



Personalis Publishes New Data Demonstrating Performance and Utility of SHERPA for High-Accuracy Neoantigen Prediction and Cancer Diagnostic Biomarker Development

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MENLO PARK, Calif.--(BUSINESS WIRE)--Oct. 26, 2021--Personalis, Inc. (Nasdaq: PSNL), a leader in advanced genomics for cancer, today announced the publication of its study "[Precision neoantigen discovery using large-scale immunopeptidomes and composite modeling of MHC peptide presentation](#)," in the *Immunopeptidomics* Special Issue of the journal *Molecular & Cellular Proteomics*.

The Personalis authors created Systematic HLA Epitope Ranking Pan Algorithm (SHERPA™), a novel pan-allelic machine learning algorithm for predicting MHC-peptide binding and presentation that demonstrates significantly improved performance compared to currently available prediction tools. To improve performance and generalizability, SHERPA was trained with immunopeptidomics data from newly engineered cell lines mono-allelic for HLA combined with other publicly available datasets. In addition, SHERPA was designed to more comprehensively capture epitope binding and presentation features to further enhance the predictive power of the algorithm. Using a composite model constructed with gradient boosting decision trees, multi-allelic deconvolution, and 2.15 million peptides encompassing 167 unique human HLA alleles, SHERPA achieved a 1.44-fold improvement of positive predictive value compared to existing tools when evaluated on independent mono-allelic datasets. Since publication, Personalis has further expanded the in-house generated immunopeptidomics training data set to a total of ~70 mono-allelic cell lines, resulting in a new version of SHERPA with further enhanced performance.

"Integrating data from diverse cell lines and tissue types improved the generalizability of our models compared to other *in silico* methods, a critically important aspect when applying our models to patient samples. With a high degree of accuracy, SHERPA has the potential to enable higher accuracy neoantigen binding prediction for many clinical applications," said Richard Chen, MD, Personalis' CMO and SVP of R&D. "With this advancement, SHERPA is expected to facilitate the discovery of more predictive biomarkers for cancer therapy as well as empower the development of neoantigen-targeting, personalized cancer therapies. Our recently published [NEOPS™ biomarker](#) is one example of a SHERPA-derived composite biomarker that has shown promise in predicting immunotherapy response in cancer patients."

The publication can be found at this [link](#).

About Personalis, Inc.

Personalis, Inc. is a leader in advanced cancer genomics for enabling the next generation of precision cancer therapies and diagnostics. The Personalis [NeXT Platform](#)® is designed to adapt to the complex and evolving understanding of cancer, providing its biopharmaceutical customers and clinicians with information on all of the approximately 20,000 human genes, together with the immune system, from a single tissue sample. In population sequencing, Personalis operates one of the largest sequencing operations globally and is currently the sole sequencing provider to Veterans Affairs' Million Veteran Program. To enable cancer and population sequencing, Personalis' [Clinical Laboratory](#) was built with a focus on clinical accuracy, quality, big data, scale and efficiency. The laboratory is GxP-aligned as well as Clinical Laboratory Improvement Amendments of 1988-certified and College of American Pathologists-accredited. For more information, visit www.personalis.com and follow Personalis on Twitter ([@PersonalisInc](#)).

Forward-Looking Statements

All statements in this press release that are not historical are "forward-looking statements" within the meaning of U.S. securities laws, including statements relating to attributes or advantages of SHERPA, NEOPS, or the Personalis NeXT Platform, Personalis' business opportunities, leadership, plans, vision or growth, or other future events. Such forward-looking statements involve risks and uncertainties, including those related to the COVID-19 pandemic, that could cause actual results to differ materially from any anticipated results or expectations expressed or implied by such statements. Factors that could materially affect actual results can be found in Personalis' filings with the U.S. Securities and Exchange Commission, including Personalis' most recent reports on Forms 8-K, 10-K and 10-Q, and include those listed under the caption "Risk Factors." Personalis disclaims any obligation to update such forward-looking statements.



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