI
Co-Founder & Chief Scientist

- Tenured professor of Western University, Canada
- Canada Research Chair in the Functional Genomics, Proteomics, and Molecular Mechanism of Cancer.
- Global PCT Patent Inventor

Dr. Naizhong Zheng
Founder & CEO

- Founder and CEO of DeepKinase
- Serial entrepreneur
- Co-founded MegaGenomics

Led MegaGenomics to achieve break-through from zero to one, business revenue exceeded 200 million yuan in 3 years

Yun Xiao, MBA
Co-Founder & CBO

- Graduated from Peking University Yuanpei College in Life Sciences, Class of 2001, and Tsinghua University's School of Economics and Management in the MBA Class of 2017.
- Over 20 years of experience in new product introduction, market promotion, and sales with top medical device companies like Abbott, Stago, Fresenius, and Wantai
- Named 2022 Science and Technology Innovation Pioneer and one of the 'Most Notable Female Entrepreneurs' of 2022.

Dr. Wei Jia
Head of Pharma Cooperation

Dr. Junjie Hou
Chief Technology Officer

Dr. Yi Liu
Chief Research Officer

Yi Yao Hu MSc & CFA
VP & CGO

Challenge:Incomplete knowledge of disease and drug biology in humans

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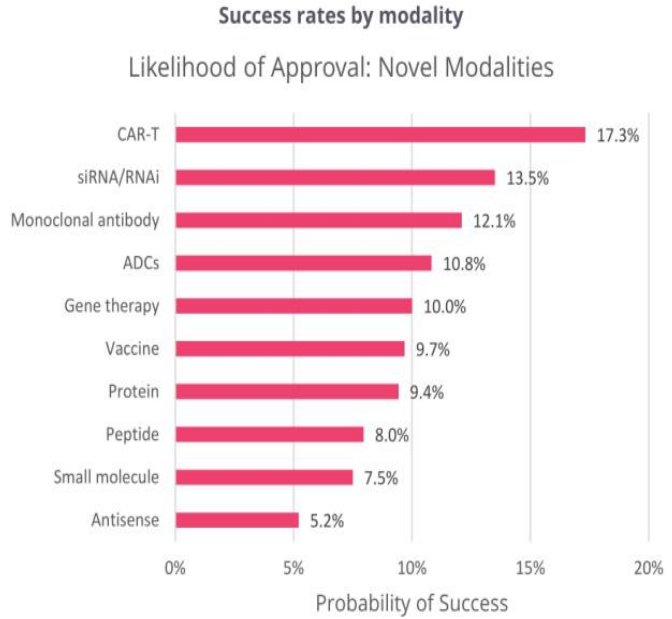
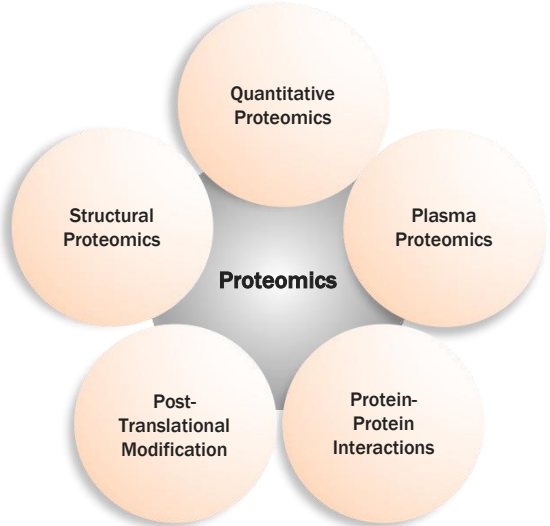
Fundamental Challenges: Most failures are due to lack of efficacy



High-throughput Proteomics holds a great promise for drug discovery & development

Past: Immunohistochemistry staining, western blot, ELISA

Present: Mass Spectrometry, Protein Pathway Array, Olink



AI + Valuable Data from Clinical Proteomics:
set to address unmet needs in drug discovery & development

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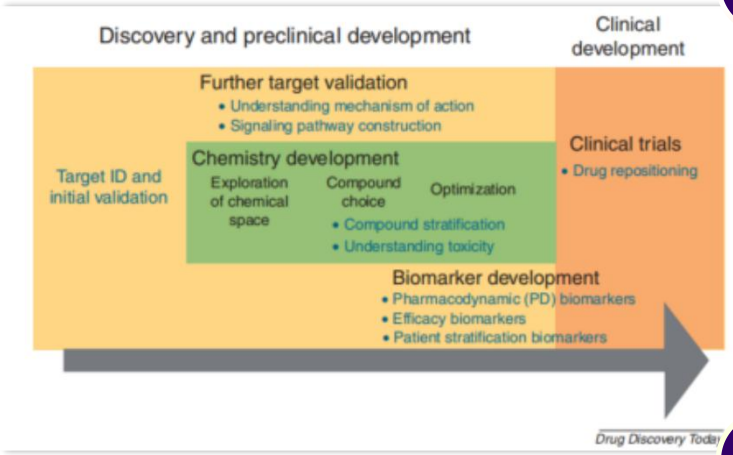
Technology Advancement in:



Proteomics

01

- Enhanced accuracy in mass spectrometry.
- Improved stability of core platforms.
- Increased throughput capabilities.

Large-scale generation of valuable data

02

DeepKinase advances biological machine learning by integrating and analyzing extensive datasets, including AlphaFold 3 and proprietary data, to provide a comprehensive view of disease biology from molecular to human scales.

National Policy & Capital Momentum

03

- Rising demand for innovative drugs and precision treatments.
- Significant government support for new drug discovery.
- Capital surge in biotech, intensifying pharmaceutical competition.

DeepKinase： AI + Proprietary high-quality clinical proteomics data

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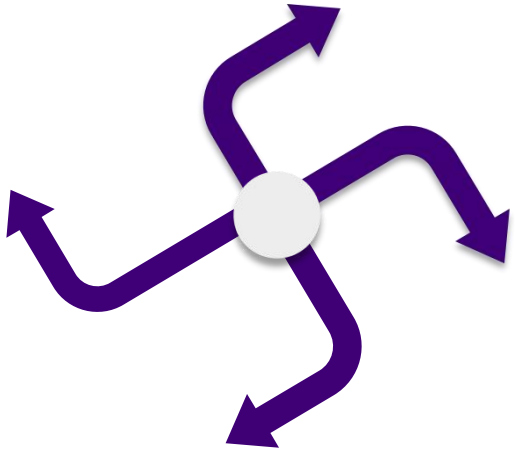
Proprietary high-quality clinical proteomics data

Genomics + Transcriptomics are not real-time enough.
Proteomics reveal real-time biology
DeepKinase leverages its proprietary clinical proteomics data to drive innovative insights into disease mechanisms.
Our unique datasets enhance the precision and effectiveness of our proteomics-based diagnostic and therapeutic solutions.

AI Model

DeepKinase uses advanced AI to extract insights from complex proteomics data, improving disease predictions and supporting personalized therapies.



Alpha Fold 3

DeepKinase leverages AlphaFold 3 to improve proteomics analysis, enhancing protein function insights for drug discovery and personalized medicine.

Extensive Data Generation

At DeepKinase, we use human data to build predictive models. By analyzing genetic, phenotypic, and clinical information with advanced machine learning, we gain insights into disease biology and develop models that reflect causal disease mechanisms.

Personalized phosphoproteomics identifies functional signaling

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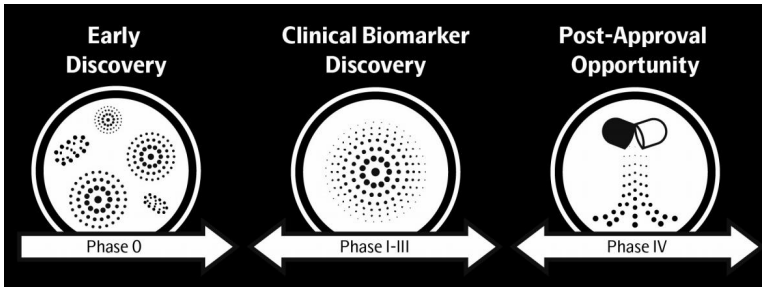
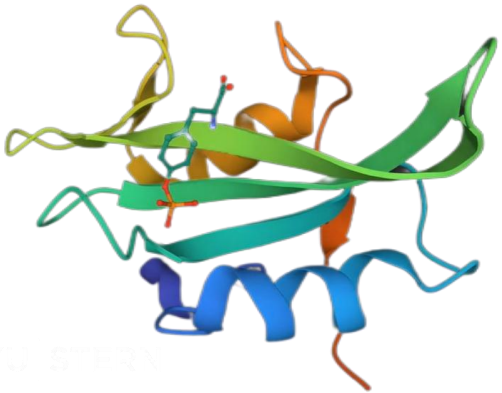
DoTK® Deep Omics of Tyrosine Kinase

Harnessing the power of evolution, DoTK phosphotyrosine superbinder technology enables deep phosphoproteomics.
Bringing a new dimension of life information to researcher





- ✓ Identify novel drug targets to make smarter decisions early in drug development
- ✓ Deliver insights into PD iomarkers/mechanistic impacts of drugs in humans
- ✓ **Potential new indications**

Example: Potential new indications

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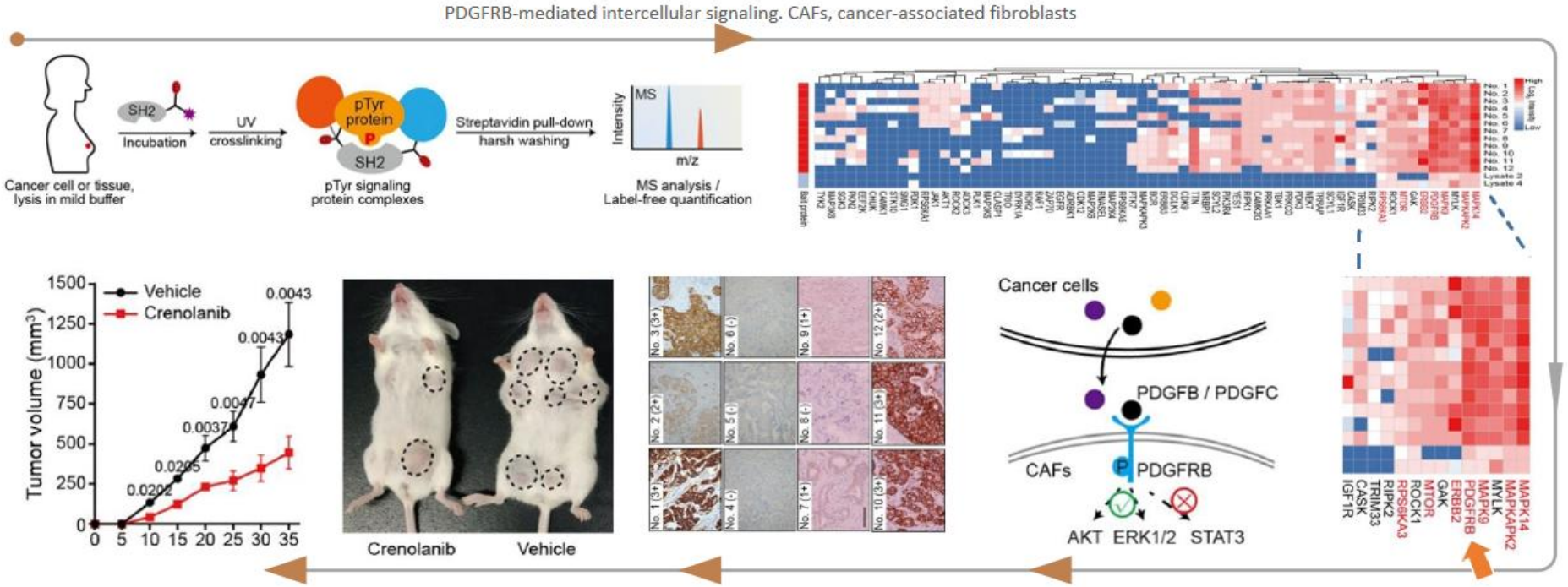
The SH2 Superbinder-enabled TK profiling is >100 times more sensitive than conventional IHC

Systematic profiling of kinase activation by the SH2 Superbinder-enabled MS analysis identifies PDGFR as a therapeutic target for breast cancer



Chu et. al. 2018 *Proc Natl Acad Sci (USA)*

-Data obtained from analyzing FFPE samples

DeepKinase StarryNight:
Proprietary high-quality clinical proteomics data and Kinase-centric Analyses

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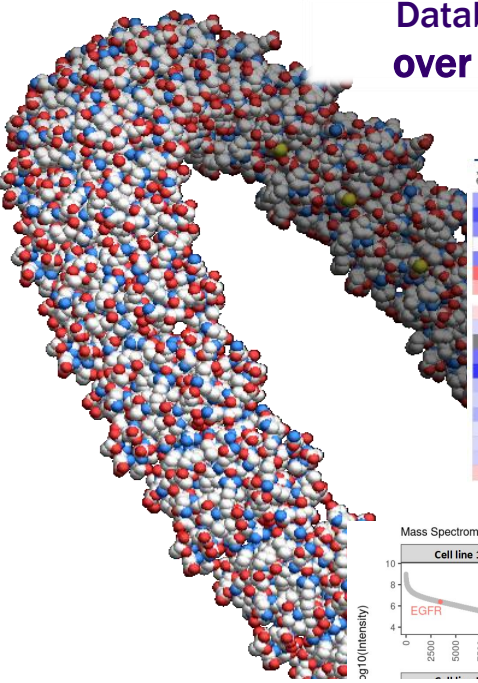
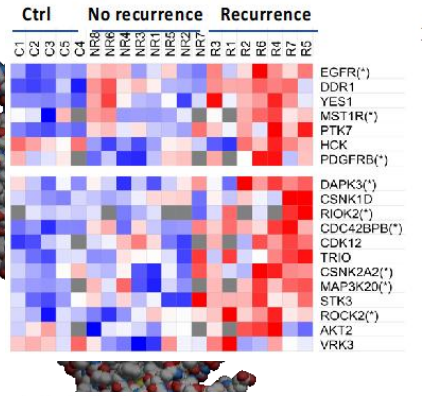
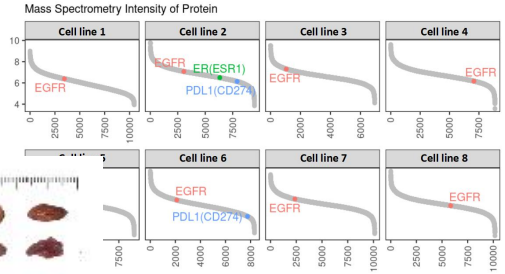
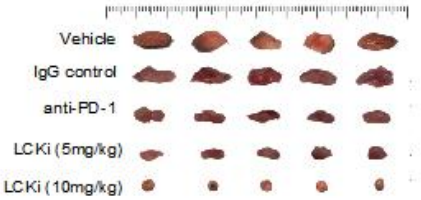
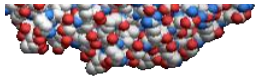
Database of protein abundance based on Ms data and other valable information from over 900 cell lines and hundreds of real clinical samples.





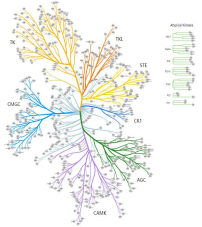




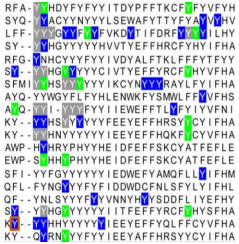


Kinase-centric Analyses

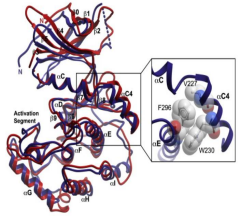
Kinome



PhosKinome

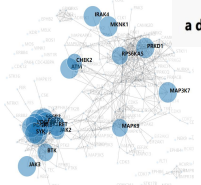


Activation Loop



Substrate-centric Analyses

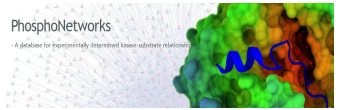
KEA



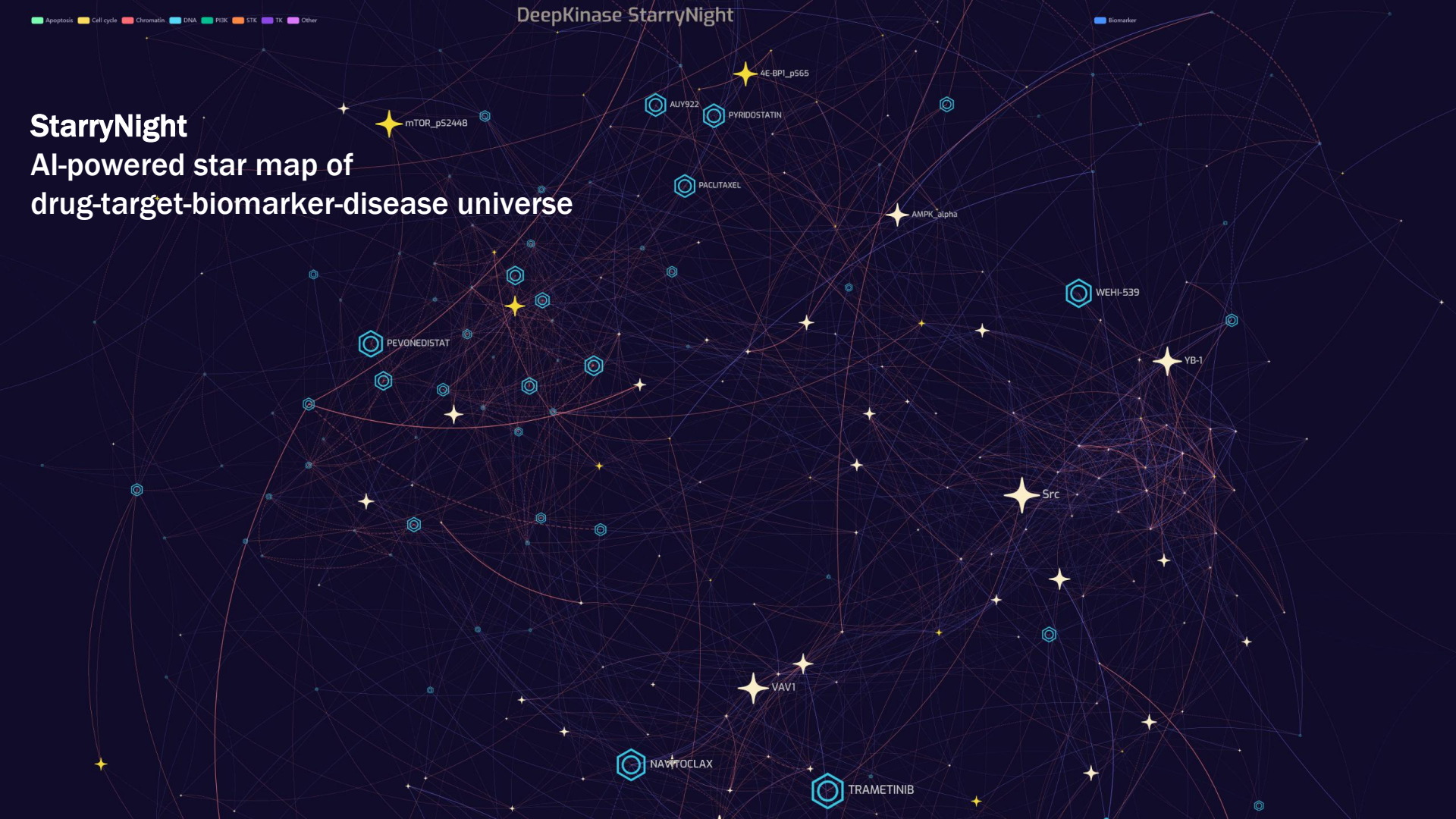
Phospho.ELM
a database of S/T/Y phosphorylation sites

PhosphoSitePlus®

UniProt



Signor 3.0
The SIGnaling Network Open Resource



StarryNight

AI-powered star map of drug-target-biomarker-disease universe

Traction & Validation

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✓ Intellectual Property

Global patents

✓ Customer:

Grade-A Hospitals: 30+

Pharmaceutical companies: 30+

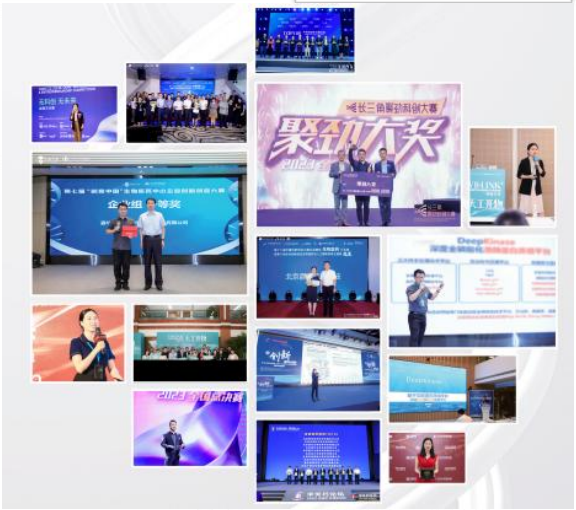
✓ Awards:

Champion of Startup Competition VB-100

Champion - S Create China - Asia's Leading Tech Innovation Conference Roadshow Competition

Champion - Finals of the 12th China Innovation and Entrepreneurship Competition
Beijing Division, Biopharmaceutical Industry

Champion - Yangtze River Delta Synergy Innovation Competition

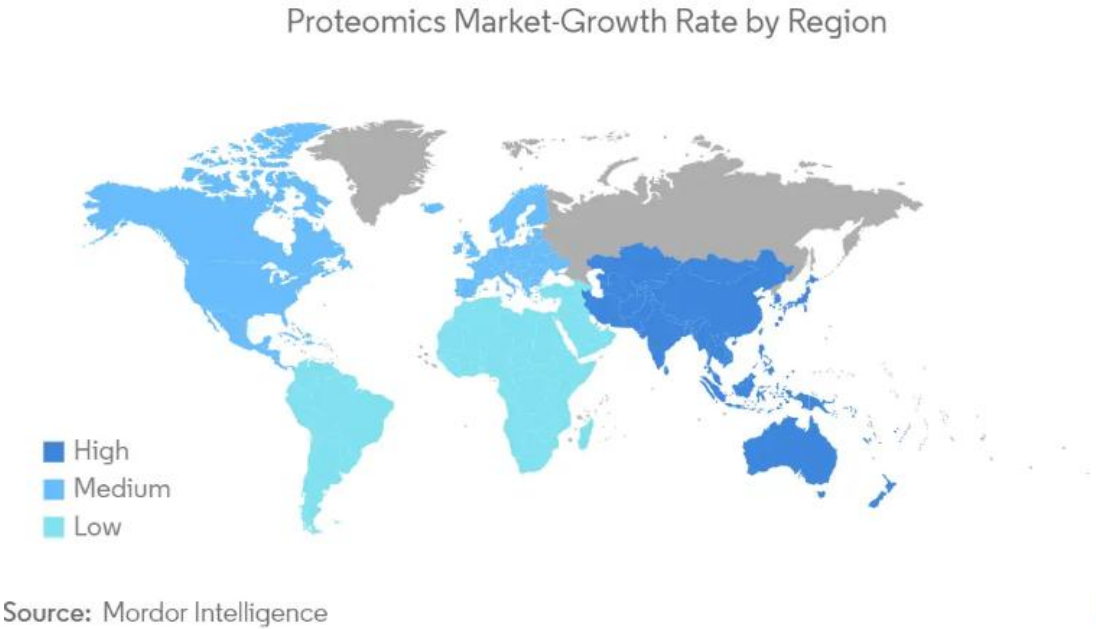


✓ Partner:

Leading global companies & Top Chinese Companies

AstraZeneca 阿斯利康 · 百济神州 BeiGene · novo nordisk 诺和诺德 · Roche · NOVARTIS · 恒瑞 · INNOCARE 诺诚健华 · Abbisko · PYROTECH 炎明生物

Enormous Potential and High Growth Prospects of Market Size

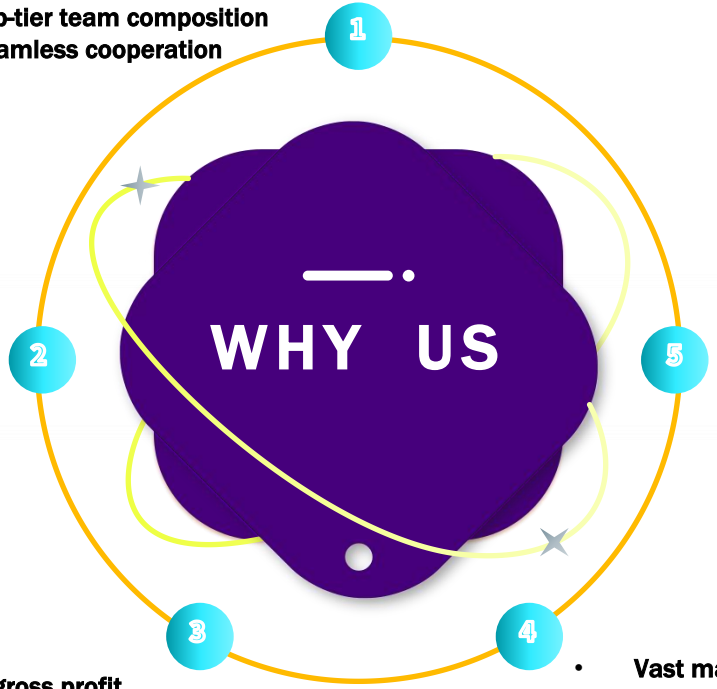


Overview of Gobal Public Proteomics Companies

Why US?

1
- Top-tier team composition
- Seamless cooperation

2
- Extremely high technological barriers
- Global PCT patents



5
- Grasping the opportunities of the times
- Pioneering technological trends

3
- High gross profit ,
- Strong financial model,
- Rapid business growth

4
- Vast market space
- Clear strategic planning

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