

# LALP70 (E-18): sc-87191

## BACKGROUND

CD39, also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENP1), is an integral membrane glycoprotein that acts as an extracellular nucleotide-hydrolyzing enzyme. Characteristically, CD39 and other members of the ecto-ATPase family contain apyrase-conserved regions and function to mediate nucleotide catabolism. As a member of ecto-ATPase family, LALP70 (lysosomal apyrase-like protein of 70 kDa), also designated ectonucleoside triphosphate diphosphohydrolase 4 (NTPDase 4) or uridine-diphosphatase (UDPase), is a 616 amino acid protein that localizes to the Golgi apparatus and autophagic vacuoles/lysosomes. With highest levels detected in testis, LALP70 is also expressed as a splice variant, LALP70v. These variants differ in their substrate specificity as well as their need for calcium and magnesium as cofactors. LALP70 utilizes UTP and TTP preferentially, while LALP70v displays a broader specificity for preferred substrates, including CTP, UDP, CDP, GTP, and GDP.

## REFERENCES

1. Chadwick, B.P. and Frischauf, A.M. 1998. The CD39-like gene family: identification of three new human members (CD39L2, CD39L3, and CD39L4), their murine homologues, and a member of the gene family from *Drosophila melanogaster*. *Genomics* 50: 357-367.
2. Chadwick, B.P., Williamson, J., Sheer, D. and Frischauf, A.M. 1998. cDNA cloning and chromosomal mapping of a mouse gene with homology to NTPases. *Mamm. Genome* 9: 162-164.
3. Biederbick, A., Rose, S. and Elsässer, H.P. 1999. A human intracellular apyrase-like protein, LALP70, localizes to lysosomal/autophagic vacuoles. *J. Cell Sci.* 112: 2473-2484.
4. Biederbick, A., Kosan, C., Kunz, J. and Elsässer, H.P. 2000. First apyrase splice variants have different enzymatic properties. *J. Biol. Chem.* 275: 19018-19024.
5. Ivanenkov, V.V., Murphy-Piedmonte, D.M. and Kirley, T.L. 2003. Bacterial expression, characterization, and disulfide bond determination of soluble human NTPDase6 (CD39L2) nucleotidase: implications for structure and function. *Biochemistry* 42: 11726-11735.
6. Biederbick, A., Rösser, R., Storre, J. and Elsässer, H.P. 2004. The VSFASSQ motif confers calcium sensitivity to the intracellular apyrase LALP70. *BMC Biochem.* 5: 8.
7. Köhler, D., Eckle, T., Faigle, M., Grenz, A., Mittelbronn, M., Laucher, S., Hart, M.L., Robson, S.C., Müller, C.E. and Eltzschig, H.K. 2007. CD39/ectonucleoside triphosphate diphosphohydrolase 1 provides myocardial protection during cardiac ischemia/reperfusion injury. *Circulation* 116: 1784-1794.

## CHROMOSOMAL LOCATION

Genetic locus: ENTPD4 (human) mapping to 8p21.3; Entpd4 (mouse) mapping to 14 D2.

## SOURCE

LALP70 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LALP70 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87191 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LALP70 (E-18) is recommended for detection of LALP70 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LALP70 (E-18) is also recommended for detection of LALP70 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for LALP70 siRNA (h): sc-77816, LALP70 siRNA (m): sc-146640, LALP70 shRNA Plasmid (h): sc-77816-SH, LALP70 shRNA Plasmid (m): sc-146640-SH, LALP70 shRNA (h) Lentiviral Particles: sc-77816-V and LALP70 shRNA (m) Lentiviral Particles: sc-146640-V.

Molecular Weight of LALP70: 70/69 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.