

LAMTOR1 (C-13): sc-167253

BACKGROUND

LAMTOR1 (late endosomal/lysosomal adaptor, MAPK and MTOR activator 1), also known as C11orf59, PDRO or p27RF-Rho, is a 161 amino acid membrane protein belonging to the UPF0404 family. LAMTOR1 promotes Lfc-mediated exchange of GDP for GTP by preventing p27 from binding to RhoA, which leaves RhoA in a form accessible to Lfc. LAMTOR1 is encoded by a gene located on human chromosome 11, which contains approximately 135 million base pairs and 1,400 genes. Chromosome 11 makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome. The chromosome 11 encoded Atm gene is important for regulation of cell cycle arrest and apoptosis following double strand DNA breaks. Atm mutation leads to the disorder known as ataxia-telangiectasia. The blood disorders Sickle cell anemia and β thalassemia are caused by HBB gene mutations. Wilms' tumors, WAGR syndrome and Denys-Drash syndrome are associated with mutations of the WT1 gene. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are also associated with defects in chromosome 11.

REFERENCES

- Grossfeld, P.D., et al. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. *Am. J. Med. Genet. A* 129: 51-61.
- Loussouarn, G., et al. 2006. KCNQ1 K⁺ channel-mediated cardiac channelopathies. *Methods Mol. Biol.* 337: 167-183.
- Taylor, T.D., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.
- Zehelein, J., et al. 2006. Skipping of Exon 1 in the KCNQ1 gene causes Jervell and Lange-Nielsen syndrome. *J. Biol. Chem.* 281: 35397-35403.
- Ataga, K.I., et al. 2007. β -thalassaemia and sickle cell anaemia as paradigms of hypercoagulability. *Br. J. Haematol.* 139: 3-13.
- Berger, A.C., et al. 2007. The subcellular localization of the Niemann-Pick Type C proteins depends on the adaptor complex AP-3. *J. Cell Sci.* 120: 3640-3652.
- Lee, J.H., et al. 2007. Activation and regulation of ATM kinase activity in response to DNA double-strand breaks. *Oncogene* 26: 7741-7748.
- O'Connor, M.J., et al. 2007. Targeted cancer therapies based on the inhibition of DNA strand break repair. *Oncogene* 26: 7816-7824.
- Kaste, S.C., et al. 2008. Wilms tumour: prognostic factors, staging, therapy and late effects. *Pediatr. Radiol.* 38: 2-17.

CHROMOSOMAL LOCATION

Genetic locus: LAMTOR1 (human) mapping to 11q13.4; Lamtor1 (mouse) mapping to 7 E3.

SOURCE

LAMTOR1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LAMTOR1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-167253 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LAMTOR1 (C-13) is recommended for detection of LAMTOR1 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).

Suitable for use as control antibody for LAMTOR1 siRNA (h): sc-96597, Lamtor1 siRNA (m): sc-108727, LAMTOR1 shRNA Plasmid (h): sc-96597-SH, Lamtor1 shRNA Plasmid (m): sc-108727-SH, LAMTOR1 shRNA (h) Lentiviral Particles: sc-96597-V and Lamtor1 shRNA (m) Lentiviral Particles: sc-108727-V.

Molecular Weight of LAMTOR1: 18 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.