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JPH2 Polyclonal Antibody

Catalog Number 40-5300

Product data sheet

Details	
Size	100 µg
Host/Isotope	Rabbit / IgG
Class	Polyclonal
Type	Antibody
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
Conjugate	Unconjugated
Form	Liquid
Concentration	0.25 mg/mL
Purification	Antigen affinity chromatography
Storage buffer	PBS, pH 7.4
Contains	0.1% sodium azide
Storage Conditions	-20°C

Species Reactivity	
Species reactivity	Mouse
Published species	Rat, Human, Mouse, Not Applicable

Tested Applications	Dilution *
Immunohistochemistry (Frozen) (IHC (F))	Assay-dependent
Immunohistochemistry (Paraffin) (IHC (P))	1:20
Western Blot (WB)	2-3 µg/mL

Published Applications	
Western Blot (WB)	See 3 publications below
Immunocytochemistry (ICC/IF)	See 2 publications below

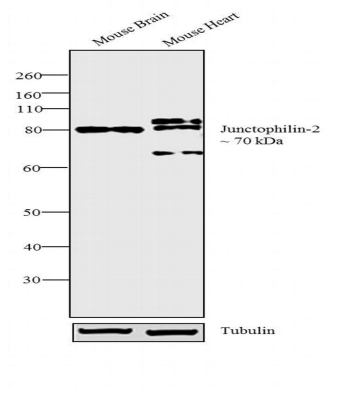
* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

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 susceptibililty to knee osteoarthritis. Alternative splicing results in multiple transcript variants encoding different isoforms.

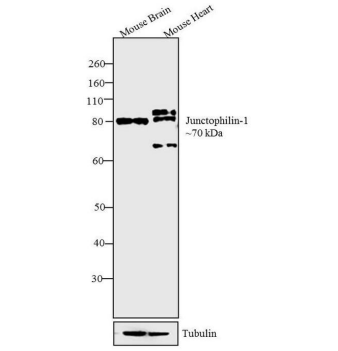
For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Product Images For JPH2 Polyclonal Antibody



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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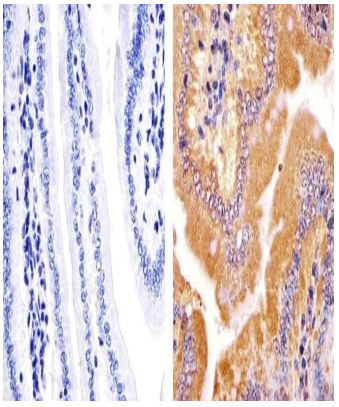
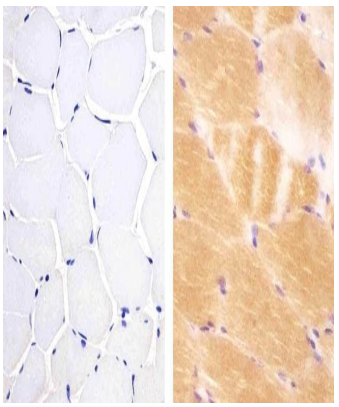


JPH2 Antibody (40-5300) in IHC (P)

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 4ºC 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 4ºC 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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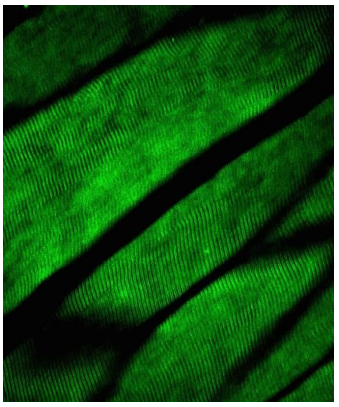

JPH2 Antibody (40-5300) in IHC

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) **"Caveolin-3 KO disrupts t-tubule structure and decreases t-tubular I_{Ca} density in mouse ventricular myocytes."** Author(s):Bryant SM,Kong CHT,Watson JJ,Gadeberg HC,Roth DM,Patel HH,Cannell MB,James AF,Orchard CH PubMed Article URL:http://dx.doi.org/10.1152/ajpheart.00209.2018
Mouse / 1:20,000	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. American journal of physiology. Cell physiology (2010; 298: C365) **"Junctophilin damage contributes to early strength deficits and EC coupling failure after eccentric contractions."** Author(s):Corona BT,Balog EM,Doyle JA,Rupp JC,Luke RC,Ingalls CP PubMed Article URL:http://dx.doi.org/10.1152/ajpcell.00365.2009
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:) **"Deregulated Ca²⁺ cycling underlies the development of arrhythmia and heart disease due to mutant obscurin."** 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,Kontrogianni-Konstantopoulos A PubMed Article URL:http://dx.doi.org/10.1126/sciadv.1603081

2 Immunocytochemistry References

Species / Dilution	Summary
Human / Not Cited	The Journal of biological chemistry (2011; 286: 43717) **"Junctophilin 1 and 2 proteins interact with the L-type Ca2+ channel dihydropyridine receptors (DHPRs) in skeletal muscle."** Author(s):Golini L,Chouabe C,Berthier C,Cusimano V,Fornaro M,Bonvallet R,Formoso L,Giacomello E,Jacquemond V,Sorrentino V PubMed Article URL:http://dx.doi.org/10.1074/jbc.M111.292755
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) **"Nanoscale coupling of junctophilin-2 and ryanodine receptors regulates vascular smooth muscle cell contractility."** Author(s):Pritchard HAT,Griffin CS,Yamasaki E,Thakore P,Lane C,Greenstein AS,Earley S PubMed Article URL:http://dx.doi.org/10.1073/pnas.1911304116

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