



RevolKa started a joint research collaboration with Tokyo Medical and Dental University on structure-function analysis of novel proteins engineered by *aiProtein*® Technology

TOKYO, Japan – 1st October 2022. RevolKa Ltd., a venture-backed biotechnology company focused on protein engineering by using machine learning (ML)-based artificial intelligence, called *aiProtein*®, today announced a research collaboration agreement with Tokyo Medical and Dental University (TMDU). TMDU and RevolKa will collaborate to analyze structure-function relationship of novel proteins created by *aiProtein*™ Technology. “By this collaboration, we elucidate the structural mechanisms of functional improvement of our novel proteins.”, said Shiro Kataoka, Ph.D., Chief Executive Officer of RevolKa Ltd., and continued “We commit to contributing to human health and life around the world through our scientific research.”

Background and purpose of joint research

RevolKa’s *aiProtein*® is a robust technology to optimize multiple functions and properties of proteins quickly and simultaneously. This technology accelerates creation of novel proteins for industrial applications, including protein therapeutics. TMDU and RevolKa team up and proceed with structural analysis of proteins engineered by *aiProtein*™ at the TMDU Innovation Park to elucidate the underlying mechanisms of the functional improvement. This joint collaboration, we believe, powers innovation of technologies at RevolKa and accelerates novel molecular creation.

About *aiProtein*® Technology

RevolKa’s proprietary *aiProtein*® Technology is an AI and ML-assisted efficient Directed evolution of proteins. Naturally occurring protein is a linear polymer of 20 amino acids and their derivatives, which folds into a tertiary structure through internal complex atomic interactions to show molecular function. Protein amino acid sequences have evolved to biologically functional molecules over hundreds of millions of years. Relationship between protein sequence, structure, and function in those highly crafted molecules remains poorly understood to predict a sequence for a particular function. Our AI/ML process in *aiProtein*® Technology is trained with a small number of sequence-function relationship data-set to predict evolved sequences for protein function. Furthermore, *aiProtein*® Technology can evolve more than two functions simultaneously. This acceleration of protein evolution and multi-parameter optimization

is a powerful tool for design of protein sequences for pharmaceutical and industrial uses.

Future prospects

Three-dimensional structure analysis of proteins engineered by *aiProtein*® Technology will guide us to unveiling relationship between protein sequence, structure, and function and also to innovation of protein design and engineering.

About RevolKa Ltd.

RevolKa is a venture-backed biotechnology company founded in April 2021 and focuses on creation of novel proteins useful for industries by using its own proprietary *aiProtein*® Technology created by Mitsuo Umetsu, Professor of Protein Engineering, Tohoku University Graduate School of Engineering. Our mission is to develop this highly efficient protein design technique to contribute to human health and life. The name "RevolKa" is derived from the Latin word for evolution (*evolutio*) and the Ainu word for raise (*reska*). RevolKa's headquarter is located in Tokyo, Japan, and the laboratories are located in Sendai and Tokyo, Japan. The company's investors include Tohoku University Venture Partners and Softbank investment.

About Tokyo Medical and Dental University

Tokyo Medical and Dental University (TMDU) was established as a national educational institution for dentistry on October 12, 1928, and is currently located in the Yushima/Shoheizaka area of Tokyo, Japan, which is considered sacred ground for scholarship and learning in Japan. Since then, as Japan's only comprehensive medical university and graduate school, TMDU has provided advanced medical treatment through a fusion of the medical and dental fields and worked to cultivate "professionals with knowledge and humanity," thereby contributing to human health and the well-being of society.

For more information, please contact:

RevolKa Ltd.

Ayumi Iwase

Tel: +81-3-6661-2972 / Email: info@revolka.com

<https://en.revolka.com/>