

JPH2 Polyclonal Antibody

Catalog Number40-5300

Product data sheet

| Details            |   | Species Reactivity   |                                   |
|--------------------|---|--|-----------------------------------|
| Size               | 100 µg  | Species reactivity   | Mouse                             |
| Host/Isotope       | Rabbit / IgG  | Published species  | Rat, Human, Mouse, Not Applicable |
| Class              | Polyclonal  | Tested Applications  |                                   |
| Type               | Antibody  | Immunohistochemistry (Frozen) (IHC (F))  | Dilution *<br>Assay-dependent     |
| Immunogen          | Synthetic peptide derived from the C-terminal region of the mouse junctophilin-2 (JPH2, JP-2, junctophilin type 2) protein, which differs from rat by one non-conservative amino acid | Immunohistochemistry (Paraffin) (IHC (P))  | 1:20                              |
|                    |   | Western Blot (WB)  | 2-3 µg/mL                         |
| Conjugate          | Unconjugated  | Published Applications   |                                   |
| Form               | Liquid  | Western Blot (WB)  | See 3 publications below          |
| Concentration      | 0.25 mg/mL  | Immunocytochemistry (ICC/IF)   | See 2 publications below          |
| Purification       | Antigen affinity chromatography   | * Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls. |                                   |
| Storage buffer     | PBS, pH 7.4   |  |                                   |
| Contains           | 0.1% sodium azide   |  |                                   |
| Storage Conditions | -20°C   |  |                                   |

Background/Target Information

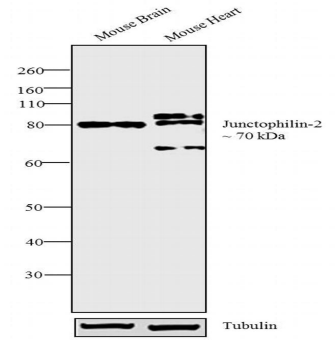
This gene encodes a protein with a leucine-rich repeat and a calponin homology domain. Polymorphism in this gene may be associated with susceptibility to knee osteoarthritis. Alternative splicing results in multiple transcript variants encoding different isoforms.

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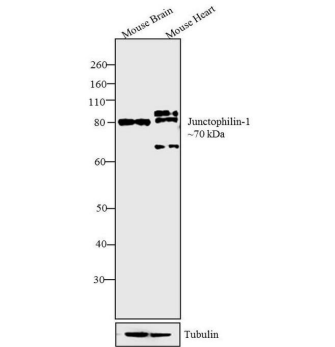
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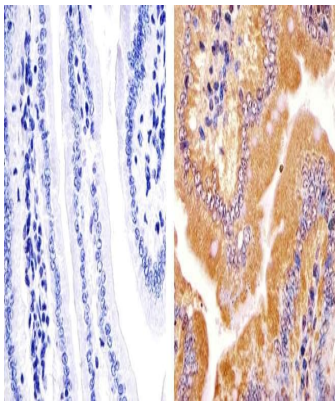
**JPH2 Antibody (40-5300) in WB**

Western blot analysis was performed on tissue extracts (30 µg lysate) of Mouse Brain (Lane 1), and Mouse Heart (lane 2). The blots were probed with Anti-Junctophilin-2 Rabbit Polyclonal Antibody (Product # 40-5300, 2 µg/mL) and detected by chemiluminescence Goat Anti-Rabbit IgG Secondary Antibody, HRP conjugate (Product # G-21234, 1:5000 dilution). A 70 kDa band corresponding to Junctophilin-2 was observed across cell lines tested. Known quantity of protein samples were electrophoresed using Novex® NuPAGE® 10 % Bis-Tris gel (Product # NP0301BOX), XCell SureLock™ Electrophoresis System (Product # EI0002) and Novex® Sharp Pre-Stained Protein Standard (Product # LC5800). Resolved proteins were then transferred onto a nitrocellulose membrane by iBlot® 2 Dry Blotting System (Product # IB21001).The membrane was probed with the relevant primary and secondary Antibody following blocking with 5 % skimmed milk. Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate (Product # 32106).



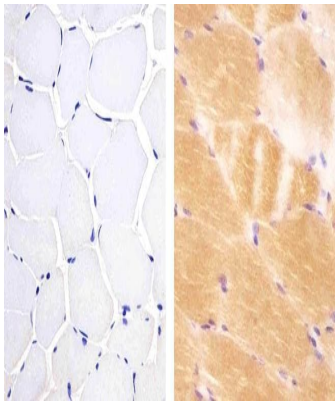
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**JPH2 Antibody (40-5300) in IHC (P)**

Immunohistochemistry analysis of Junctophilin-2 showing staining in the cytoplasm and membrane of paraffin-embedded mouse small intestine tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a Anti- Junctophilin-2 Polyclonal Antibody (Product # 40-5300) diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



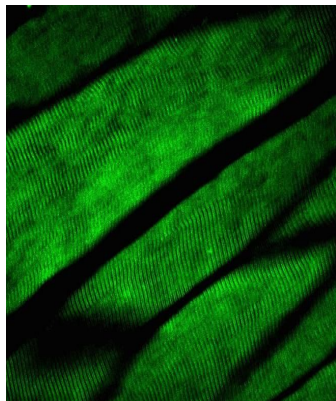
**JPH2 Antibody (40-5300) in IHC (P)**

Immunohistochemistry analysis of Junctophilin-2 showing staining in the cytoplasm of paraffin-embedded human skeletal muscle (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a Anti- Junctophilin-2 Polyclonal Antibody (Product # 40-5300) diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

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**JPH2 Antibody (40-5300) in IHC**

Immunofluorescent staining of mouse skeletal muscle tissue using Rb anti-Junctophilin-2 (C-term) (Product # 40-5300). Image courtesy of James I. Nagy, PhD, University of Manitoba, Canada.

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PubMed References For JPH2 Polyclonal Antibody

3 Western Blot References

| Species / Dilution | Summary  |
|--------------------|--|
| Mouse / 1:500      | 40-5300 was used in Western Blotting to study the structure and function of myocytes isolated from Cav-3 knockouts.  |
|                    | American journal of physiology. Heart and circulatory physiology ( 2018; 315: H1101)<br><b>"Caveolin-3 KO disrupts t-tubule structure and decreases t-tubular lCa density in mouse ventricular myocytes."</b><br>Author(s):Bryant SM,Kong CHT,Watson JJ,Gadeberg HC,Roth DM,Patel HH,Cannell MB,James AF,Orchard CH<br>PubMed Article URL: <a href="http://dx.doi.org/10.1152/ajpheart.00209.2018">http://dx.doi.org/10.1152/ajpheart.00209.2018</a>     |
|                    | 40-5300 was used in Western Blotting to indicate that Junctophilin damage plays a role in early force deficits due to excitation-contraction coupling failure following the performance of eccentric contractions.   |
| Mouse / 1:20,000   | American journal of physiology. Cell physiology ( 2010; 298: C365)<br><b>"Junctophilin damage contributes to early strength deficits and EC coupling failure after eccentric contractions."</b><br>Author(s):Corona BT,Balog EM,Doyle JA,Rupp JC,Luke RC,Ingalls CP<br>PubMed Article URL: <a href="http://dx.doi.org/10.1152/ajpcell.00365.2009">http://dx.doi.org/10.1152/ajpcell.00365.2009</a>   |
| Mouse / Not Cited  | 40-5300 was used in Western Blotting to postulate that enhanced binding between mutant obscurins and phospholamban leads to SERCA2 disinhibition, which may underlie the observed pathological alterations.  |
|                    | Science advances ( 2017; 3: )<br><b>"Deregulated Ca<sup>2+</sup> cycling underlies the development of arrhythmia and heart disease due to mutant obscurin."</b><br>Author(s):Hu LR,Ackermann MA,Hecker PA,Prosser BL,King B,O'Connell KA,Grogan A,Meyer LC,Berndsen CE,Wright NT,Jonathan Lederer W,Kontogianni-Konstantopoulos A<br>PubMed Article URL: <a href="http://dx.doi.org/10.1126/sciadv.1603081">http://dx.doi.org/10.1126/sciadv.1603081</a> |

2 Immunocytochemistry References

| Species / Dilution | Summary   |
|--------------------|---|
| Human / Not Cited  | The Journal of biological chemistry ( 2011; 286: 43717)<br><b>"Junctophilin 1 and 2 proteins interact with the L-type Ca<sup>2+</sup> channel dihydropyridine receptors (DHPRs) in skeletal muscle."</b><br>Author(s):Golini L,Chouabe C,Berthier C,Cusimano V,Fornaro M,Bonvallet R,Formoso L,Giacomello E,Jacquemond V, Sorrentino V<br>PubMed Article URL: <a href="http://dx.doi.org/10.1074/jbc.M111.292755">http://dx.doi.org/10.1074/jbc.M111.292755</a> |
| Mouse / 1:400      | 40-5300 was used in Immunocytochemistry to conclude that JPH2 maintains functional coupling between RyR2s and BK channels and is critically important for cerebral arterial function.   |
|                    | Proceedings of the National Academy of Sciences of the United States of America ( 2019; 116: 21874)<br><b>"Nanoscale coupling of junctophilin-2 and ryanodine receptors regulates vascular smooth muscle cell contractility."</b><br>Author(s):Pritchard HAT,Griffin CS,Yamasaki E,Thakore P,Lane C,Greenstein AS,Earley S<br>PubMed Article URL: <a href="http://dx.doi.org/10.1073/pnas.1911304116">http://dx.doi.org/10.1073/pnas.1911304116</a>             |

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