

JPH3 Antibody

JPH3 (IN): Junctophilin 3, JP3, JP-3, TNRC22, HDL2

CATALOG No.: 4931

BACKGROUND:

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 (1). 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 (1-2). In the CNS, both JPH3 and JPH4 are expressed throughout neural sites and contribute to the subsurface cistern formation in neurons (3). Mice lacking both JPH3 and JPH4 subtypes exhibit serious symptoms such as impaired learning and memory and are accompanied by abnormal nervous functions (4). A repeat expansion in JPH3 is associated with Huntington disease-like 2 (5). At least two isoforms of JPH3 are known to exist.

SOURCE:

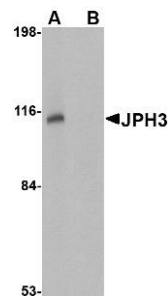
Rabbit polyclonal JPH3 antibody was raised against an 18 amino acid peptide near the center of human JPH3 (GenBank accession no. NP_065706).

APPLICATION:

JPH3 antibody can be used for detection of JPH3 by Western blot at 1 – 2 µg/ml. (Optimal dilution should be determined by user.) Daudi cell lysate can be used as positive control. JPH3 antibody is human, mouse and rat reactive. **For research use only.**

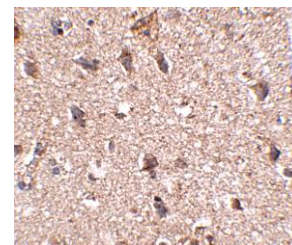
STORAGE:

JPH3 antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



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.



RELATED PRODUCTS:

Blocking Peptide, Catalog No. **4931P**.
Daudi Cell Lysate, Catalog No. **1224**.
JPH3 Antibody (CT), Catalog No. **4921**.
JPH1 Antibody, Catalog No. **4917**.
JPH2 Antibody (CT), Catalog No. **4919**.
JPH4 Antibody (CT), Catalog No. **4923**.

REFERENCES:

1. Takeshima H, Komazaki S, Nishi M, et al. Junctophilins: a novel family of junctional membrane complex proteins. *Mol. Cell.* 2000; 6:11-22.
2. Kakizawa S, Kishimoto Y, Hashimoto K, et al. Junctophilin-mediated channel crosstalk essential for cerebellar synaptic plasticity. *EMBO J.* 2007; 26:1924-33.
3. 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.
4. 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.
5. Holmes SE, O'Hearn E, Rosenblatt A, et al. A repeat expansion in the gene encoding junctophilin-3 is associated with Huntington disease-like 2. *Nat Genet.* 2001; 29:377-8. (09-01D)