

Danish biotechnology SME offers technical cooperation for novel prediction software for antibody discovery

- **SCHEDA**
- **APPROFONDIMENTI**

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A Danish biotechnology SME is developing a novel software for recombinant antibody-developers, giving them an easy-to-use tool to predict which antibodies are most likely to succeed during production. In the collaboration proposed, the partner will have free access to the solution during the closed beta in return for feedback on the use and performance. The company offers technical cooperation and commercial agreements with technical assistance.

The Danish SME was founded in 2018 based on a Ph.D. degree in biomedical engineering by the CEO, who had discovered a need for thorough and affordable data analysis in the medical sector. The company is a data-driven biotechnology company focused on transforming biological data into valuable knowledge for academia and the industry. The company is also part of several collaborations, including a Horizon 2020 project, contributing tailor-made AI solutions for biological data. Today, the company has a fee-for-service on the market, specialising in omics technologies. The omics are advancing vastly and dominating discovery-based studies for biomarkers. These methods can deliver above 10.000 readings per sample, thus generating a large amount of data, which can be overwhelming for the researcher, if not a data specialist. The company consists of a team with highly qualified individuals within proteomics, artificial intelligence, and computer science, which perfectly bridges the gap between mass spectrometry, expression data analysis, and biological interpretation, offering a complete solution from sample to biology. Currently, the company is developing new technology as a supplement to the existing workflow in recombinant antibody production. The solution enables the antibody candidate selection to be guided by artificial intelligence, allowing the industry and academia to increase quality significantly. While the antibody market is growing between 7 - 15% per year, the need for new technologies to improve quality is also steadily increasing. The company's solution is being developed and tested in close collaboration with some of the industry's pioneers in recombinant antibody development. The solution works in different modules. The first module translates the antibody candidates' amino acids sequence, e.g., from phage display panning, into production prediction levels with excellent accuracy. The aggregation prediction module predicts the risk of aggregation of the antibody candidates, which is crucial information before choosing a candidate for large-scale production. The patching module will offer insight into potential sequence donors, which can be sources for improving the sequences of the antibody candidates to improve stability. The company seeks new collaboration partners from Europe, Israel, and North America in terms of companies or organisations developing recombinant antibodies, for example, by using phage display. This company provides free access to the solution during the closed beta in return for feedback on the use and performance from partners. They offer technical cooperation - adapting the company's new technology for antibody prediction and optimisation to increase the quality of the antibody candidates. It is an exclusive agreement where the company has a clear expectation that the partner will be reporting on various parameters, including the performance of the prediction module, the user experience of the platform, etc. While in beta-testing, the company also offers a commercial agreement with technical assistance, focusing on implementing the technology in the partner's current workflow. Here, the company would also be able to advise on using the new workflow, assisting with quality control and technical consultancy. As with the technical cooperation, the company expects that the partner will report the needed feedback, allowing the company to learn and optimise the novel prediction software for antibody discovery.

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