LRRTM1 (A-2): sc-390919

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BIOTECHNOLOGY

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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 ten 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

1. Kobe, B. and Deisenhofer, J. 1994. The leucine-rich repeat: a versatile binding motif. Trends Biochem. Sci. 19: 415-421.

2. Kobe, B. and Deisenhofer, J. 1995. Proteins with leucine-rich repeats. Curr. Opin. Struct. Biol. 5: 409-416.

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.

CHROMOSOMAL LOCATION

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

SOURCE

LRRTM1 (A-2) is a mouse monoclonal antibody raised against amino acids 347-446 mapping within an internal region of LRRTM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LRRTM1 (A-2) is available conjugated to agarose (sc-390919 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390919 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390919 PE), fluorescein (sc-390919 FITC), Alexa Fluor® 488 (sc-390919 AF488), Alexa Fluor® 546 (sc-390919 AF546), Alexa Fluor® 594 (sc-390919 AF594) or Alexa Fluor® 647 (sc-390919 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390919 AF680) or Alexa Fluor® 790 (sc-390919 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

LRRTM1 (A-2) is recommended for detection of LRRTM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 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, mouse brain extract: sc-2235 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA
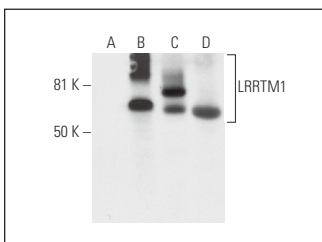
LRRTM1 (A-2): sc-390919. Western blot analysis of LRRTM1 expression in non-transfected: sc-117752 (**A**) and human LRRTM1 transfected: sc-372766 (**B**) 293T whole cell lysates and mouse brain (**C**) and human placenta (**D**) tissue extracts.
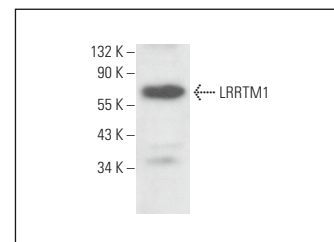
LRRTM1 (A-2): sc-390919. Western blot analysis of LRRTM1 expression in IMR-32 whole cell lysate.

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.