LRRTM3 (K-14): sc-133384

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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. The LRRTM protein family plays a role in the regulation of various cellular events during nervous system development. Localizing predominantly to the nervous system, LRRTM family members are known to exhibit synaptogenic activity. LRRTM3 (leucine rich repeat transmembrane neuronal 3) is a 581 amino acid single-pass type I membrane protein belonging to the LRRTM family. LRRTM3 is involved in the development and maintenance of the vertebrate nervous system, and contains ten LRR repeats. Expressed in neuronal tissues, LRRTM3 is encoded by a gene that maps to a region of chromosome 10 that has been linked to late-onset Alzheimer's disease and elevated plasma β-amyloid. As a result of alternative splicing events, two LRRTM3 isoforms exist.

REFERENCES

1. 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.

2. Majercak, J., et al. 2006. LRRTM3 promotes processing of amyloid-precursor protein by BACE1 and is a positional candidate gene for late-onset Alzheimer's disease. Proc. Natl. Acad. Sci. USA 103: 17967-17972.

3. Haines, B.P. and Rigby, P.W. 2007. Developmentally regulated expression of the LRRTM gene family during mid-gestation mouse embryogenesis. Gene Expr. Patterns 7: 23-29.

4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610869. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

5. Edwards, T.L., et al. 2009. An association analysis of Alzheimer disease candidate genes detects an ancestral risk haplotype clade in ACE and putative multilocus association between ACE, A2M, and LRRTM3. Am. J. Med. Genet. B Neuropsychiatr. Genet. 150B: 721-735.

CHROMOSOMAL LOCATION

Genetic locus: LRRTM3 (human) mapping to 10q21.3; Lrrtm3 (mouse) mapping to 10 B4.

SOURCE

LRRTM3 (K-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of LRRTM3 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.

PROTOCOLS

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133384 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LRRTM3 (K-14) is recommended for detection of LRRTM3 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg 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.

LRRTM3 (K-14) is also recommended for detection of LRRTM3 isoforms 1 and 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for LRRTM3 siRNA (h): sc-90739, LRRTM3 siRNA (m): sc-149122, LRRTM3 shRNA Plasmid (h): sc-90739-SH, LRRTM3 shRNA Plasmid (m): sc-149122-SH, LRRTM3 shRNA (h) Lentiviral Particles: sc-90739-V and LRRTM3 shRNA (m) Lentiviral Particles: sc-149122-V.

Molecular Weight of LRRTM3: 66 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

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
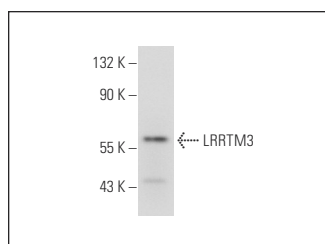
LRRTM3 (K-14): sc-133384. Western blot analysis of LRRTM3 expression in HEK293 whole cell lysate.

RESEARCH USE

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