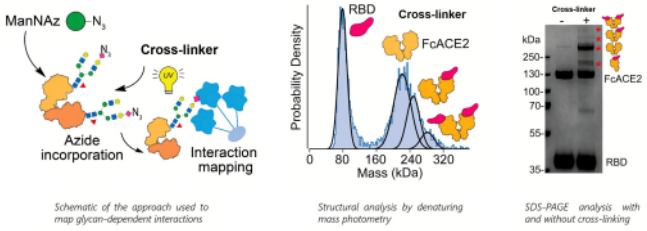
PROJECT NUMBER

**24161**

# Glycan - Protein crosslinker for mass spectroscopy interaction studies

This technology introduces a novel bifunctional crosslinker designed specifically for glycan–protein interaction
analysis using crosslinking mass spectrometry (XL-MS). By integrating azide specificity with carbene-based proximity
reactivity, it enables controlled, high-resolution mapping of complex and dynamic biomolecular interfaces.

**Applications:** Virus–host interaction mapping; glycan-mediated attachment studies; antiviral target discovery; vaccine antigen optimisation; infectious disease modelling




| Features | Benefits |
|---|---|
| The crosslinker combines an azide-reactive moiety with an activatable carbene generator, enabling selective binding to glycan residues alongside non-specific capture of nearby amino acids | Provides comprehensive interaction mapping, significantly improving detection of transient and weak glycan–protein interactions that are typically missed |
| The carbene-generating moiety can be activated at a defined time point, allowing researchers to “freeze” interactions dynamically | Facilitates time-resolved studies of biological processes such as viral entry, immune recognition, and receptor binding |

| Features | Benefits |
| --- | --- |
| The integrated design avoids inefficiencies associated with multi-step or poorly incorporated probes | Generates richer datasets per experiment, improving structural resolution while reducing experimental repetition and cost |
| The azide-targeting functionality leverages established metabolic or chemical incorporation of azide-modified sugars into glycans | Seamlessly integrates into existing glycomics and proteomics workflows without requiring significant methodological overhaul |
| Specifically suited to interrogating glycan-mediated interactions on viral surfaces and host receptors | Supports drug discovery, vaccine design, and antiviral research by revealing previously inaccessible molecular interaction landscapes |

## Available for

- Co-development
- Consulting
- Licensing

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To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.