Rat LYVE-1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7939

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat LYVE-1 in direct ELISA and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse LYVE-1 is observed, and approximately 10% cross-reactivity with recombinant human LYVE-1 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat LYVE-1 Thr53-Thr259 Accession # NP_001099756
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

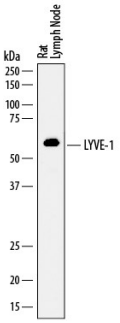
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

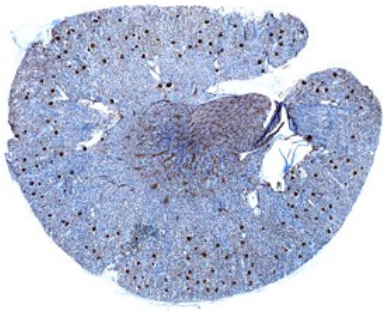
DATA

Western Blot



Detection of Rat LYVE-1 by Western Blot. Western blot shows lysates of rat lymph node tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Rat LYVE-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7939) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for LYVE-1 at approximately 60 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



LYVE-1 in Rat Kidney. LYVE-1 was detected in perfusion fixed frozen sections of rat kidney using Sheep Anti-Rat LYVE-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7939) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to glomeruli. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

LYVE-1 (Lymphatic vessel endothelial hyaluronic acid receptor 1; also CRSBP-1) is a 58-64 kDa, monomeric, glycoprotein member of the Link protein superfamily of hyaluron-binding molecules. It has limited expression, being found on the cell surface of lymphatic endothelial cells, endothelial cells of lymphoid sinuses, nodal stromal cells, and macrophages plus dendritic cells. HA (hyaluronan) is a nonsulfated, freestanding, repeating disaccharide consisting of GlcA (glucuronic acid) in β-linkage with GlcNAc (N-acetylglucosamine). It should not be confused with heparan, which is sulfated, protein-linked, and composed of repeating GlcA/IdoA and GlcNAc residues in both α- and β-linkages. HA is ubiquitous and occupies space between collagen fibers. It undergoes both normal, and pathology-induced turnover, and presumably does so by binding to LYVE-1, CD44 and HARE on lymphatic endothelium. Ultimately, HA is transported to the liver and nodes where it undergoes degradation. This may be necessary as low MW HA is proinflammatory. LYVE-1 is also a receptor for PDGF-BB and VEGF-A, and LYVE-1 ligation apparently induces endothelial cell contraction with the opening of intercellular junctions. Based on mouse, rat LYVE-1 is synthesized as a 343 amino acid (aa) type I transmembrane protein that contains a very long signal sequence (aa 1-52). The extracellular region is likely to be 182 aa in length (aa 53-234) and contain one Link domain (aa 62-210). LYVE-12 is likely maintained in a default "off mode" by undergoing sialylation, possibly at Thr83. Over aa 53-259, rat LYVE-1 shares 82% and 60% aa sequence identity with mouse and human LYVE-1, respectively.

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