

JPH3 Antibody

Catalog # ASC10810

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q8WXH2
Other Accession	NP_065706 , 21704283
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	81469
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	JPH3 antibody can be used for detection of JPH3 by Western blot at 1 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	57338
Other Names	Junctophilin-3, JP-3, Junctophilin type 3, Trinucleotide repeat-containing gene 22 protein, JPH3, JP3, TNRC22
Target/Specificity	JPH3;
Reconstitution & Storage	JPH3 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	JPH3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	JPH3
Synonyms	JP3, TNRC22
Function	Junctophilins contribute to the formation of junctional membrane complexes (JMCs) which link the plasma membrane with the endoplasmic or sarcoplasmic reticulum in excitable cells. Provides a structural foundation for functional cross-talk between the cell surface and intracellular calcium release channels. JPH3 is brain- specific and appears to have an active role in certain neurons involved in motor coordination and memory.

Cellular Location	Cell membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Single-pass type IV membrane protein. Note=Localized predominantly on the plasma membrane. The transmembrane domain is anchored in endoplasmic reticulum membrane, while the N-terminal part associates with the plasma membrane (By similarity).
Tissue Location	Specifically expressed in brain.

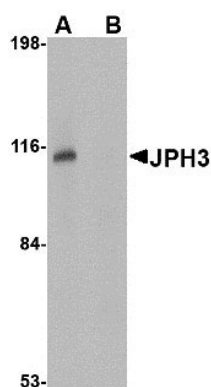
Background

JPH3 Antibody: Junctional complexes between the plasma membrane (PM) and endoplasmic/sarcoplasmic reticulum (ER/SR) are a common feature of all excitable cell types and mediate cross talk between cell surface and intracellular ion channels. Junctophilins (JPs) are important components of the junctional complexes. JPs are composed of a carboxy-terminal hydrophobic segment spanning the ER/SR membrane and a remaining cytoplasmic domain that shows specific affinity for the PM. Four JPs have been identified as tissue-specific subtypes derived from different genes: JPH1 is expressed in skeletal muscle, JPH2 is detected throughout all muscle cell types, and JPH3 and JPH4 are predominantly expressed in the brain. In the CNS, both JPH3 and JPH4 are expressed throughout neural sites and contribute to the subsurface cistern formation in neurons. Mice lacking both JPH3 and JPH4 subtypes exhibit serious symptoms such as impaired learning and memory and are accompanied by abnormal nervous functions. A repeat expansion in JPH3 is associated with Huntington disease-like 2. At least two isoforms of JPH3 are known to exist.

References

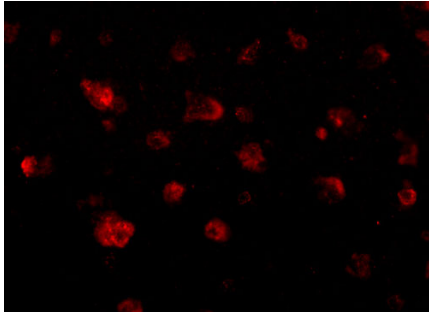
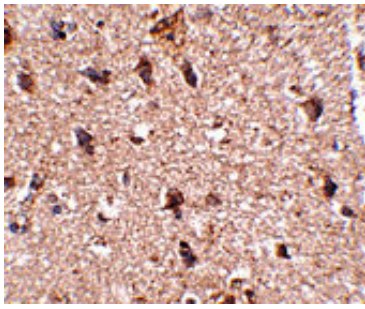
Takeshima H, Komazaki S, Nishi M, et al. Junctophilins: a novel family of junctional membrane complex proteins. *Mol. Cell.*2000; 6:11-22.
Kakizawa S, Kishimoto Y, Hashimoto K, et al. Junctophilin-mediated channel crosstalk essential for cerebellar synaptic plasticity. *EMBO J.*2007; 26:1924-33.
Nishi M, Sakagami H, Komazaki S, et al. Coexpression of junctophilin type 3 and type 4 in brain. *Brain Res. Mol. Brain Res.*2003; 118:102-10.
Moriguchi S, Nishi M, Komazaki S, et al. Functional uncoupling between Ca²⁺ release and afterhyperpolarization in mutant hippocampal neurons lacking junctophilins. *Proc. Natl. Acad. Sci.*2006; 103:10811-6.

Images



Western blot analysis of JPH3 in Daudi cell lysate with JPH3 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunohistochemistry of JPH3 in human brain tissue with JPH3 antibody at 2.5 µg/mL.



Immunofluorescence of JPH3 in human brain tissue with JPH3 antibody at 20 $\mu\text{g/mL}$.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.