

LAP3 siRNA (h): sc-75411

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 4p15.32, 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

1. Lewis, W.H. and Harris, H. 1967. Human red cell peptidases. *Nature* 215: 351-355.
2. 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.
3. 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.
4. Kohno, H., et al. 1986. Immunoaffinity purification and characterization of leucine aminopeptidase from human liver. *J. Biol. Chem.* 261: 10744-10748.

CHROMOSOMAL LOCATION

Genetic locus: LAP3 (human) mapping to 4p15.32.

PRODUCT

LAP3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LAP3 shRNA Plasmid (h): sc-75411-SH and LAP3 shRNA (h) Lentiviral Particles: sc-75411-V as alternate gene silencing products.

For independent verification of LAP3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75411A, sc-75411B and sc-75411C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LAP3 siRNA (h) is recommended for the inhibition of LAP3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

LAP3 (D-3): sc-376270 is recommended as a control antibody for monitoring of LAP3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LAP3 gene expression knockdown using RT-PCR Primer: LAP3 (h)-PR: sc-75411-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, X., et al. 2015. Inhibition of leucine aminopeptidase 3 suppresses invasion of ovarian cancer cells through down-regulation of fascin and MMP-2/9. *Eur. J. Pharmacol.* 768: 116-122.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.