SANTA CRUZ BIOTECHNOLOGY, INC.

Junctophilin-3 (D-17): sc-51314

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Junctophilins are components of the junctional complexes between plasma membranes and endoplasmic or sarcoplasmic reticulums present in all excitable cells. Junctophilins contain a cytoplasmic domain which binds to the plasma membrane, as well as an ER/SR membrane spanning hydrophobic C-terminal segment. The three subtypes in this family are Junctophilin-1, -2 and -3. Junctophilin-1 is predominantly expressed in skeletal muscle, but is also expressed at low levels in heart. Junctophilin-2 is expressed in heart and skeletal muscle. Mutant mice lacking the Jph2 gene exhibit embryonic lethality and possess cardiac myocytes that express abnormal calcium transients. Junctophilin-3 is expressed in brain. The JPH3 alternatively spliced exon 2A has been suggested as a site for CTG repeat expansion leading to a Huntington disease-like autosomal dominant disorder.

REFERENCES

1. Takeshima, H., et al. 2000. Junctophilins: a novel family of junctional membrane complex proteins. Mol. Cell 6: 11-22.
2. Margolis, R.L., et al. 2001. A disorder similar to Huntington's disease is associated with a novel CAG repeat expansion. Ann. Neurol. 50: 373-380.
3. Holmes, S.E., et al. 2001. A repeat expansion in the gene encoding Junctophilin-3 is associated with Huntington disease-like 2. Nat. Genet. 29: 377-378.
4. Nishi, M., et al. 2002. Motor discoordination in mutant mice lacking Junctophilin type 3. Biochem. Biophys. Res. Commun. 292: 318-324.
5. Nishi, M., et al. 2003. Coexpression of Junctophilin type 3 and type 4 in brain. Brain Res. Mol. Brain Res. 118: 102-110.
6. Stevanin, G., et al. 2003. Huntington's disease-like phenotype due to trinucleotide repeat expansions in the TBP and JPH3 genes. Brain 126: 1599-1603.

CHROMOSOMAL LOCATION

Genetic locus: JPH3 (human) mapping to 16q24.2; Jph3 (mouse) mapping to 8 E1.

SOURCE

Junctophilin-3 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Junctophilin-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51314 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Junctophilin-3 (D-17) is recommended for detection of Junctophilin-3 isoform 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Junctophilin-3 siRNA (h): sc-72009, Junctophilin-3 siRNA (m): sc-72010, Junctophilin-3 shRNA Plasmid (h): sc-72009-SH, Junctophilin-3 shRNA Plasmid (m): sc-72010-SH, Junctophilin-3 shRNA (h) Lentiviral Particles: sc-72009-V and Junctophilin-3 shRNA (m) Lentiviral Particles: sc-72010-V.

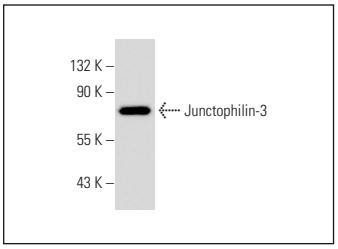
Molecular Weight of Junctophilin-3: 81 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Junctophilin-3 (D-17): sc-51314. Western blot analysis of Junctophilin-3 expression in mouse brain tissue extract.

RESEARCH USE

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

PROTOCOLS

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