

Junctophilin-2 (Y-15): sc-51313

BACKGROUND

Junctophilins are components of the junctional complexes between plasma membranes and endoplasmic or sarcoplasmic reticulum 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.

CHROMOSOMAL LOCATION

Genetic locus: *JPH2* (human) mapping to 20q13.12; *Jph2* (mouse) mapping to 2 H3.

SOURCE

Junctophilin-2 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Junctophilin-2 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-51313 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-2 (Y-15) is recommended for detection of Junctophilin-2 isoform 1 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-2 siRNA (h): sc-72007, Junctophilin-2 siRNA (m): sc-72008, Junctophilin-2 shRNA Plasmid (h): sc-77007-SH, Junctophilin-2 shRNA Plasmid (m): sc-72008-SH, Junctophilin-2 shRNA (h) Lentiviral Particles: sc-77007-V and Junctophilin-2 shRNA (m) Lentiviral Particles: sc-72008-V.

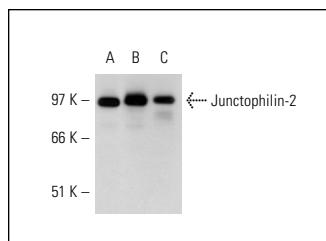
Molecular Weight of Junctophilin-2: 100 kDa.

Positive Controls: rat heart extract: sc-2393, mouse heart extract: sc-2254 or rat skeletal muscle extract: sc-364810.

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-2 (Y-15): sc-51313. Western blot analysis of Junctophilin-2 expression in rat heart (A), rat skeletal muscle (B) and mouse heart (C) tissue extracts.

SELECT PRODUCT CITATIONS

- Chen, B., et al. 2013. Critical roles of junctophilin-2 in T-tubule and excitation-contraction coupling maturation during postnatal development. *Cardiovasc. Res* 100: 54-62.
- Zhang, C., et al. 2014. Microtubule-mediated defects in junctophilin-2 trafficking contribute to myocyte transverse-tubule remodeling and Ca²⁺ handling dysfunction in heart failure. *Circulation* 129: 1742-1750.
- Caldwell, J.L., et al. 2014. Dependence of cardiac transverse tubules on the BAR domain protein amphiphysin II (BIN-1). *Circ. Res.* 115: 986-996.
- Guo, A., et al. 2014. Overexpression of junctophilin-2 does not enhance baseline function but attenuates heart failure development after cardiac stress. *Proc. Natl. Acad. Sci. USA* 111: 12240-12245.

RESEARCH USE

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



Try **Junctophilin-2 (H-3): sc-377086** or **Junctophilin-2 (A-1): sc-398290**, our highly recommended monoclonal alternatives to Junctophilin-2 (Y-15).