

Glycobiology

Unlock deeper biological insights with lectins, glycan analysis kits, and reagents for glycobiology research

From tumor progression to viral capture to drug discovery, glycan modifications impact normal and disease states. Lectins are carbohydrate-binding proteins that specifically recognize and bind to distinct glycan structures on glycoproteins and glycolipids. Lectins have been widely adopted as tools for studying glycosylation. Lectins are the key to profiling, characterizing, and capturing complex glycans in biological systems, as well as leveraging functional assays to ask questions that were previously beyond reach. Vector offers tools including [lectins](#), [glycan and lectin screening kits](#), and [glycan detection kits](#) to advance glycobiology research.

50+ Years of Expertise



With [more than 50 years of experience](#) and [robust technical support](#), Vector Laboratories empowers researchers at all levels of glycobiology experience.

Proven Quality



Vector's lectins, kits, and reagents are [expertly manufactured](#) with unmatched [batch-to-batch consistency](#) and performance.

Trusted Tools



Vector lectins are [validated by the NCFG](#) for specificity and reproducibility and trusted in more than [25,000 peer-reviewed publications](#).



Featured Applications of Glycobiology Reagents

Lectins and other glycan analysis tools from Vector Laboratories provide specific binding in techniques like IHC, IF, Flow Cytometry, and ELISA, enabling new insights into biomarker discovery, disease mechanics, diagnostics, and therapeutics.

- ▶ **Infectious Disease:** The GNL lectin has been used to detect and neutralize viruses in COVID research^[1].
- ▶ **Cancer:** The ECL lectin can be used for NK cell enrichment^[2].
- ▶ **Cardiovascular Research:** The LEL lectin is an effective blood vessel marker for in vivo perfusion studies^[3].
- ▶ **Neuroscience:** The PHA-L lectin can be used to map neuronal projections^[4].

Glycobiology Tools from Vector Laboratories

Lectins



Vector Laboratories is a leading supplier of purified plant lectins which can be harnessed to probe glycans in applications like IHC, IF, Western Blotting, and Flow Cytometry. Vector Laboratories lectins are available in agarose-bound, biotinylated, fluorophore-conjugated, unconjugated and custom conjugated formats for flexible applications in glycan detection and analysis.

Glycan and Lectin Screening Kits



With a selection of curated lectins or lectin conjugates and optimized protocol, Glysite Scout Glycan Screening Kits and Lectin Kits (I, II, and III) provide rapid glycan analysis in IF, IHC, and more.

Glysite Explorer *in situ* PLA Glycan Detection Kit



The Glysite Explorer Kit and Glysite Explorer Lectins combine curated lectins with robust isPLA technology for the spatial imaging of protein glycosylation in FFPE cells and tissues.



Lectin Specificities

Vector Laboratories' portfolio of lectins cover major glycan target specificities, enabling diverse lectin applications.

Glycan target	Lectin
Mannose	Concanavalin-A (Con-A), Galanthus nivalis (GNL/GNA), Narcissus pseudonarcissus (NPL/NPA)
Complex N-glycan	Datura stramonium (DSL/DSA), Phaseolus vulgaris (PHA-L), Phaseolus vulgaris (PHA-E)
O-glycans	Jacalin, Maclura pomifera (MPL/MPA), Peanut agglutinin (PNA)
Fucose	Aleuria aurantia (AAL), Lens culinaris (LCA), Lotus tetragonolobus (LTL), Pisum sativum (PSA), Ulex europaeus agglutinin (UEA-I)
Sialic acid	Maackia amurensis I (MAL I), Maackia amurensis II (MAL II), Sambucus nigra (SNL/SNA)
GlcNac	Griffonia simplicifolia II (GSL II), Wheat Germ Agglutinin (WGA)
Terminal Galactose and/or LacNAc	Bauhinia purpurea (BPL/BPA), Erythrina Cristagalli (ECL/ECA), Griffonia simplicifolia I (GSL I), Griffonia (Bandelraea) simplicifolia I Isolectin B4 (GSL-I B4), Lycopersicon Esculentum Agglutinin (LEL/LEA), Ricinus Communis (RCA120), Ricinus Communis II (Ricin A Chain, Ricin B Chain), Solanum Tuberosum Agglutinin (STL/STA)
Terminal GalNAc	Dolichos biflorus (DBA), Soybean agglutinin (SBA), Vicia villosa (VVL/VVA), Wisteria floribunda (WFL/WFA)

References

1. Thompson AJ, Cao L, Ma Y, Wang X, Diedrich JK, Kikuchi C, Willis S, Worth C, McBride R, Yates JR 3rd, Paulson JC. Human Influenza Virus Hemagglutinins Contain Conserved Oligomannose N-Linked Glycans Allowing Potent Neutralization by Lectins. *Cell Host Microbe.*, 2020 May 13; **27(5)**:725-735. [[PubMed](#)]
2. Enrichment of NK Cells by Panning on Erythrina Cristagalli Plates [[pdf](#)]
3. Robertson RT, Levine ST, Haynes SM, Gutierrez P, Baratta JL, Tan Z, Longmuir KJ. Use of labeled tomato lectin for imaging vasculature structures. *Histochem Cell Biol.*, 2015 Feb; **143(2)**:225-34. [[PubMed](#)].
4. PHA-L Method for Tracing Efferent Neuronal Projections [[pdf](#)]

For more information on glycobiology reagents from Vector Laboratories, including use cases, scientific posters, and more, visit vectorlabs.com/glycobiology

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