

JPH4 Antibody

Catalog # ASC10811

Product Information

Application	WB, E
Primary Accession	Q96JJ6
Other Accession	AAH55429 , 33585440
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	65861
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	JPH4 antibody can be used for detection of JPH4 by Western blot at 1 µg/mL.

Additional Information

Gene ID	84502
Other Names	Junctophilin-4, JP-4, Junctophilin-like 1 protein, JPH4, JPHL1, KIAA1831
Target/Specificity	JPH4;
Reconstitution & Storage	JPH4 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	JPH4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	JPH4
Synonyms	JPHL1, KIAA1831
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. JPH4 is brain- specific and appears to have an active role in certain neurons involved in motor coordination and memory (By similarity).
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).

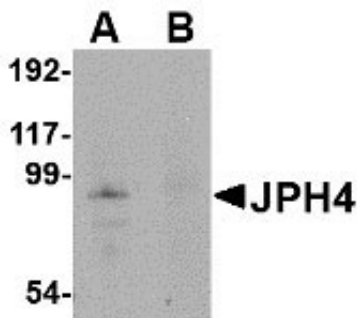
Background

JPH4 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.

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



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