

LRRTM1 (S-13): sc-133380

BACKGROUND

The leucine-rich (LRR) repeat is a 20-30 amino acid motif that forms a hydrophobic α/β horseshoe fold, allowing it to accommodate several leucine residues within a tightly packed core. All LRR repeats contain a variable segment and a highly conserved segment, the latter of which accounts for 11 or 12 residues of the entire LRR motif. LRRTM1 (leucine rich repeat transmembrane neuronal 1) is a 522 amino acid single-pass type I membrane protein that localizes to the endoplasmic reticulum and contains 10 LRR repeats. Expressed predominately in forebrain tissue, LRRTM1 is thought to be involved in the development of forebrain structures, specifically by influencing axon trafficking, as well as neuronal differentiation and connectivity. Human LRRTM1 shares 96% amino acid identity with its mouse counterpart, suggesting a conserved role between species. Defects in the gene encoding LRRTM1 may be associated with the pathogenesis of several common neurodevelopmental disorders.

REFERENCES

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3. Kobe, B. and Kajava, A.V. 2001. The leucine-rich repeat as a protein recognition motif. *Curr. Opin. Struct. Biol.* 11: 725-732.
4. Laurén, J., et al. 2003. A novel gene family encoding leucine-rich repeat transmembrane proteins differentially expressed in the nervous system. *Genomics* 81: 411-421.
5. Kedzierski, L., et al. 2004. Leucine-rich repeats in host-pathogen interactions. *Arch. Immunol. Ther. Exp.* 52: 104-112.
6. Enkhbayar, P., et al. 2004. Structural principles of leucine-rich repeat (LRR) proteins. *Proteins* 54: 394-403.
7. Matsushima, N., et al. 2005. Structural analysis of leucine-rich-repeat variants in proteins associated with human diseases. *Cell. Mol. Life Sci.* 62: 2771-2791.
8. Francks, C., et al. 2007. LRRTM1 on chromosome 2p12 is a maternally suppressed gene that is associated paternally with handedness and schizophrenia. *Mol. Psychiatry* 12: 1129-1139.

CHROMOSOMAL LOCATION

Genetic locus: LRRTM1 (human) mapping to 2p12; *Lrrtm1* (mouse) mapping to 6 C3.

SOURCE

LRRTM1 (S-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of LRRTM1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 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-133380 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LRRTM1 (S-13) is recommended for detection of LRRTM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other LRRTM family members.

LRRTM1 (S-13) is also recommended for detection of LRRTM1 in additional species, including avian.

Suitable for use as control antibody for LRRTM1 siRNA (h): sc-94608, LRRTM1 siRNA (m): sc-149120, LRRTM1 shRNA Plasmid (h): sc-94608-SH, LRRTM1 shRNA Plasmid (m): sc-149120-SH, LRRTM1 shRNA (h) Lentiviral Particles: sc-94608-V and LRRTM1 shRNA (m) Lentiviral Particles: sc-149120-V.

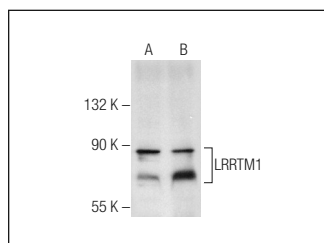
Molecular Weight of LRRTM1: 59 kDa.

Positive Controls: LRRTM1 (h2): 293T Lysate: sc-372766.

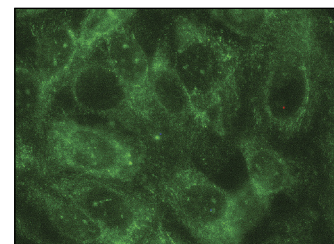
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



LRRTM1 (S-13): sc-133380. Western blot analysis of LRRTM1 expression in non-transfected: sc-117752 (A) and human LRRTM1 transfected: sc-372766 (B) 293T whole cell lysates.



LRRTM1 (S-13): sc-133380. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.

RESEARCH USE

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