Monte Rosa Announces Publication in Science of Key Insights that Enable Next Generation Molecular Glue Degrader Medicines

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Monte Rosa's AI/ML-powered insights dramatically increase targetable protein space for molecular glue degraders, unlocking new opportunities to address previously undruggable therapeutic targets

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Molecular Glue Computational mining expands the target space for induced-proximity drugs

BOSTON, July 03, 2025 (GLOBE NEWSWIRE) -- Monte Rosa Therapeutics, Inc. (Nasdaq: GLUE), a clinical-stage biotechnology company developing novel molecular glue degrader (MGD)-based medicines, today announced the publication of groundbreaking new discoveries featured on the cover of Science. The research article, "Mining the CRBN Target Space Redefines Rules for Molecular Glue-induced Neosubstrate Recognition," details how Monte Rosa's proprietary artificial intelligence (AI) and machine learning (ML) engine has uncovered a broad range of human proteins potentially accessible to cereblon (CRBN)-based degradation, spanning diverse protein domains and classes. These findings dramatically expand the actionable target space for MGD drug discovery.

"The findings from this landmark publication, featured on the cover of Science, have accelerated our ability to develop first-in-class medicines for historically intractable targets, validating the power of our QuEEN™ discovery engine to create the next generation of molecular glue degrader medicines," said Sharon Townson, Ph.D., Chief Scientific Officer of Monte Rosa. "We're already leveraging these insights to advance our growing pipeline of differentiated MGDs and future medicines that have the potential to transform patients' lives."

"Our cutting-edge approach to MGD discovery integrates internal datasets with geometric deep learning to characterize protein surfaces. We have uncovered new rules of engagement between protein targets, small molecules and E3 ligases such as cereblon that we're actively exploiting via our proprietary QuEEN discovery engine to rationally design exquisitely selective degrader therapies," said John Castle, Ph.D., Chief Data and Information Officer at Monte Rosa. "This work not only highlights the flexibility of cereblon but also demonstrates our ability to design MGDs that address previously inaccessible, disease-relevant proteins."

Monte Rosa's QuEEN discovery engine uses custom-built AI/ML algorithms to analyze protein surfaces at unprecedented scale, identifying previously unrecognized surfaces capable of recruiting cereblon for targeted protein degradation. The novel surface features greatly expand the reach of MGDs and redefine the requirements that govern molecular glue-induced target engagement. The paper further details Monte Rosa's proprietary AI and ML approaches that enabled these discoveries, incorporating geometric deep learning to encode protein surface patches and project geometrical features across the proteome to identify complementary structures that can mediate protein-protein interactions. The analysis successfully identified new protein targets amenable to Monte Rosa's drug discovery approach, spanning more than 100 target classes, many of which are currently considered to be inaccessible to small molecule binding. The findings significantly broaden Monte Rosa's potential therapeutic reach in areas including immunology, inflammation and oncology, where the company is currently advancing programs in the clinic.

About Monte Rosa
Monte Rosa Therapeutics is a clinical-stage biotechnology company developing highly selective molecular glue degrader (MGD) medicines for patients living with serious diseases in the areas of oncology, autoimmune and inflammatory diseases, and more. MGDs are small molecule protein degraders that have the potential to treat many diseases that other modalities, including other degraders, cannot. Monte Rosa's QuEEN™ (Quantitative and Engineered Elimination of Neosubstrates) discovery engine combines AI-guided chemistry, diverse chemical libraries, structural biology, and proteomics to rationally design MGDs with unprecedented selectivity. Monte Rosa has developed the industry's leading pipeline of MGDs, which spans autoimmune and inflammatory diseases, oncology, and beyond. Monte Rosa has a global license agreement with Novartis to advance VAV1-directed molecular glue degraders and a strategic collaboration with Roche to discover and develop MGDs against targets in cancer and neurological diseases previously considered impossible to drug. For more information, visit www.monterosatx.com.

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