# Anti-mouse LYVE-1

20201117DS

**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

| | |
|---|---|
| **Cat.-no.:** | **103-PA50AG** |
| Size: | 50 µg |
| Lot. No.: | According to product label |
| Country of origin: | Germany |

**Preparation:** Produced from sera of rabbits pre-immunized with highly pure (>95%) recombinant mouse soluble LYVE-1 (Ala24-Gly228) derived from insect cells.

## Target Background

| | |
|---|---|
| **Synonyms:** | Lymphatic vessel endothelial hyaluronic acid receptor 1 |

LYVE-1 has been identified as a major receptor for HA (extracellular matrix glycosaminoglycan hyaluronan) on the lymph vessel wall. The deduced amino acid sequence of LYVE-1 predicts a 322-residue type I integral membrane polypeptide 41% similar to the CD44 HA receptor with a 212-residue extracellular domain containing a single Link module the prototypic HA binding domain of the Link protein superfamily. Like CD44, the LYVE-1 molecule binds both soluble and immobilized HA. However, unlike CD44, the LYVE-1 molecule co-localizes with HA on the luminal face of the lymph vessel wall and is completely absent from blood vessels. Hence, LYVE-1 is the first lymph-specific HA receptor to be characterized and is a uniquely powerful marker for lymph vessels themselves.

### References

1. Carriera et al., Cancer Res 61:8079, 2001
2. Jackson DG Trends Cardiovasc Med 13:1, 2003
3. Sleeman et al., Microsc Res Tech 55:61, 2001
4. Mäkinen et al., EMBO J 20 : 4762, 2001

### Database References Antigen

| | |
|---|---|
| **Protein RefSeq:** | NP_444477.2 |
| **Uniprot ID:** | Q8BHCo |
| **mRNA RefSeq:** | NM_053247.4 |

## Product Specifications

| | |
|---|---|
| **Species reactivity** | mouse |
| **Clone/Ab feature** | Rabbit IgG |
| **Cross reactivity** | rat tissue |
| **Host** | rabbit |
| **Clonality** | polyclonal |
| **Purification** | Antigen affinity purified |
| **Immunogen** | Recombinant mouse soluble LYVE-1 (RT #S01-026) |
| **Formulation** | lyophilized |
| **Buffer** | PBS |

**Stability:** The lyophilized antibody is stable for at least 2 years at -20°C. After sterile reconstitution the antibody is stable at 2-8°C for up to 6 months. Frozen aliquots are stable for at least 6 months when stored at -20°C. Addition of a carrier protein or 50% glycerol is recommended for frozen aliquots.

**Reconstitution:** Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1 - 1 mg/ml.

***AVOID REPEATED FREEZE AND THAW CYCLES!***

### Applications

| | |
|---|---|
| **Western Blot:** | Use 2-5 µg/ml |
| **ELISA:** | Use at 1-15 µg/ml |
| **FACS** | Use at 3-10 µg/ml |
| **IF/IHC** | Works with cryo-sections. |

**NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!**

# Anti-mouse LYVE-1

## Handling/Applications

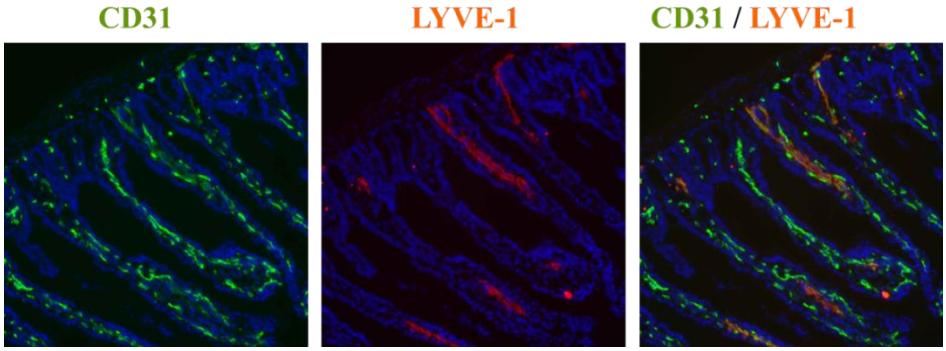


**Fig. 1:** Cryo sections of mouse colon carcinoma labeled with rabbit polyclonal antibody against mouse LYVE-1 (red) [Cat# 103-PA50] and human CD31 (green). **A:** CD31; **B:** LYVE-1; **C:** CD31/LYVE-1

The experiments were performed by Dr. Ulrike Fiedler and Stefanie Koidel, Dept. of Vascular Biology and Angiogenesis Research Tumor Biology Center, Breisacher Str. 117, D-79106 Freiburg, Germany

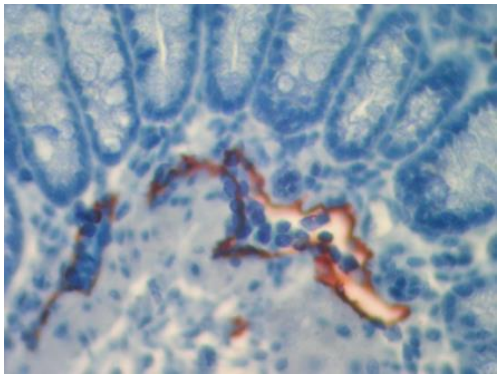

**Fig. 2:** Immunohistochemistry with paraffin-embedded sections of mouse intestine with a polyclonal antibody directed against mouse LYVE-1. You see the staining (red) of lymphatic endothelial cells of the intestine.
The experiment was performed by Dr. Karsten Debel, DCS, Hamburg, Germany.

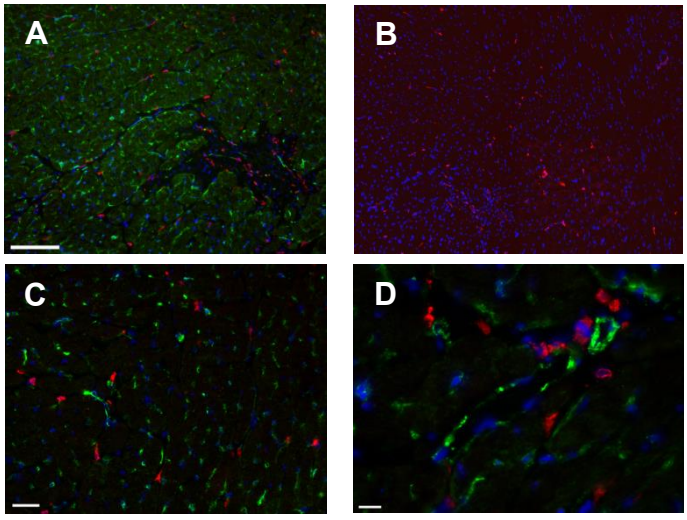


**Fig. 3:** Rat cardiac lymphatic microvessels labeled with antibodies against mouse LYVE-1 (red), and adjacent blood vessels, labeled with antibodies against CD31 (green). Nuclear stain in blue. Images were obtained at 10x magnification on a Zeiss fluorescence microscope. Scale bar = 100 µm (A, B); 20x and 40x magnification, Scale bar = 50 µm (C, D). Note: The anti-mouse Lyve-1 polyclonal antibody (Cat# 103-PA50AG) shows a strong cross reaction with rat LYVE-1 protein.
The experiment was performed by the research group INSERMU1096 in Rouen, France directed by Dr Vincent Richard.

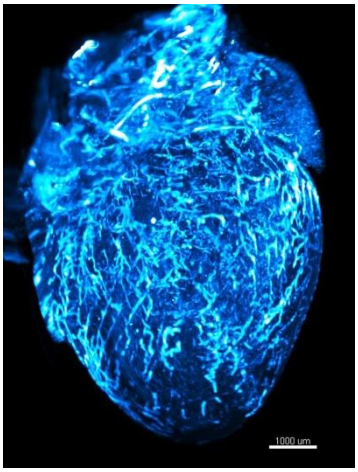


**Fig. 4:** Immunohistochemical analyses of a healthy mouse heart. Heart was labeled with polyclonal rabbit anti-mouse LYVE-1 [Cat# 103-PA50AG] (1:500 dilution (corresponds 0.4 µg/ml)) followed by 1:400 dilution of a Cy5-conjugated donkey anti-rabbit secondary antibody (Jackson). Extensive washing was performed to remove nonspecific binding. Hearts were clarified using a modified iDISCO+ protocol as described in "Arterioscler Thromb Vasc Biol. 2020 May 14". Evaluation by lightsheet microscopy (ultramicroscope II, x0.8, scale bar 1 mm) of a whole mount-stained mouse heart reveals a dense lymphatic network (Lyve-1, blue) on the epicardial surface.

The experiment was performed by the research group of Dr. Hab. Ebba Brakenhielm, Inserm U1096 EnVI Laboratory, Medical Faculty of Rouen University, and David Godefroy, Inserm U1245 (DC2N Laboratory), Mont Saint Aignan, France.

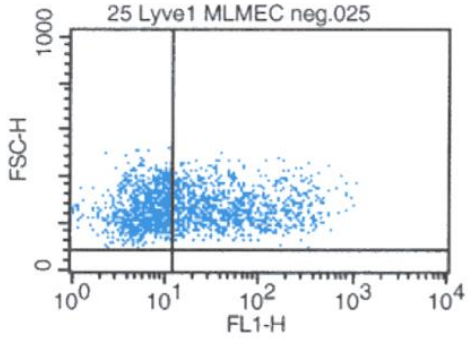


**Fig. 5:** FACS analysis with primary mouse lung microvascular endothelial cells (MLMEC).