

Novel IGX Platform offers liability prediction solution to de-risk antibody development

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ENPICOM's IGX Platform empowers researchers to accurately predict exposed liabilities for thousands of sequences at the same time using high-throughput structural modeling



At the Biologics UK conference, ENPICOM, an innovative bioinformatics software company, has launched new IGX Platform capabilities to accurately annotate exposed liabilities, perform structural modeling of antibodies at scale, and determine developability profiles using customizable penalties. This major development allows researchers to improve their candidate selection by making accurate developability predictions for thousands of sequences at the same time, in a secure, intuitive environment.

“The spectacular progress in the field of antibody discovery calls for more powerful tools to effectively leverage all generated data. The new liability analysis capabilities will enable scientists to easily select better antibodies with even greater confidence”, said Jos Lunenberg, co-founder and Chief Executive Officer at ENPICOM.

Existing approaches to predict developability and identify sequence liabilities that are based on simple sequence analysis scale well in terms of the required computational resources, but do not provide sufficient accuracy, as they fail to consider the 3D structure of the antibody. Structural modeling, on the other hand, provides detailed insight into the surface exposure of unwanted motifs, leading to highly reliable liability predictions. Performing these predictions in a high-throughput manner is incredibly challenging and time-consuming, as it requires significant computational resources and specialized software infrastructure. ENPICOM solves these challenges by integrating SAbPred directly into the IGX Platform. SAbPred is developed by the Oxford Protein Informatics Group and is a validated, peer-reviewed, and globally recognized toolbox for accurate and efficient structural analysis of antibodies.

IGX Platform enables:

- Use a validated tool to independently perform structural modeling analysis and accurately annotate liabilities.
- Increase candidate success by flagging exposed liabilities early in the discovery phase and identify antibodies with the best developability properties.
- Annotate structural liabilities for thousands of sequences and integrate the developability information throughout their entire workflow.
- Configure their own liability penalties through an intuitive UI to compute scores that align with their de-risking strategy.
- Benchmark candidate developability profiles against a database of clinically validated antibodies.

- Overlay developability characteristics on information-rich visualizations like phylogenetic trees to prioritize and select the best candidates.

The IGX Platform and the Antibody Discovery Module provide an end-to-end cloud solution.