Qty: 100µg/400 µL

Rabbit anti-Connexin 40 (C-term)

Catalog No. 36-4900

Lot No.

Rabbit anti-Connexin 40 (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.323

IMMUNOGEN
Synthetic peptide derived from the C-terminal region of the mouse and rat Connexin 40 (Cx40) proteins. The human sequence at this location differs by only one amino acid.

SPECIFICITY
This antibody reacts with the mouse Connexin 40 protein. On Western blots, it identifies the target band at ~40 kDa.

REACTIVITY
Reactivity has been confirmed with mouse heart homogenates by Western blotting, mouse heart and lung homogenates by immunoprecipitation, and mouse heart tissue by immunohistochemistry and immunofluorescence. Cross-reactivity with rat and human Cx40 proteins is expected based on amino acid sequence homology.

Sample	Western Blotting	Immuno-histochemistry (frozen)*	Immuno-fluorescence	Immuno-precipitation
Mouse	+++	+++	+++	+++
Rat	ND	ND	ND	ND
Human	ND	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
Immunofluorescence : 1-3 µg/mL
Immunohistochemistry* : 1-3 µg/mL
Immunoprecipitation : 7 µg/reaction

* For IHC, mice were perfused transcardially with 3 mL pre-fixative (50 mM phosphate buffer, 0.1% sodium nitrite, 1 unit/mL heparin), followed by 40 mL fixative (0.16 M sodium phosphate buffer, 0.2% picric acid, and 1-, 2-, or 4% paraformaldehyde), and perfusion with 10 mL sucrose wash (10% sucrose in 25 mM sodium phosphate buffer, pH 7.4. Tissues were then stored in cryoprotectant (10% sucrose, 25 mM phosphate buffer, pH 7.4, 0.04% sodium azide) for a minimum of 24 hours prior to sectioning.

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)

BACKGROUND

Connexin 40 (Cx40) is a gap junction protein highly expressed by vascular endothelial cells[1-3] and in the mammalian heart, specifically in the atrial myocardium and the His-Purkinje conduction system.[4-5] At least three other connexins are expressed in the heart, including Cx37 (endocardium),[6] Cx43 (atrial and ventricular myocardium, distal parts of the conduction system),[5] and Cx45 (throughout the heart).[7] Mice lacking the gene for Cx40 exhibit reduced atrial but normal ventricular conduction velocity;[8] these mice display right bundle-branch block and impaired left bundle-branch conduction.[9-10]

Cx40 and Cx43 frequently co-localize in cells of the cardiovascular system,[11-13] and participate in the formation of heterotypic gap junction channels.[14-16] For example, atrial myocytes express both Cx40 and Cx43, which oligomerize into the same hemichannel.[17] Atrial connexons consist of hexomeric connexin assemblies that contain varying proportions of Cx40 and Cx43 proteins.

REFERENCES

1. Beyer EC, et al. *J Membr Biol* 127:69-76, 1992.
2. Bruzzone R, et al. *Mol Biol Cell* 4:7-20, 1993.
3. Hennemann H, et al. *J Cell Biol* 117:1299-1310, 1992.
4. Coppen SR, et al. *Dev Genet* 24:82-90, 1999.
5. van Kempen MJ, et al. *Cardiovasc Res* 32:886-900, 1996.
6. Verheule S, et al. *Circ Res* 80:673-681, 1997.
7. Darrow BJ, et al. *Circ Res* 76:381-387, 1995.
8. Verheule S, et al. *J Cardiovasc Electrophysiol* 10:1380-1389, 1999.
9. Tamaddon HS, et al. *Circ Res* 87:929-936, 2000.
10. van Rijen HV, et al. *Circulation* 103:1591-1598, 2001.
11. van Kempen MJ and Jongsma HJ. *Histochem Cell Biol* 112:479-486, 1999.
12. Vozzi C, et al. *J Mol Cell Cardiol* 31:991-1003, 1999.
13. Yeh HI, et al. *Arterioscler Thromb Vasc Biol* 20:1753-1762, 2000.
14. Cottrell GT and Burt JM. *Am J Physiol Cell Physiol* 281:C1559-C1567, 2001.
15. He DS, et al. *PNAS* 96:6495-6500, 1999.
16. Valiunas V, et al. *Am J Physiol Heart Circ Physiol* 281:H1675-H1689, 2001.
17. Elenes S, et al. *J Cardiovasc Electrophysiol* 10:990-1004, 1999.

RELATED PRODUCTS

Product	*Clone/PAD**	*Cat. No.*
Rb anti-Connexin 40 (Mid)	ZMD.324	36-5000
Rb anti-Connexin 43	Z-JB1	71-0700
Ms anti-Connexin 43	CX-1B1	13-8300
Ms anti-Connexin 43	3D8A5	35-5000
Rb anti-Connexin 47	ZMD.255	36-4700
Ms anti-Connexin 50	C6	33-4300
Ms anti-Connexin 26	CX-1E8	33-5800
Ms anti-Connexin 26	CX-12H10	13-8100
Rb anti-Connexin 26	UM214	51-2800
Rb anti-Connexin 26	Z-Z8	71-0500
Rb anti-Connexin 29	ZMD.81	34-4200
Ms anti-Connexin 30	CX30-8E8	33-2500
Rb anti-Connexin 30	Z-PP9	71-2200
Ms anti-Connexin 32	5F9A9	35-8900
Ms anti-Connexin 32	CX-2C2	13-8200
Rb anti-Connexin 32	ZMD.193	34-5700
Ms anti-Connexin 36	1E5H5	37-4600
Rb anti-Connexin 36	ZMD.257	36-4600

*PAD: Polyclonal Antibody Designation

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

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