

Exscientia Expands Biologics Design Capability with Automated Laboratory

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Fast and accurate generative AI design of novel antibodies extends Exscientia's capabilities beyond small molecules

Sequencing paired human antibody data to create better AI models for antibody design

Automated laboratory with proprietary hardware to enable integration of AI design with high-throughput biologics profiling under development

OXFORD, England--(BUSINESS WIRE)-- Exscientia plc (Nasdaq: EXAI) today announced the expansion of its platform to include the design of biologics, such as human antibodies. The Company has progressed AI-driven capabilities for virtual biologics design throughout the year and is now establishing an automated biologics laboratory in Oxford to internally generate and profile novel antibodies.

"Exscientia is integrating biologics design into the modular architecture of our end-to-end, patient-first AI platform. Having demonstrated the ability of our existing precision medicine patient tissue models to analyse novel antibodies, we believe the addition of this biologics design capability will create one of the most powerful antibody platforms available," said Professor Andrew Hopkins, Exscientia's founder and Chief Executive Officer. "Our balanced business model allows us to advance our pipeline programmes while also investing in platform growth. Expanding into biologics enables us to nearly double the addressable target universe of our platform. Over the past two years, antibodies represented eighteen of the top fifty drugs measured by revenue, and by adding the capability to design new human antibodies with AI and automation, we believe we will be able to develop the most effective drug for patients, regardless of modality."

Current approaches to optimise antibodies, even those that use machine learning, still depend on discovering antibodies by experimental screening methods. Combining generative AI design and virtual screening of biologics

would allow investigation of a broader antibody space and support Exscientia's goal to design all of its biologics de novo for specific target epitopes without the need for screening.

In order to design novel antibodies against specific protein epitopes, it is necessary to generate accurate models of their structure at speed and scale. Initial versions of the technology invented by Professor Charlotte Deane, Exscientia's Chief Scientist of Biologics AI, produced accurate protein modelling up to 35,000 times faster than AlphaFold2 (Abanades et al. Bioinformatics 2021). Exscientia has significantly expanded the scope, speed and integration of these algorithms while also integrating the capabilities into its broader platform. Exscientia's virtual screening methodology for antibodies is now over three times more accurate than the published state of the art.

Key to Exscientia's AI approach is using the knowledge of the observed human antibody space to optimise biologics for clinical development. The binding site of the antibody consists of two chains (heavy and light). Typically, sequencing of antibodies has been limited to single chains, losing the true biology of antibodies. The Company is building a proprietary database of paired chain sequences to better understand the complex biology of antibodies in a more natural environment. Exscientia is using this data for machine learning in order to describe and model human antibody space more accurately.

Exscientia's new laboratory facilities, which add an additional 8,000 square feet to its headquarters in the Oxford Science Park, will automate the production of proprietary data for each antibody, measuring essential qualities including affinity, immunogenicity, aggregation and stability. Exscientia's engineers are building proprietary automation hardware to enable high-throughput antibody profiling to support its predictive model building for multi-parameter optimisation.

"Our strategy is to replace current experimental discovery techniques with precision engineered de novo design of optimised, fully-human biologics," said Professor Charlotte Deane MBE. "Current methods limit the discovery of new binding sites to what can be explored via animal immunisation or laboratory-based libraries. By virtually designing all aspects of a biologic in silico, we can explore a much broader target universe and create more precisely targeted therapeutics: Biologics by design not discovery, driven by AI and automated experiment, is our approach."

About Exscientia

Exscientia is an AI-driven pharmatech company committed to discovering, designing and developing the best possible drugs in the fastest and most effective manner. Exscientia developed the first-ever functional precision oncology platform to successfully guide treatment selection and improve patient outcomes in a prospective interventional clinical study, as well as to progress AI-designed small molecules into the clinical setting. Our internal pipeline is focused on leveraging our precision medicine platform in oncology, while our partnered pipeline broadens our approach to other therapeutic areas. By pioneering a new approach to medicine creation, we believe

the best ideas of science can rapidly become the best medicines for patients.

Exscientia is headquartered in Oxford (England, U.K.), with offices in Vienna (Austria), Dundee (Scotland, U.K.), Boston (Mass., U.S.), Miami (Fla., U.S.), Cambridge (England, U.K.), and Osaka (Japan).

Visit us at <https://www.exscientia.ai> or follow us on Twitter [@exscientiaAI](https://twitter.com/exscientiaAI).

Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of the “safe harbour” provisions of the Private Securities Litigation Reform Act of 1995, including statements with regard to Exscientia’s expectations for the progress of development of candidate molecules; timing and progress of, and data reported from, preclinical studies and clinical trials of Exscientia’s product candidates; Exscientia’s ability to generate novel insights into antibody design and to build hardware and other systems to support high-throughput biologics profiling; and Exscientia’s expectations regarding the expansion of its precision medicine platform and AI-driven drug discovery platform. Words such as “anticipates,” “believes,” “expects,” “intends,” “projects,” “anticipates,” and “future” or similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to the uncertainties inherent in predicting future results and conditions, including the scope, progress and expansion of Exscientia’s product development efforts; the initiation, scope and progress of Exscientia’s and its partners’ clinical trials and ramifications for the cost thereof; clinical, scientific, regulatory and technical developments; and those inherent in the process of discovering, developing and commercialising product candidates that are safe and effective for use as human therapeutics, and in the endeavour of building a business around such product candidates. Exscientia undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law.

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