

DESCRIPTION

Species Reactivity	Human
Specificity	Detects endogenous human LYVE-1 in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 537028
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human LYVE-1 Ser24-Thr238 Accession # Q9Y5Y7
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	HUVEC human umbilical vein endothelial cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Lymphatic vessel endothelial hyaluronan (HA) receptor-1 (LYVE-1) is a receptor of HA, a linear high molecular weight polymer composed of alternating units of D-glucuronic acid and N-acetyl-D-glucosamine. HA is found in the extracellular matrix of most animal tissues and in body fluids. It modulates cell behavior and functions during tissue remodeling, development, homeostasis, and disease (1). The turnover of HA (several grams/day in humans) occurs primarily in the lymphatics and liver, the two major clearance systems that catabolize approximately 85% and 15% of HA, respectively (1 - 3). LYVE-1 shares 41% homology with the other known HA receptor, CD44 (4). The homology between the two proteins increases to 61% within the HA binding domain. The HA binding domain, known as the link module, is a common structural motif found in other HA binding proteins such as link protein, aggrecan and versican (1, 5). Human and mouse LYVE-1 share 69% amino acid sequence identity. LYVE-1 is primarily expressed on both the luminal and abluminal surfaces of lymphatic vessels (4, 5). In addition, LYVE-1 is also present in normal hepatic blood sinusoidal endothelial cells (6). LYVE-1 mediates the endocytosis of HA and may transport HA from tissue to lymph by transcytosis, delivering HA to lymphatic capillaries for removal and degradation in the regional lymph nodes (5, 7, 8). Because of its restricted expression patterns, LYVE-1, along with other lymphatic proteins such as VEGF R3, podoplanin and the homeobox protein prospero-related (Prox-1), constitute a set of markers useful for distinguishing between lymphatic and blood microvasculature (4, 5, 9 -11).

References:

- Knudson, C.B. and W. Knudson (1993) FASEB J. **7**:1233.
- Evered, D and J. Whelan (1989) Ciba Found. Symp. **143**:1.
- Laurent, T.C. and J.R.F. Fraser (1992) FASEB J. **6**:2397.
- Banerji, S. *et al.* (1999) J. Cell Biol. **144**:789.
- Prevo, R. *et al.* (2001) J. Biol. Chem. **276**:19420.
- Jackson, D.J. *et al.* (2001) Trends Immunol. **22**:317.
- Zhou, B. *et al.* (2000) J. Biol. Chem. **275**:37733.
- Achen, M. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:548.
- Breiteneder-Gellef, S. *et al.* (1999) Am. J. Pathol. **154**:385.
- Wiggle, J.T. and G. Oliver (1999) Cell **98**:769.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.