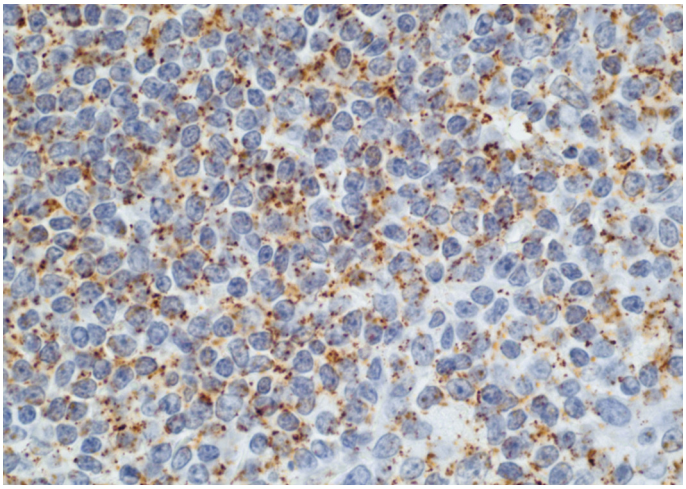
PRODUCT INFORMATION

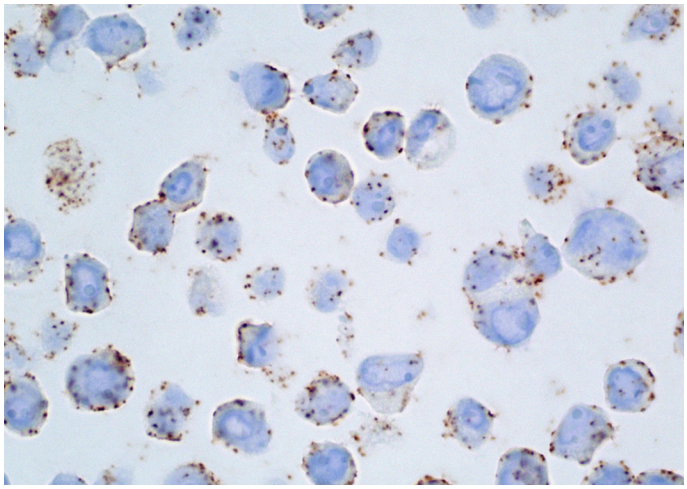
Glysite™ Explorer *in situ* PLA Glycan Detection Kit and Glysite™ Explorer Lectins

Unraveling Protein Glycosylation with Glysite™ Explorer

This novel kit is a fully integrated tool for the **spatial detection of glycans proximal to a protein of interest** in FFPE tissues, FFPE cell pellets, and fixed cells. This system integrates a curated panel of Vector's Glysite™ Explorer Lectins with Navinci's proprietary *in situ* Proximity Ligation Assay (isPLA).
This provides a simple approach to understand glycan-protein proximity with a spatial context.



Glysite™ Explorer isPLA Glycan Detection Kit (GEK-1000) with SNA Lectin (50x, GEK-1309) paired with a primary antibody against CD20 in FFPE Human Tonsil. Sample was co-stained with Hematoxylin QS.



Glysite™ Explorer isPLA Glycan Detection Kit (GEK-1000) with SNA Lectin (50x, GEK-1309) paired with a primary antibody against HER2 in BT474 FFPE Cell Pellet. Sample was co-stained with Hematoxylin QS.

Why Choose this Kit?

Go Beyond Protein Expression

Investigate the glycosylation status of proteins and orthogonally validate glycan-modified targets and biomarkers with this streamlined, easy-to-use, and reproducible approach. Researchers can now unlock a new dimension from their data.

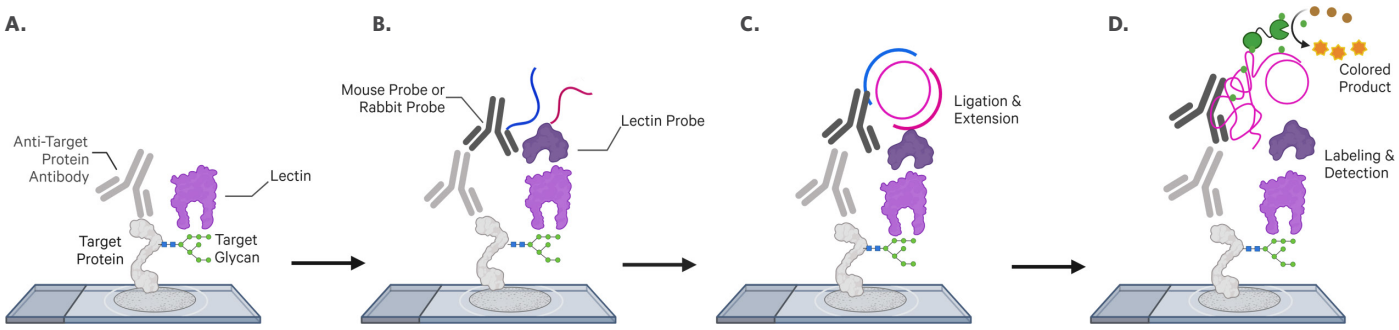
Insights From Any Sample

Compatible with various sample types, including FFPE tissues, FFPE cells, and fixed cells. Scientists can advance their understanding of protein glycosylation in disease biology, biomarker discovery, and translational studies.

Plug Into IHC Workflow

Designed to fit into standard IHC and isPLA workflows and provides additional data from your samples.

Workflow



Schematic of Glysite™ Explorer* in situ *PLA Glycan Detection Kit. A. *Lectin binds to target glycan and primary antibody binds to target protein.* ***B.*** *Oligo probes bind to primary antibody and lectin.* ***C.*** *When oligo probes are in proximity (~40 nm), ligation occurs.* ***D.*** *Amplification and detection produces a colored precipitate at the site of proximity. Created with BioRender.com.*

Trusted Technology

For over 45 years, Vector Laboratories has expertly manufactured high-quality lectins, ensuring batch-to-batch consistency and superior performance. Vector's lectins are independently validated by the National Center for Functional Glycomics (NCFG) using glycan microarrays. NCFG profiling confirms the precise glycan binding specificity of each lectin and highlights the exceptional robustness and reproducibility that distinguishes Vector's glycobiology products.

Developed in partnership with Navinci, Vector Labs' Glysite™ Explorer *in situ* PLA Glycan Detection Kit provides a new and valuable tool for the detection and quantification of protein glycosylation in its native environment. This unique technology provides a spatially precise means of examining proximity between two biological targets. By utilizing oligo-labeled secondary probes, signal amplification can be achieved through Rolling Circle Amplification (RCA) which provides crisp puncta on cell and tissue samples that can be visualized when the targets are proximal.

Reagents

The Glysite™ Explorer *in situ* PLA Glycan Detection Kit (GEK-1000) provides all core reagents needed for the workflow. To complete your assay, simply select at least one Glysite™ Explorer Lectin (and up to 10) and supply your mouse or rabbit primary antibody of choice. Additional ancillary reagents for this kit are available for purchase on the Vector website.

Ordering Information

Product Name	Unit Size	Cat. No.
Glysite™ Explorer *in situ* PLA Glycan Detection Kit	1 Kit	GEK-1000
Glysite™ Explorer AAL Lectin (50x)	0.1 mL	GEK-1399
Glysite™ Explorer ECL Lectin (50x)	0.1 mL	GEK-1149
Glysite™ Explorer GNL Lectin (50x)	0.1 mL	GEK-1249
Glysite™ Explorer Jacalin Lectin (50x)	0.1 mL	GEK-1159
Glysite™ Explorer LCA Lectin (50x)	0.1 mL	GEK-1049
Glysite™ Explorer MAL II Lectin (50x)	0.1 mL	GEK-1269
Glysite™ Explorer PHA-L Lectin (50x)	0.1 mL	GEK-1119
Glysite™ Explorer SNA Lectin (50x)	0.1 mL	GEK-1309

Product Name	Unit Size	Cat. No.
Glysite™ Explorer WFA Lectin (50x)	0.1 mL	GEK-1359
Glysite™ Explorer WGA Lectin (50x)	0.1 mL	GEK-1029

Storage Condition

For the Glysite™ Explorer *in situ* PLA Glycan Detection Kit, store Box 1 reagents at 4°C. Do not freeze. Store Box 2 reagents at -20°C.

For Glysite™ Explorer Lectins, store reagents in original bottles at 4°C. Do not freeze.

Lectin Specificity

Lectin	Binding Motif (1)	Category
AAL Lectin	α-Fucose	Fucose
ECL Lectin	Terminal type 2 LacNAc, Terminal type 2 LacdiNAc	LacNAc
GNL Lectin	Terminal α1-3 or α1-6 mannose	Mannose
Jacalin Lectin	Core 1 and 3 *O*-glycans, 3-substituted GalNAcα	Core *O*-glycan
LCA Lectin	α1-6 fucose	Fucose
MAL II Lectin	α2-3-sialylated Galβ1-3GalNAc in *O*-glycans, 3' sulfated Galβ	Sialic Acid and Sulfation
PHA-L Lectin	β1-6 branched *N*-glycans, Binds tri- and tetraantennary	Complex *N*-glycan
SNA Lectin	α2-6 sialylated LacNAc, α2-6 sialylated LacdiNAc	Sialic Acid
WFA Lectin	Terminal GalNAcβ, Terminal GalNAcα, Terminal multiantennary LacNAc	GalNAc
WGA Lectin	Terminal GlcNAcβ, Terminal GlcNAcα, Terminal N-acetyl-containing glycans	GlcNAc

(1) Bohar D, et al. 2022. A Useful Guide to Lectin Binding: Machine-Learning Directed Annotation of 57 Unique Lectin Specificities. ACS Chemical Biology.

Additional Ancillary Reagents

Product Name	Unit Size	Cat. No.
Antigen Unmasking Solution, Citrate-Based	250 mL	H-3300-250
Antigen Unmasking Solution, Tris-Based	250 mL	H-3301-250
ImmEdge® Hydrophobic Barrier PAP Pen	2-Pen Set	H-4000
VectaMount® PT Permanent Mounting Medium	60 mL	H-5600-60
VectaMount® Express Mounting Medium	60 mL	H-5700-60
VectaMount® AQ Aqueous Mounting Medium	60 mL	H-5501-60

vector LABORATORIES