

LAP1B (E-15): sc-160484

BACKGROUND

LAP1B (lamina associated polypeptide 1B), also known as TOR1AIP1 (torsin A interacting protein 1), is a 583 amino acid single-pass membrane protein that localizes to the nucleus. LAP1B interacts with A- and B-type Lamins and may have a possible role in membrane attachment and assembly of the nuclear lamina. Phosphorylated upon DNA damage, LAP1B is encoded by a gene located on human chromosome 1, which is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are approximately 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration.

REFERENCES

1. Watson, M.L., Kingsmore, S.F., Johnston, G.I., Siegelman, M.H., Le Beau, M.M., Lemons, R.S., Bora, N.S., Howard, T.A., Weissman, I.L., McEver, R.P., et al. 1990. Genomic organization of the selectin family of leukocyte adhesion molecules on human and mouse chromosome 1. *J. Exp. Med.* 172: 263-272.
2. Yang, L., Guan, T. and Gerace, L. 1997. Integral membrane proteins of the nuclear envelope are dispersed throughout the endoplasmic reticulum during mitosis. *J. Cell Biol.* 137: 1199-1210.
3. Blackwood, D.H., Fordyce, A., Walker, M.T., St Clair, D.M., Porteous, D.J. and Muir, W.J. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433
4. Kondo, Y., Kondoh, J., Hayashi, D., Ban, T., Takagi, M., Kamei, Y., Tsuji, L., Kim, J. and Yoneda, Y. 2002. Molecular cloning of one isotype of human lamina-associated polypeptide 1s and a topological analysis using its deletion mutants. *Biochem. Biophys. Res. Commun.* 294: 770-778.
5. Weise, A., Starke, H., Mrasek, K., Claussen, U. and Liehr, T. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
6. Gregory, S.G., Barlow, K.F., McLay, K.E., Kaul, R., Swarbreck, D., Dunham, A., Scott, C.E., Howe, K.L., Woodfine, K.C., Spencer, C.A., Jones, M.C., Gillson, C., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
7. Marzin, Y., Jamet, D., Douet-Guilbert, N., Morel, F., Le Bris, M.J., Morice, P., Abgrall, J.F., Berthou, C. and De Braekeleer, M. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
8. McClintock, D., Gordon, L.B. and Djabali, K. 2006. Hutchinson-Gilford progeria mutant Lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. *Proc. Natl. Acad. Sci. USA* 103: 2154-2159.

CHROMOSOMAL LOCATION

Genetic locus: TOR1AIP1 (human) mapping to 1q25.2; Tor1aip1 (mouse) mapping to 1 G3.

SOURCE

LAP1B (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LAP1B 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-160484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LAP1B (E-15) is recommended for detection of LAP1B 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).

LAP1B (E-15) is also recommended for detection of LAP1B in additional species, including bovine.

Suitable for use as control antibody for LAP1B siRNA (h): sc-88465, LAP1B siRNA (m): sc-146644, LAP1B shRNA Plasmid (h): sc-88465-SH, LAP1B shRNA Plasmid (m): sc-146644-SH, LAP1B shRNA (h) Lentiviral Particles: sc-88465-V and LAP1B shRNA (m) Lentiviral Particles: sc-146644-V.

Molecular Weight of LAP1B: 66 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 or our catalog for detailed protocols and support products.