

**LIMA1 Antibody**  
**Catalog # ASC11877****Specification****LIMA1 Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">Q9UHB6</a>
Other Accession	<a href="#">NP_001107018</a> , <a href="#">165905589</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 50, 66, 84 kDa
Application Notes	<b>Observed: 65 kDa</b> LIMA1 antibody can be used for detection of LIMA1 by Western blot at 0.5 - 1 µg/ml. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

**LIMA1 Antibody - Additional Information**

Gene ID	<b>51474</b>
Target/Specificity	LIMA1; LIMA1 antibody is human specific. At least four isoforms of LIMA1 are known to exist; this antibody will only detect the three largest isoforms.
Reconstitution & Storage	LIMA1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

LIMA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**LIMA1 Antibody - Protein Information****Name** LIMA1 ([HGNC:24636](#))**Function**

Actin-binding protein involved in actin cytoskeleton regulation and dynamics. Increases the number and size of actin stress fibers and inhibits membrane ruffling. Inhibits actin filament depolymerization. Bundles actin filaments, delays filament nucleation and reduces formation of branched filaments (PubMed:<a href="http://www.uniprot.org/citations/12566430" target="\_blank">12566430</a>, PubMed:<a href="http://www.uniprot.org/citations/33999101" target="\_blank">33999101</a>). Acts as a negative regulator of primary cilium formation (PubMed:<a href="http://www.uniprot.org/citations/32496561" target="\_blank">32496561</a>). Plays a role in cholesterol homeostasis. Influences plasma cholesterol levels through regulation of intestinal cholesterol absorption. May act as a scaffold protein by regulating NPC1L1

transportation, an essential protein for cholesterol absorption, to the plasma membrane by recruiting MYO5B to NPC1L1, and thus facilitates cholesterol uptake (By similarity).

#### Cellular Location

Cytoplasm. Cell junction, focal adhesion. Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, stress fiber. Cell membrane {ECO:0000250|UniProtKB:Q9ERG0}. Cell projection, ruffle. Cell projection, lamellipodium. Note=Expressed in the brush border membrane of the small intestine and colocalizes with NPC1L1 and MYO5B (PubMed:29880681). Colocalizes with PXN at focal adhesions in mesangial cells (PubMed:24694988). Colocalizes with actin stress fibers in quiescent cells. PDGF stimulation induced disassembly of stress fibers and formation of peripheral and dorsal ruffles, where LIMA1 is relocalized (By similarity). Localized at the lamellipodia, just behind lamellipodia actin ruffles (PubMed:33999101) {ECO:0000250|UniProtKB:Q9ERG0, ECO:0000269|PubMed:24694988, ECO:0000269|PubMed:29880681, ECO:0000269|PubMed:33999101}

#### Tissue Location

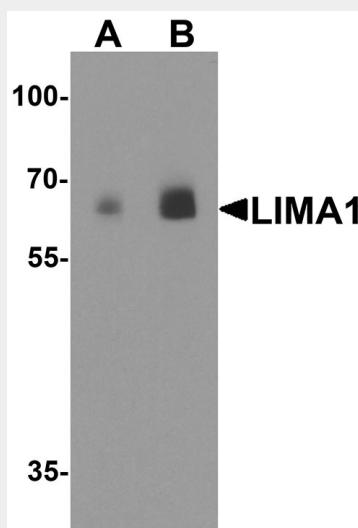
Highly expressed in placenta, kidney, pancreas, prostate, ovary, spleen and heart. Also detected in lung, liver, brain, skeletal muscle, thymus, testis and intestine. Not detected in leukocytes. Isoform Beta expressed generally at very low levels Isoform Alpha abundant in epithelial cells from mammary gland, prostate and in normal oral keratinocytes. Low levels in aortic endothelial cells and dermal fibroblasts. Not detectable in myocardium

#### LIMA1 Antibody - Protocols

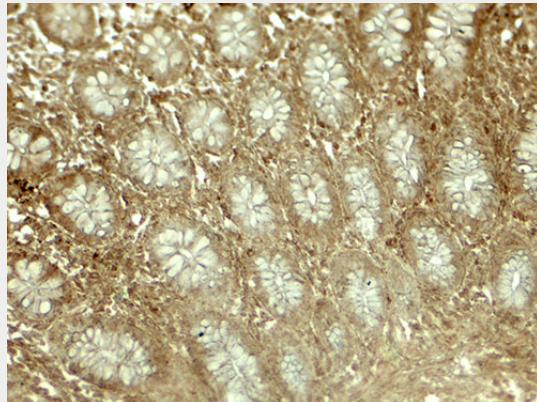
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

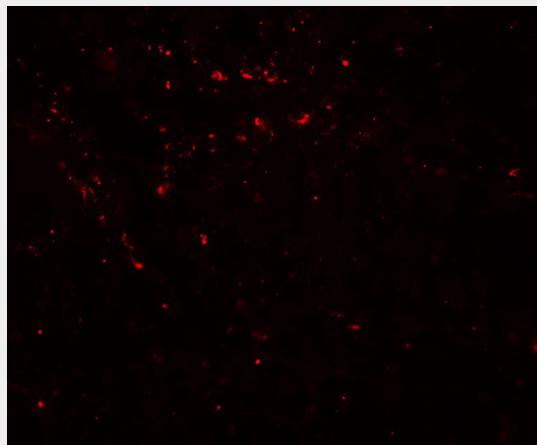
#### LIMA1 Antibody - Images



Western blot analysis of LIMA1 in human colon tissue lysate with LIMA1 antibody at (A) 0.5 and (B) 1  $\mu$ g/ml.



Immunohistochemistry of LIMA1 in human colon tissue with LIMA1 antibody at 5  $\mu$ g/mL.



Immunofluorescence of LIMA1 in human colon tissue with LIMA1 antibody at 20  $\mu$ g/mL.

### **LIMA1 Antibody - Background**

The Lim domain and actin-binding protein 1 (LIMA1) is cytoskeleton-associated protein that inhibits actin filament depolymerization and cross-links filaments in bundles and is downregulated in some cancer cell lines (1,2). LIMA1 is also a key molecule linking the cadherin-catenin complex to the actin cytoskeleton (3). Recent studies have shown that EGF activates ERK1/2-dependent phosphorylation, ubiquitination and degradation of LIMA1, leading to increased invasiveness and metastasis of metastatic prostate cancer models (4).

### **LIMA1 Antibody - References**

- Maul RS and Chang DD. EPLIN, epithelial protein lost in neoplasm. *Oncogene* 1999; 18:7838-41.
- Maul RS, Song Y, Amann KJ, et al. EPLIN regulates actin dynamics by cross-linking and stabilizing filaments. *J. Cell Biol.* 2003; 160:399-407.
- Abe K and Takeichi M. EPLIN mediates linkage of the cadherin catenin complex to F-actin and stabilizes the circumferential actin belt. *Proc. Natl. Acad. Sci. USA* 2008; 105:13-9.
- Zhang S, Wang X, Iqbal S, et al. Epidermal growth factor promotes protein degradation of epithelial protein lost in neoplasm (EPLIN), a putative metastasis suppressor, during epithelial-mesenchymal transition. *J. Biol. Chem.* 2013; 288:1469-79.