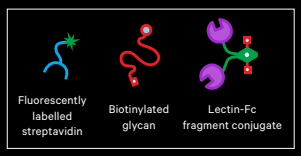
Glycan binding insights | Get to know your lectin

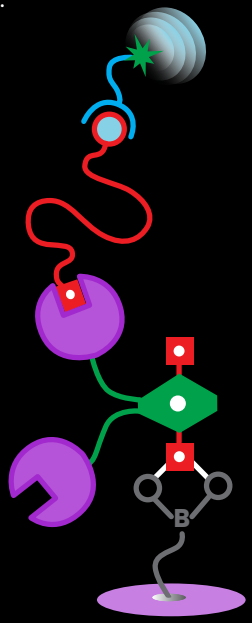
How lectins bind to glycans

Lectins are proteins that bind carbohydrate structures (glycans) and are found within numerous plant and animal tissues and organisms.

Lectins bind glycans at their active site which is called the carbohydrate recognition domain (CRD).

Lectin binding to glycan





Understanding glycan-binding specificity

Lectin binding is complex. Historically it has been difficult to dissect the specificity of these complex interactions.

You can understand binding through tools such as:

- Lectin inhibition assays
- Glycan arrays
- Machine learning[1,2]

Resources to help

Useful Guide to Lectin Binding

We recommend looking at "A Useful Guide to Lectin Binding: Machine-Learning Directed Annotation of 57 Unique Lectin Specificities" from the Mahal Lab at the University of Alberta to get more info on a broad range of lectins.[3]

National Center for Functional Glycomics (NCFG)

We recommend checking out the NCFG which aims to provide assistance and answers to glycoscience questions and problems as well as offers multiple types of microarrays, helping you advance your research.

Publication search

We recommend performing a publication search on lectin and glycan research to build your background on the ways you can utilize lectins in your research.

Vendor validation

We recommend gathering information from the vendors you use, such as Vector Laboratories, who can provide you more insights to help you maximize your protocols.

References

1. Kletter D, et al. 2013. Determining Lectin Specificity from Glycan Array Data Using Motif Segregation and GlycoSearch Software. *Current Protocols in Chemical Biology*.
2. Lam SK, et al. 2010. Lectins: Production and Practical Applications. *Applied Microbiology and Biotechnology*.
3. Bojar D, et al. 2022. A Useful Guide to Lectin Binding: Machine-Learning Directed Annotation of 57 Unique Lectin Specificities. *ACS Chemical Biology*.

For more information please visit
vectorlabs.com/glycobiology

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