



Saint Novel Biotech Limited
神農智能製藥有限公司

An AI-driven antibody oligonucleotide conjugates (AOC) discovery platform for neuromuscular diseases

Principal Investigators: **Prof Joshua Ho** (HKU Biomedical Sciences), **Dr Cheuk Sheun Li** (Saint Novel Biotech Limited CEO; HKU Business School), **Prof Sophelia Chan** (HKU Paediatrics & Adolescent Medicine), **Prof Lequan Yu** (HKU Computing & Data Science)

Technology

NovelAOC is a synergistic collaboration between Saint Novel Biotech Ltd, a multi-award-winning startup, and core HKU-developed AI technology and datasets, to develop novel antibody oligonucleotide conjugates (AOC) for clinical unmet therapeutic needs for neuromuscular diseases in Asia.

This collaboration harnesses core technologies from Saint Novel and HKU:

- Proprietary AI drug discovery platform** and workflow: Generative AI trained on exclusive biological datasets and pharma expertise
- 100% humanized mouse model** Kymouse 2.0 that enables generation of highly predictive *in vivo* data
- AI models for antibody and antisense oligonucleotide (ASO)** discovery and unique data sets that enable end-to-end AOC discovery



Champion of HKU Int'l Challenge 2024

Opportunities

The first end-to-end AOC discovery platform with proven commercial traction, capable of reducing development cost and time by up to 90% and projected to generate HKD 10 million in annual revenue.

Major unmet medical needs in our region: ASO has been a proven effective therapeutic strategy for neuromuscular diseases (NMDs), with FDA ASO in the market, but most were not developed specific for Asian's genetic background. Targeting three high-value NMDs with a significant global market and a critical gap in treatments for Asian populations – **Duchenne Muscular Dystrophy (DMD)** with \$4.5 billion global market including over 30% of cases in Asia, **Spinal Muscular Atrophy (SMA)** with \$7.5 billion global market with growing demand and **Facioscapulohumeral Muscular Dystrophy (FSHD1)** which affects ~870,000 patients worldwide, with a significant prevalence in Asia.

Early-mover advantage in AOC: Exclusive access to Asian-specific genomic data and direct pathways to clinically validated patient biopsies, enabling the development of best-in-class, customized therapeutics for a combined global market opportunity exceeding \$12 billion.

Key Advantages

Award-winning technology and company:
2024 HKU International Techno-entrepreneurship Challenge Grand Finale - **Champion**
2025 China International College Students' Innovation – **Silver Medal**

Funding support:
2024 Admitted to **HKSTP IncuBio** Programme

Intellectual Property

Patent: Method and System for Augmenting Graph Data Using Latent Knowledge Graphs Distilled from Black-box Large Language Models (US Provisional Patent 63/734,314 filed by HKU) and **licensed** to St Novel already.

Plus three other AI-related patents held by St Novel, and a unique ASO database owned by HKU.

Contact

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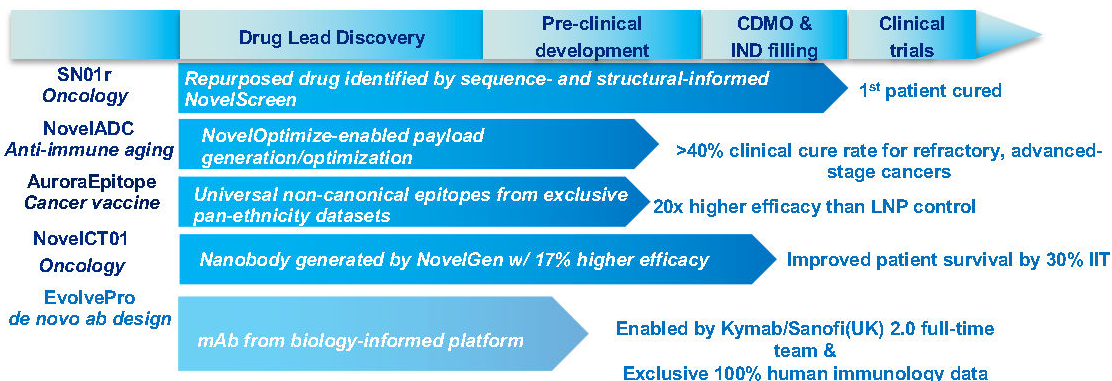
Stage of Development

Proven revenue-generating AI platform

- Provide industry-level AI drug development platform as a service
- Revenue at HK\$1M in first 8 months of operation
- Clients include Conba Bio-pharm, Beijing Tongren Hospital, and AstraZeneca

A first-in-class drug candidate entered phase II clinical trials via multi-centre research, and seven other candidates in pre-clinical and IND stage.

Valuable Pipeline Milestones Achieved by Saint Novel Platform



HKU Med

LKS Faculty of Medicine
The University of Hong Kong
香港大學李嘉誠醫學院