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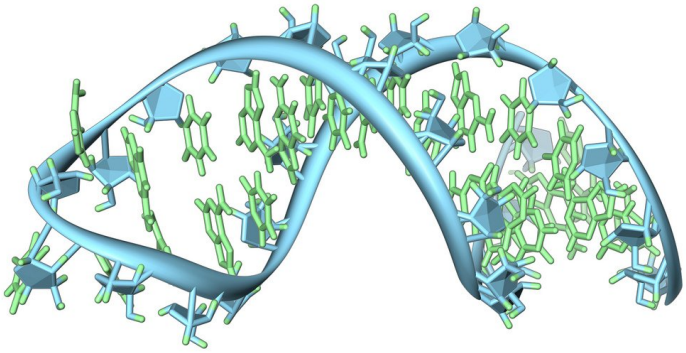
Proteona licenses ESCAPE RNA sequencing technology

October 23, 2018 | News

Innovative genomic and proteomic analysis platform for Immuno-Oncology and Immune Profiling Applications



Singapore - Proteona Pte. Ltd. has entered into an exclusive worldwide licensing agreement with the National University of Singapore (NUS) for Enhanced Single Cell Analysis with Protein Expression (ESCAPE) RNA sequencing technology, an innovative multifaceted single-cell sequencing platform for simultaneous protein and RNA measurements. The technology platform was invented jointly by Professor Gene Yeo and Assistant Professor Jonathan Scolnick of the Department of Physiology at the Yong Loo Lin School of Medicine and Shawn Hoon at the Molecular Engineering Lab under the Agency for Science, Technology and Research.

Proteona is pioneering the use of validated multiplex panels of DNA-barcoded antibodies to provide proteomic information in addition to total mRNA sequence data from single cells. The technology enables single cell RNA sequencing platforms to efficiently detect and quantify protein expression. This creates rich data sets to characterize cell populations based on surface markers in parallel with genomic processes inside the cell. Proteona also offers interactive software tools for a broad range of research and clinical applications.

Advantages of the ESCAPE sequencing platform include:

- Single cell analysis
- Phenotype cells based on known cell markers
- Gene expression analysis for unbiased discovery
- Protein data with unlimited multiplexing compatible with current flow cytometry data
- Access to Proteona's interactive analysis tools

"We are excited to offer this technology to the wider community of clinical researchers, biotechnology and pharma companies. We have validated large sets of DNA barcoded antibodies that can be added to any single cell RNA sequencing experiment. Insights gained from multi-dimensional profiling of the immune system can aid therapeutic design and treatment approaches in oncology, hematology, immunology as well as autoimmune and other diseases," said Dr Andreas Schmidt, CEO of Proteona. "We also understand that these discoveries will require the use of cutting-edge bioinformatics analysis and artificial intelligence, to which not every lab has access. Therefore, Proteona will work with its customers to develop those tools needed for their next big discovery. When one can bring together powerful wet lab tools with the ability to analyze the massive amounts of data generated, it is truly a fantastic time to be doing biological research."

Professor Freddy Boey, NUS Senior Vice President (Graduate Education & Research Translation) who heads the NUS Industry Liaison Office responsible for negotiating the licence, said, “By merging innovative life sciences technology with AI-inspired data analysis, Proteona has all the ingredients to gain global impact in immune-oncology and other fields. We are pleased to have supported the academic inventors on their exciting journey from scientific discovery to spinning off a biotechnological company, for example by funding technical and business development through our internal Technology Acceleration Programme. This is a tremendous example of the support that NUS can provide to achieve commercial outcomes for technologies arising from our high-impact research.”