

LAMTOR4 (C-13): sc-243295

BACKGROUND

LAMTOR4 (late endosomal/lysosomal adaptor and MAPK and MTOR activator 4), also known as C7orf59, is a 99 amino acid protein belonging to the LAMTOR4 family. Localizing to the lysosome, LAMTOR4 is part of a Ragulator complex composed of LAMTOR 1, 2, 3, and 5. The Ragulator complex interacts with the mTORC1 complex, which promotes cell growth in response to growth factors, energy levels and amino acids. Acting as a guanine nucleotide exchange factor, the Ragulator complex activates small Rag GTPases, which then function as a scaffold for the recruitment and activation of mTORC1 to the lysosome. The gene encoding LAMTOR4 maps to human chromosome 7q22.1 and mouse chromosome 5 G2.

REFERENCES

- Lunin, V.V., Munger, C., Wagner, J., Ye, Z., Cygler, M. and Sacher, M. 2004. The structure of the MAPK scaffold, MP1, bound to its partner, p14. A complex with a critical role in endosomal map kinase signaling. *J. Biol. Chem.* 279: 23422-23430.
- Sancak, Y., Bar-Peled, L., Zoncu, R., Markhard, A.L., Nada, S. and Sabatini, D.M. 2010. Ragulator-Rag complex targets mTORC1 to the lysosomal surface and is necessary for its activation by amino acids. *Cell* 141: 290-303.
- Burkard, T.R., Planyavsky, M., Kaupe, I., Breitwieser, F.P., Bürckstümmer, T., Bennett, K.L., Superti-Furga, G. and Colinge, J. 2011. Initial characterization of the human central proteome. *BMC Syst. Biol.* 5: 17.
- Bar-Peled, L., Schweitzer, L.D., Zoncu, R. and Sabatini, D.M. 2012. Ragulator is a GEF for the rag GTPases that signal amino acid levels to mTORC1. *Cell* 150: 1196-1208.

CHROMOSOMAL LOCATION

Genetic locus: LAMTOR4 (human) mapping to 7q22.1; Lamtor4 (mouse) mapping to 5 G2.

SOURCE

LAMTOR4 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of LAMTOR4 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-243295 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

LAMTOR4 (C-13) is recommended for detection of LAMTOR4 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).

LAMTOR4 (C-13) is also recommended for detection of LAMTOR4 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for LAMTOR4 siRNA (h): sc-89633, LAMTOR4 siRNA (m): sc-108127, LAMTOR4 shRNA Plasmid (h): sc-89633-SH, LAMTOR4 shRNA Plasmid (m): sc-108127-SH, LAMTOR4 shRNA (h) Lentiviral Particles: sc-89633-V and LAMTOR4 shRNA (m) Lentiviral Particles: sc-108127-V.

Molecular Weight of LAMTOR4: 11 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.

RESEARCH USE

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