

LRRTM3 Antibody

Catalog # ASC11276

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q86VH5
Other Accession	NP_821079 , 109809759
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	65896
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	LRRTM3 antibody can be used for detection of LRRTM3 by Western blot at 0.5 μ g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	347731
Other Names	Leucine-rich repeat transmembrane neuronal protein 3, LRRTM3
Target/Specificity	LRRTM3; At least two isoforms of LRRTM3 are known to exist; this antibody will only detect the larger isoform.
Reconstitution & Storage	LRRTM3 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	LRRTM3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LRRTM3
Function	Exhibits a limited synaptogenic activity in vitro, restricted to excitatory presynaptic differentiation (By similarity). May play a role in the development and maintenance of the vertebrate nervous system.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Postsynaptic cell membrane; Single-pass type I membrane protein
Tissue Location	Expressed in neuronal tissues.

Background

LRRTM3 Antibody: The Leucine-rich repeat transmembrane neuronal proteins (LRRTMs) are differentially expressed in the nervous system and were recently found to instruct presynaptic and mediate postsynaptic glutamatergic differentiation, with LRRTM1 and LRRTM2 most potent at inducing presynaptic differentiation. Recent evidence suggests that LRRTM3 promotes the processing of amyloid-precursor protein (APP) by the beta-secretase BACE, leading to the proteolytic production of the Abeta42 peptide that is the main component of amyloid plaques. Furthermore, LRRTM3 maps to a region of chromosome 10 linked to both late-onset Alzheimer's disease (AD) and elevated plasma Abeta42 levels, suggesting that LRRTM3 is a functional and positional candidate gene for AD.

References

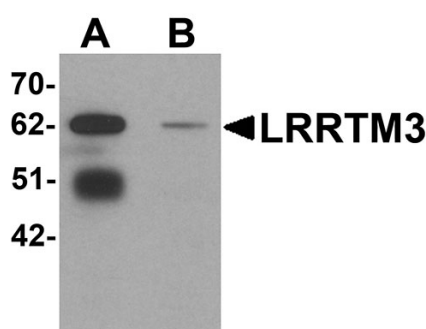
Lauren J, Airaksinen MS, Saarma M, et al. A novel gene family encoding leucine-rich repeat transmembrane protein differentially expressed in the nervous system. *Genomics* 2003; 81:411-21.

Linhoff MW, Lauren J, Cassidy RM, et al. An unbiased expression screen for synaptogenic proteins identifies the LRRTM protein family as synaptic organizers. *Neuron* 2009; 61:734-49.

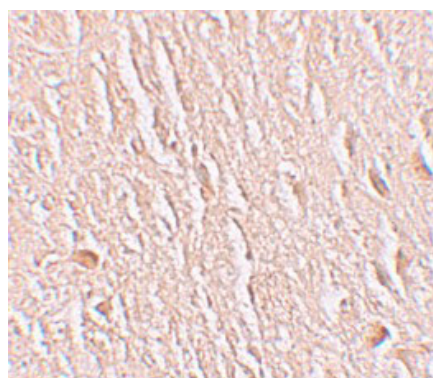
Siddiqui TJ, Pancaroglu R, Kang Y, et al. LRRTMs and neuroligins bind neurexins with a differential code to cooperate in glutamate synapse development. *J. Neurosci.* 2010; 30:7495-506.

Majercak J, Ray WJ, Espeseth A, et al. 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* 2006; 47:17967-72.

Images

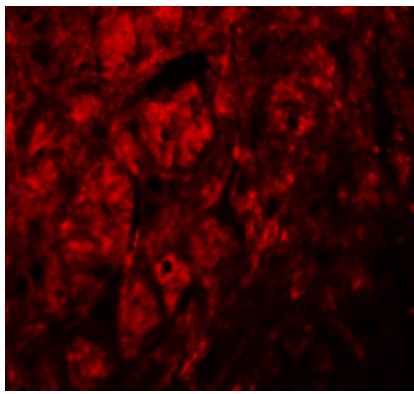


Western blot analysis of LRRTM3 in mouse brain tissue lysate with LRRTM3 antibody at 0.5 $\mu\text{g/mL}$ in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of LRRTM3 in human brain tissue with LRRTM3 antibody at 2.5 $\mu\text{g/mL}$

Immunofluorescence of LRRTM3 in human brain tissue with LRRTM3 antibody at 20 $\mu\text{g/mL}$.



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