

The NIMML Institute and NImmune Biopharma Showcase How the TITAN-X A.I. Platform has Accelerated Therapeutic Development in the *Annual Review of Biomedical Data Science*

TITAN-X Precision Medicine A.I. Platform identifies therapeutic targets and successfully fueled development of expandable pipelines with leading therapeutic assets in Phase 1-3 clinical testing

Integrates A.I., bioinformatics and advanced multi-scale modeling of immunometabolic mechanisms to accelerate the pace of drug development

Unlocked the therapeutic potential of new immunometabolic targets for inflammatory and autoimmune diseases such as LANCL2, LANCL3, and NLRX1, IL-18, or PLXDC2

Enabled the development of the next wave of precision medicines such as omilancor, NIM-1324 and ABBV-113 for inflammatory and autoimmune diseases, starting with IBD

TITAN-X has guided the path to patients and commercial strategy of omilancor with US FDA New Drug Application (NDA) in Ulcerative Colitis patients planned by 2027 and additional NDAs stacked

BLACKSBURG, Va.--(BUSINESS WIRE)--The NIMML Institute, ("NIMML"), a 501 (c)(3) nonprofit research institute dedicated to the discovery of novel precision medicines for infectious and autoimmune diseases, today announced publication of four new case studies in the *Annual Review of Biomedical Data Science*. Together, they demonstrate how the A.I.-powered TITAN-X Precision Medicine Platform ("TITAN-X") has been leveraged to identify therapeutic targets and fueled the development of multiple therapeutic program pipelines that have successfully entered clinical testing.

In a research collaboration with NImmune Biopharma ("NImmune"), a Phase 3 inflammation and immunology (I&I) private biopharmaceutical company focused on the discovery and development of first-in-class and best-in-class biomarker-driven I&I therapeutics, TITAN-X has been deployed to identify novel therapeutic targets to support the development of late clinical stage biomarker-driven immunoregulatory therapeutics such as omilancor for inflammatory bowel disease (IBD) and NIM-1324 for lupus, rheumatoid arthritis, and a wide range of other I&I indications. TITAN-X also shaped the development of NX-13, which was acquired by Abbvie in March 2024 and is now called ABBV-113, as well as multiple additional novel MoA targets and drug candidates for I&I indications.

"These use cases provide several exciting and successful applications of our innovative TITAN-X platform in infectious, inflammatory and autoimmune diseases, highlighting our now clinically proven methods of leveraging large-scale datasets to advance immunological research and drug discovery for I&I," said Dr. Josep Bassaganya-Riera, Founding Director of NIMML and Founder & CEO of NImmune. "We are very pleased to share how advanced computational systems in biomedicine and drug development can accelerate the development of the next wave of precision medicines. Data-driven and A.I.-powered approaches like the TITAN-X computational platform have already enhanced the pace of drug development, and we are eager to continue leveraging its capabilities to reduce costs, tailor treatments to specific patient populations, and increase the probability of success in clinical trials, starting with NImmune's LANCL2 therapeutic pipeline."

The article describes how TITAN-X was carefully engineered to rapidly and efficiently integrate large-scale immunology datasets in drug discovery and development. The proprietary platform integrates big data with A.I.,

bioinformatics, and advanced computational modeling to enable a seamless and cost-effective transition from early target discovery to clinical testing, launch and commercialization of the next wave of first-in-class therapeutics for inflammatory and autoimmune diseases, developing biomarker-driven precision medicines tailored to specific patient populations.

Building upon NIMML's expertise in engineering large-scale computational models of the immune system and its advanced computational tools, TITAN-X is designed to study immunity as a massively and dynamically interacting system that is intimately interconnected with key metabolic processes. Following bioinformatic analysis of differentially expressed genes from patient biopsy specimens, TITAN-X can identify transcriptional predictive signatures using its proprietary A.I. algorithms. By analyzing both global gene expression patterns and metabolic profiles while integrating clinical data, TITAN-X can identify responder patterns to facilitate precision medicine approaches for drug development, ensuring that patients receive the best therapies that are most likely to benefit them according to their unique profiles.

About the TITAN-X Platform

The TITAN-X Precision Medicine Platform combines A.I. methodologies, bioinformatics, and advanced computational modeling to accelerate the development of precision medicines to address the unmet clinical needs of patients with autoimmune diseases. Building upon NIMML's expertise in engineering large-scale computational models to study immunity as a massively and dynamically interacting system, the TITAN-X Platform integrates each step from new target discovery to enabling biomarker-driven precision clinical drug development. Following bioinformatic analysis of differentially expressed genes from patient biopsy specimens, the TITAN-X Platform can identify transcriptional predictive signatures by using its advanced A.I. algorithms. By analyzing gene expression patterns and integrating clinical data, the TITAN-X Platform can identify responder patterns, facilitating precision medicine approaches for drug development. This ensures that patients receive therapies that are most likely to benefit them according to their unique genetic signatures and clinical profiles, and that are tailored to maximize efficacy, safety, tolerability and minimize adverse side effects. The TITAN-X Platform has shaped the clinical development of omilancor, NX-13 (acquired by Abbvie in March 2024 and now called ABBV-113), NIM-1324 and multiple additional novel MoA targets and drug candidates in preclinical development for I&I indications.

About NIMML

The NIMML Institute is a 501 (c) (3) non-profit foundation focused on applying transdisciplinary, team-science approaches to precision medicine. The NIMML Institute applies its TITAN-X advanced A.I.-powered platform to large-scale transdisciplinary projects aimed at solving important public health problems through precision medicine. NIMML combines the expertise of immunologists, computational biologists, toxicologists, computational modelers, translational and clinical researchers, and molecular biologists to translate novel scientific discoveries into medicines for human diseases. The Institute is headquartered in Blacksburg, VA. For more information, please visit www.NIMML.org.

About Nimmune Biopharma

Nimmune is a late-stage precision inflammation and immunology (I&I) biopharmaceutical company that develops novel best-in-class biomarker-driven immunoregulatory therapeutics. Underpinned by the TITAN-X computational platform that utilizes advanced computational modeling, A.I. and bioinformatics coupled with biomedical research capabilities to pioneer innovation in immunoregulatory drug development, Nimmune's business model enables the rapid and capital-efficient clinical development of high conviction drug candidates into New Drug Application (NDA) filing and commercialization. The lead product candidate from Nimmune's discovery platform is omilancor, a wholly-owned oral, once-daily, gut-restricted, first-in-class therapeutic currently in Phase 3 development, which targets LANCL2 for Ulcerative Colitis and Crohn's disease. Phase 2 proof-of-concept data for omilancor show potential best in class efficacy and safety. For more information, please visit www.NIMMUNEBIO.com.

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