

LAP3 (E-9): sc-398601

BACKGROUND

LAP3 (leucine aminopeptidase 3), also known as LAPEP or PEPS, is a 519 amino acid protein that localizes to the cytoplasm and belongs to the peptidase M17 family. Existing as a homohexamer, LAP3 uses zinc as a cofactor to catalyze the release of an N-terminal proline from a target peptide and is, therefore, involved in the processing and turnover of intracellular proteins. Multiple isoforms of LAP3 exist due to alternative splicing events. The gene encoding LAP3 maps to human chromosome 4, which houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

- Lewis, W.H. and Harris, H. 1967. Human red cell peptidases. *Nature* 215: 351-355.
- Shows, T.B., et al. 1978. Assignment of peptidase S (PEPS) to chromosome 4 in man using somatic cell hybrids. *Hum. Genet.* 43: 119-125.
- Schmutz, S.M. and Simpson, N.E. 1983. Suggested assignment of peptidase S (PEPS) to 4p11-4q12 by exclusion using gene dosage, accounting for variability in fibroblasts. *Hum. Genet.* 64: 134-138.
- Kohno, H., et al. 1986. Immunoaffinity purification and characterization of leucine aminopeptidase from human liver. *J. Biol. Chem.* 261: 10744-10748.
- Matsushima, M., et al. 1991. Structural and immunological evidence for the identity of prolyl aminopeptidase with leucyl aminopeptidase. *Biochem. Biophys. Res. Commun.* 178: 1459-1464.
- Kim, H. and Lipscomb, W.N. 1993. Differentiation and identification of the two catalytic metal binding sites in bovine lens leucine aminopeptidase by X-ray crystallography. *Proc. Natl. Acad. Sci. USA* 90: 5006-5010.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 170250. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: LAP3 (human) mapping to 4p15.32; Lap3 (mouse) mapping to 5 B3.

SOURCE

LAP3 (E-9) is a mouse monoclonal antibody raised against amino acids 301-360 mapping within an internal region of LAP3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

LAP3 (E-9) is recommended for detection of LAP3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for LAP3 siRNA (h): sc-75411, LAP3 siRNA (m): sc-75412, LAP3 shRNA Plasmid (h): sc-75411-SH, LAP3 shRNA Plasmid (m): sc-75412-SH, LAP3 shRNA (h) Lentiviral Particles: sc-75411-V and LAP3 shRNA (m) Lentiviral Particles: sc-75412-V.

Molecular Weight of LAP3 monomer: 55 kDa.

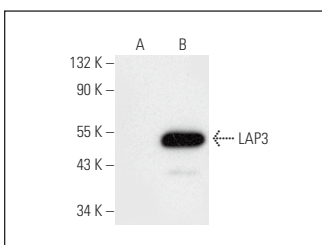
Molecular Weight of LAP3 homohexamer: 300 kDa.

Positive Controls: LAP3 (h): 293T Lysate: sc-117059, F9 cell lysate: sc-2245 or PC-12 cell lysate: sc-2250.

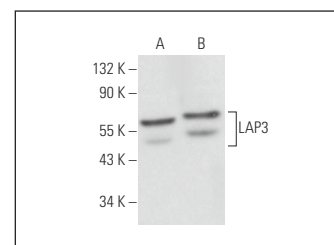
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LAP3 (E-9): sc-398601. Western blot analysis of LAP3 expression in non-transfected: sc-117752 (A) and human LAP3 transfected: sc-117059 (B) 293T whole cell lysates.



LAP3 (E-9): sc-398601. Western blot analysis of LAP3 expression in F9 (A) and PC-12 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Schepsky, A., et al. 2020. Melflufen, a peptide-conjugated alkylator, is an efficient anti-neo-plastic drug in breast cancer cell lines. *Cancer Med.* 9: 6726-6738.

RESEARCH USE

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