

Rapid Novor and MABSilico Partner for World's First AI-Guided Epitope Mapping Service for Antibodies

- Rapid Novor and MABSilico partner to provide the world's first comprehensive AI-guided epitope mapping service.
- This approach leverages AI capabilities and the reliability of in vitro testing, resulting in rapid screening as well as the highest confidence resolution of epitope and paratope locations.
- This new service combines hydrogen-deuterium exchange mass spectrometry (HDX-MS) with advanced artificial intelligence (AI)-driven computational modeling.

Tours, France - March 13, 2024, 7:30 a.m. - Rapid Novor Inc and MABSilico announced that they have partnered to provide the world's first AI-driven HDX-MS epitope mapping service for antibody development. By seamlessly integrating experimental data from HDX-MS with predictive analytics derived from AI-driven computational modeling, researchers can gain a comprehensive understanding of antibody structure, dynamics, and interactions with unparalleled precision and speed.

The result of this partnership is a powerful platform capable of accurately predicting and validating binding epitopes for monoclonal antibodies. *"Artificial intelligence promises a turning point in antibody drug discovery and development,"* states Iain Rogers, VP Sales and Marketing at Rapid Novor. *"By combining the robustness of HDX-MS with the predictive power of AI-driven computational modeling, we have developed a pipeline that can accelerate antibody discovery and characterization".*

HDX-MS employed by Rapid Novor measures the exchange rate of amide hydrogen atoms to deuterium, when exposed to deuterium at different time points. By comparing the deuteration levels between bound and unbound states of the antibody-protein complex, the regions protected by antibody binding can be identified. *"With our proteomics expertise"* explains Dominic Narang, HDX-MS Manager and Senior Research Scientist at Rapid Novor, *"We can identify epitopes on target antigens with exceptional resolution, down to 1 to 5 amino acids, providing researchers with valuable insights into antibody-antigen interactions".*

Trained on data from 1 trillion antibodies, MABSilico's proprietary algorithms predict the binding epitopes on target antigens using 3D structural models and docking-based methodologies. *"Our predictive algorithms are the culmination of 15 years of protein modeling, AI and machine-learning research"* states Thomas Bourquard, CSO at MABSilico. *"Our computational modeling accurately predicts epitope binding, and is always validated with in vitro testing."* Additionally, their AI platforms conduct epitope binning to screen hundreds of antibody sequences against functionally relevant epitopes, and can also evaluate their developability.



The integration of AI-guided epitope mapping not only informs the design of in vitro experiments to target the most relevant regions of the antigen, but it also ensures the highest quality, confidence, and resolution in identifying binding sites for antibody-antigen interactions. *“This AI-integrated approach enables rapid screening of antibodies from extensive candidate pools,”* adds Zak Omahdi, Scientific Business Developer at MAbSilico. *“This accelerates the pace of antibody discovery and development, ultimately leading to novel therapeutics with enhanced efficacy.”*

About Rapid Novor

Rapid Novor Inc., is the world’s leader in [antibody protein sequencing](#) technology. Specializing in the field of mass spectrometry-based proteomics, the team has developed the technology to directly sequence antibody proteins without needing access to the producing cell line. Located at the Kitchener-Waterloo high-tech hub, the company continues to build its technology portfolios based on years of scientific research and inventions. The company’s vision is to elevate human health by decoding immunity. For information, please visit <http://www.rapidnovor.com>. Follow @rapidnovor on [X](#) (formerly Twitter) or [LinkedIn](#).

About MAbSilico

MAbSilico is the pioneer TechBio company specializing in [artificial intelligence \(AI\)-powered solutions](#) for antibody drug design and discovery. The team uses a combination of 3D modeling, interaction simulation, and sequence analysis to design and engineer drug candidates. These candidates are assessed for multiple factors, including their binding target (epitope), affinity, potential off-target effects, and developability. MAbSilico aims to accelerate the discovery of therapeutic antibodies for its clients in the biotech industry. For more information, please visit <https://www.mabsilico.com/>. Follow @mabsilico on [X](#) (formerly twitter) or [LinkedIn](#).

Media Contact

Mingjie Xie, CEO, Rapid Novor Inc., +1 (519) 593-2260, pr@rapidnovor.com

Vincent Puard, CEO, MAbSilico, +33 7 69 86 09 02, contact@mabsilico.com

