

Lead modification

Controlled glycosylation

GlyTech has successfully transformed glycosylation into a powerful tool for drug development by overcoming the traditional challenges of heterogeneity, limited manufacturing scale, and the extremely high cost of attaching glycans to target molecules.

Selective chemical glycosylation offers a new way to develop promising new drug candidates and advance existing biotherapeutic candidates to the next stage.

Bio-compatible

- Naturally occurring biomolecules in the human body
- Low risk of immunogenicity and unexpected toxicity

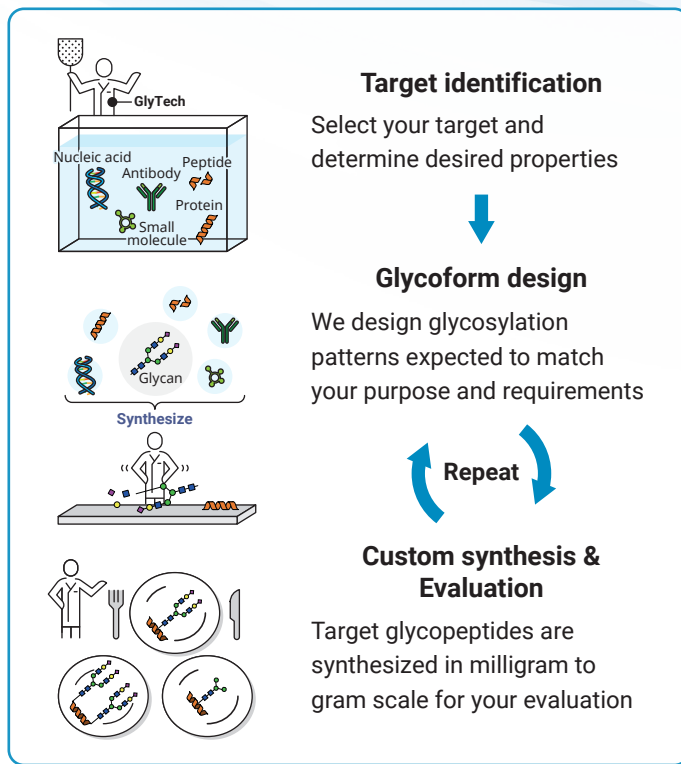
Site-specific modification

- **Sequence-independent design:** freely design glycosylation site, structure, and number
- **Homogeneity:** simplify purification, QC, and characterization during development

Versatile

- Glycosylation can improve: aqueous solubility, circulation lifetime, in vivo biological activity, receptor selectivity, response to therapy, tolerance
- Glycosylation can decrease: immunogenicity, aggregation

R&D stage



Clinical development and commercialization

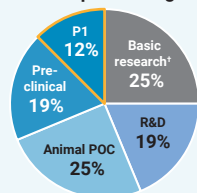
API manufacturing

Scale-up development and API manufacturing with our global partners

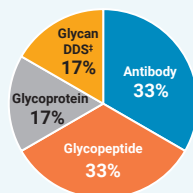
Number of projects*



Development stage



Classification



* Includes pipeline assets developed by GlyTech, co-development projects with pharmaceutical companies, and research collaborations with academia and research institutions. [†] Research that explores potential applications and functions of glycans, with results not yet proven or used in practical drug development. [‡] Drug delivery systems that use glycans to alter bio-distribution.

Why chemical glycosylation?

Using our proprietary chemical methods, GlyTech is truly able to design and control the glycan profile of a target (glycan position, structure, and number) while bypassing the need for cell expression and gene editing. The issues of heterogeneity, complicated purification, difficult characterization, and removal of biological contaminants are no longer hurdles to glycosylated therapeutic development. Our platform is fully scale-able, allowing us to not only support you at the discovery stage, but also synthesize the material needed at each stage of drug development up to commercial manufacturing.

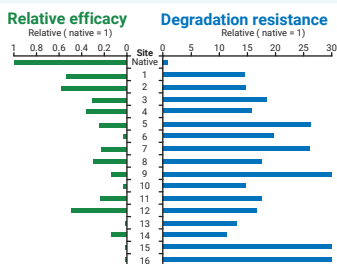
Advantages of chemical glycosylation

- Homogenous, highly pure product
- Highly controllable glycan profile
- Applicable from small molecule drugs to peptides, proteins, and antibodies
- Simplified purification and characterization

How we design glyco-conjugates

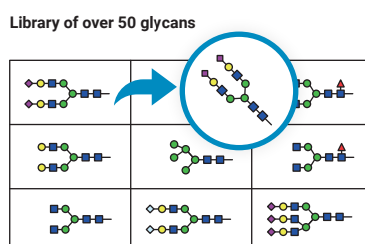
Screen for the best position

We can freely insert one or more glycosylation sites along a peptide backbone, allowing us to screen for more glycosylation sites than other methods and find the best position to balance stability and binding affinity.



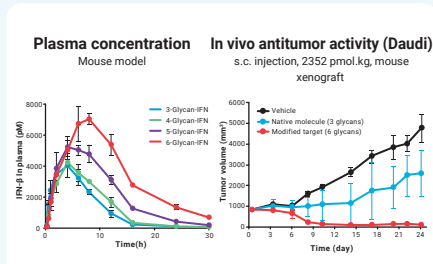
Select glycan structures

Choice of glycan structure can alter the properties they give to target peptides, such as stability, bio-distribution, and activity. We help clients select appropriate structures based on established knowledge, cutting-edge research, and our many years of experience.

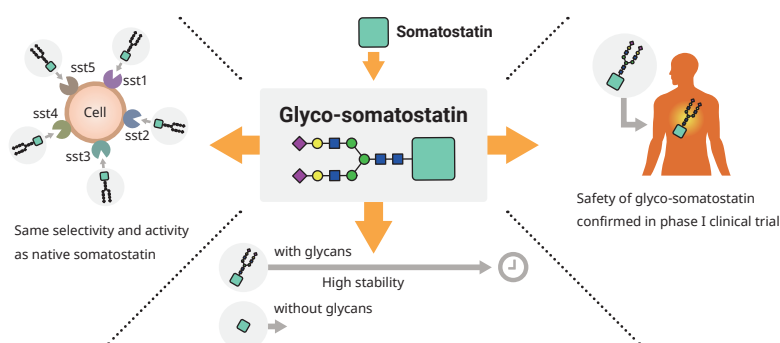


Specify the number of glycans

Although glycans are smaller in molecular weight than other artificial polymers, the half-life of the target molecule can be further prolonged by increasing the number of glycans attached without extensively reducing affinity or activity.

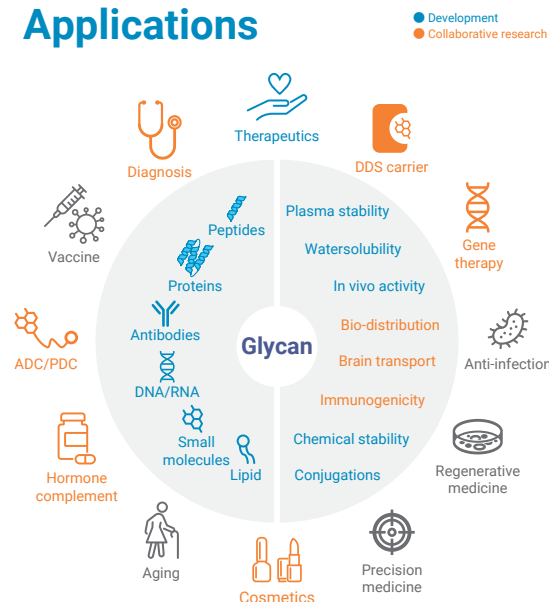


Better biotherapeutics using glycans



One of the therapeutic candidates being developed in our in-house pipeline, our chemically glycosylated somatostatin demonstrates the power and utility of our platform. Selective attachment of a glycan to somatostatin successfully prolongs its half-life without sacrificing its full 5-receptor affinity, rare for a somatostatin analog. Successful Phase I clinical trial completion has confirmed the safety and tolerability of glyco-somatostatin, which represents a promising therapeutic candidate for patients with needs unmet by current commercial analogs and for shedding light on new indications related to different somatostatin receptor subtypes.

Applications



Seeking a novel modification technology for your current project? We would be glad to help you identify whether glycosylation is the right fit – contact us today!



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GlyTech, Inc.
Glycoscience for Better Health