

Creative Biolabs Introduces Anti-Glycopeptide Antibody Discovery Workflow to Accelerate Cancer Therapeutic Development

Creative Biolabs' integrated workflow addresses challenges in anti-glycopeptide antibody discovery, including weak immunogenicity and antigen instability.

SHIRLEY, NY, UNITED STATES, June 29, 2026 /EINPresswire.com/ -- Creative Biolabs announced the expansion of its [anti-glycopeptide antibody development](#) capabilities through an optimized discovery framework designed to address key challenges in glycopeptide-targeted therapeutic development, including weak immunogenicity, cross-reactivity, and antigen instability.

Growing scientific evidence has highlighted the therapeutic potential of tumor-specific glycopeptide neoepitopes. Recent studies have demonstrated that aberrant glycosylation on proteins such as MUC1 can generate unique glycopeptide structures selectively recognized by the immune system. In addition, tumor-associated carbohydrate antigens (TACAs), including Tn and sTn antigens, can form distinctive glycopeptide junctions when linked to protein backbones such as CD43, creating highly specific biomarkers and therapeutic targets for cancer treatment.

Despite their promise, glycopeptide-targeted antibody programs often encounter significant technical obstacles during discovery and development. Researchers must overcome weak immune responses associated with carbohydrate-rich antigens, minimize cross-reactivity with normal glycans and peptide structures, and develop immunogens that accurately mimic native glycopeptide conformations found on cell surfaces.



Creative Biolabs

To help address these challenges, Creative Biolabs has established an optimized anti-glycopeptide antibody development workflow that combines proprietary glyco-conjugation technologies, advanced adjuvant strategies, and high-throughput screening capabilities. The platform is designed to enhance immunogenicity and support the generation of high-affinity IgG antibodies against clinically relevant glycopeptide targets.

"Precise glycosylation control is essential for generating antibodies capable of distinguishing disease-associated glycopeptide junctions from normal tissue structures," said a scientist at Creative Biolabs. "By combining defined synthetic antigens with comprehensive screening technologies, we help researchers identify highly specific antibody candidates for challenging glycopeptide targets."

A key component of the platform is Creative Biolabs' high-throughput [glycopeptide microarray screening platform](#). The technology evaluates thousands of antibody candidates against extensive panels of target glycopeptides, structurally related glycans, and corresponding unglycosylated peptide backbones. This approach facilitates early identification of lead clones exhibiting desirable specificity profiles while reducing the risk of off-target binding.

Creative Biolabs currently offers specialized development services for a variety of clinically relevant glycopeptide targets, including:

- * Anti-CD43 Glycopeptide Antibody Development – Supporting the discovery of antibodies targeting unique Tn- and sTn-associated glycopeptide epitopes on CD43, an important biomarker in hematological malignancies and selected solid tumors.
- * [Custom Glycopeptide Target Antibody Development](#) – Providing end-to-end solutions for client-defined glycopeptide targets, from antigen synthesis and antibody generation to characterization and preclinical validation.

Frequently Asked Questions

Q1: How do you ensure the antibody binds the glycopeptide and not just the glycan?

We employ a stringent counter-screening strategy. After immunization, clones are screened against three targets: the immunizing glycopeptide, the naked peptide, and an irrelevant protein scaffold carrying the same glycan. We select only those clones that bind the glycopeptide but fail to bind the naked peptide or the irrelevant glycosylated scaffold.

Q2: Can you develop antibodies for targets other than MUC1?

Yes. We have experience with MUC4, MUC16, MUC5AC, Podocalyxin, CD43, and CD44.

Furthermore, our custom solutions allow us to target any protein where a specific glycosylation site is known or suspected to be a biomarker.

Researchers interested in anti-glycopeptide antibody development can learn more about Creative Biolabs' glycan-targeting solutions at <https://www.creative-biolabs.com/anti-glycan-antibodies/>.

About Creative Biolabs

Creative Biolabs is a leading global biotechnology company dedicated to providing specialized research solutions for antibody discovery and development. Utilizing advanced glycobiology platforms, the company delivers high-specificity anti-glycan and anti-glycopeptide antibody development services to support oncology, immunology, and diagnostic programs worldwide.

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