

Programme: Horizon Europe

Project Start Date: 01/04/2025

Project Duration: 33 months

Project ID: 101214245

Call for proposals: HORIZON-EIC-2024-TRANSITION-0

Coordinator: KYRON.BIO

Project participants: 10

Project value: 2,499,549.38€

Genos contribution: 792,277.75€



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GLYCOBOOST

Precision control of glycosylation to open a new era of therapeutic antibodies

Biologics comprise a \$511B market of advanced therapeutics that are used to treat cancer, autoimmune diseases, infectious diseases and beyond. Two thirds of biologics are decorated with sugar molecules attached to the therapeutics, including all antibody therapeutics, called monoclonal antibodies (mAbs). These sugar molecules are known as N-glycans and are vitally important for therapeutic safety and efficacy. To date, the N-glycans are poorly controlled and, as such, display highly heterogeneous patterns on a therapeutic. This complicates large-scale production and regulatory approval of biologics, and significantly limits the possibility of using N-glycans in therapeutic design. GlycoBoost revolutionises mAb design by delivering consistent N-glycans, precisely profiled with advanced analytical techniques. This innovation unlocks the full potential of N-glycans to elevate the effectiveness of mAbs.

Kyron.bio's breakthrough technology uses cell engineering to produce therapeutic proteins with uniform and precision-controlled N-glycan patterns. This technology is being used to produce glycoengineered mAbs that are safer and more effective for patients, starting with mAbs used to treat autoimmune diseases where patient resistance to current treatments remains high.

Through a well-established collaboration between kyron.bio and Genos, one of the world leaders in glycoanalytics on whose SYSCID project this proposal is built, GlycoBoost aims to advance the project to commercialisation through the development of advanced glycoanalytical techniques, preclinical evaluation, pre-industrialisation, bespoke customer PoC's, partnership-building, and fundraising. GlycoBoost will place Europe at the heart of the glycobiology revolution, leading to the development of safer and more effective treatments for autoimmune diseases and ultimately redefining the landscape of therapeutic drug development.