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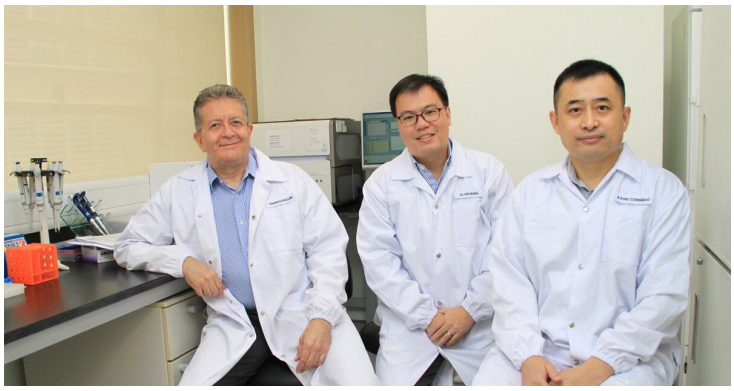
ASIA EDITION

Singapore launches spin-off to develop treatment for intractable diseases

December 24, 2020 | News | By Hithaishi C Bhaskar

An early-stage drug discovery company, Ligature is founded by scientists from EDDC to advance research on treating intractable diseases



The Experimental Drug Development Centre (EDDC), a national platform for drug discovery and development hosted by A*STAR, has launched its first spin-off Ligature Therapeutics in January 2020.

EDDC develops a pipeline of high-quality assets and technologies, including platform technologies that are critical for drug development. It works with industry partners to accelerate the translation and commercialisation of its platform technologies.

An early-stage drug discovery company, Ligature is founded by scientists from EDDC: Drs Alvin Hung, Thomas Keller and Congbao Kang, as well as life science-focused venture fund Lightstone Singapore. A*STAR scholar Dr Hung will be leaving EDDC to join Ligature to lead its chemistry team.

To develop potentially life-saving drugs, Ligature signed an exclusive licensing agreement with A*STAR's commercialisation arm, A*ccelerate, for rights to the targeted protein degradation technology and patented compounds developed at EDDC.

"The technology licensed from A*STAR will enable Ligature Therapeutics to rationally design small molecule drugs to address previously intractable diseases," said Dr Alvin Hung. "This novel platform has the potential to rapidly expand Ligature Therapeutics' drug discovery pipeline and ultimately create better drugs for patients."

Known as protein degraders, the novel drugs target harmful proteins to the proteasome, the "garbage disposal system" of the cell, where they are unfolded and broken apart.

It is no wonder protein degraders have been hailed as the "next blockbuster therapies" by Nature. They address the limitations of conventional small molecule drugs currently being used to inhibit harmful proteins which can only successfully target less than 20% of all disease-causing proteins. On the other hand, the protein degraders could potentially be used to go after targets that drug developers have long considered "undruggable".

Professor Damian O'Connell, CEO of EDDC, said, "Ligature Therapeutics will build on proprietary technologies which were developed at EDDC, and drive their development and application to make new medicines for difficult-to-treat diseases. EDDC looks forward to a fruitful partnership with Ligature, a prime example of how we nurture innovative local enterprises to drive health outcomes and economic growth."

Image Caption: *The founders of Ligature: (from left) Dr Thomas Keller, Dr Alvin Hung and Dr Congbao Kang*