



Qty: 100 µg/400 µL

Rabbit anti-Junctophilin-2

Catalog No. 40-5300

Lot No.

Rabbit anti-Junctophilin-2 (C-term)

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.473

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

SPECIFICITY

This antibody is specific for the junctophilin-2 protein. On Western blots, it identifies the target band at ~95 kDa.

REACTIVITY

Reactivity has been confirmed with mouse skeletal muscle homogenates by Western blotting, and with frozen mouse skeletal muscle tissue by immunohistochemistry and immunofluorescence.

Sample	Western Blotting	Immuno-histochemistry (frozen)	Immuno-fluorescence
Mouse	+++	+++	+++
Rat	ND	ND	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1-3 µg/mL
Immunohistochemistry (frozen): 1-3 µg/mL
Immunofluorescence: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

PI405300

(Rev 10/08) DCC-08-1089

Important Licensing Information - These products may be covered by one or more Limited Use Label Licenses (see the Invitrogen Catalog or our website, www.invitrogen.com). By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

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.¹⁻² The junctophilins (JPHs, JPs) are a novel conserved family of proteins that are important components of the junctional membrane complexes.³⁻⁵ JPHs are composed of a C-terminal hydrophobic segment spanning the ER/SR membrane and a remaining cytoplasmic domain that shows specific affinity for the PM, which is thought to provide a structural basis for physiological coupling between cell surface and intracellular channels.⁵

In mouse, there are four junctophilin subtypes: JP-1, -2, -3, and -4.⁵ Junctophilin-2 (JPH2) is abundantly expressed in heart muscle and in skeletal muscle (Nishi *et al*, 2000; Takeshima *et al*, 2000).⁴⁻⁵ JPH2 is essential for dyad junction formation because disruption of its expression in mice produces embryonic lethality as a result of defective junctional membrane coupling and unsynchronized intracellular Ca²⁺ transients.^{5,7} JPH2 is localized in caveolin-rich membranes in the heart, and expression is up-regulated during normal development and down-regulated in a hypertrophic or a dilated cardiomyopathic mouse model.⁸ The expression levels of JPH2 may be associated with the development of T-tubules and impaired Ca²⁺-induced Ca²⁺ release in the heart.⁸

REFERENCES

1. Berridge MJ. *Neuron* 21:13-26, 1998.
2. Pozzan T, et al. *Physiol Rev* 74:595-636, 1994.
3. Ma J, Pan Z. *Front Biosci* 8:242-255, 2003.
4. Nishi M, et al. *Biochem Biophys Res Comm* 273:920-927, 2000.
5. Takeshima H, et al. *Mol Cell* 6:11-22, 2000.
6. Ito K, et al. *J Cell Biol* 154:1059-1067, 2001.
7. Komazaki S, et al. *FEBS Lett* 524:225-229, 2002.
8. Minamisawa S, et al. *Biochem Biophys Res Comm* 325:852-856, 2004.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

Conjugate	ZyMAX[™] Goat x Rabbit IgG (H+L)	ZyMAX[™] Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy [™] 3	81-6115	81-6515
Cy [™] 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

Zymed[®] and ZyMAX[™] are trademarks of Zymed Laboratories Inc. Cy[™] and Sepharose[®] are trademarks of Amersham Biosciences Ltd.

For Research Use Only

LF050523

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

PI405300

(Rev 10/08) DCC-08-1089

Important Licensing Information - These products may be covered by one or more Limited Use Label Licenses (see the Invitrogen Catalog or our website, www.invitrogen.com). By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.