



Qty: 50 µg/200 µl

Rabbit anti-Connexin 43

For Research Use Only

Catalog No. 71-0700

Lot No.

Rabbit anti-Connexin 43

FORM

This polyclonal antibody is supplied as a 200 µl aliquot of affinity purified antibody at a concentration of 0.25 mg/ml in 10 mM phosphate buffered saline, pH 7.4, containing 0.1% NaN₃.

IMMUNOGEN

Peptide corresponding to a segment of the 3rd cytoplasmic domain (C-terminal portion) of rat connexin 43.

SPECIFICITY

This antibody reacts with connexin 43. On Western blots, this antibody detects a 43 kDa protein with mouse brain, rat brain, and human smooth muscle cell extracts. Reactivity with other connexin types has not been observed on Western blots (note: samples were not boiled prior to running SDS-PAGE). Positive immunohistostaining is seen with mouse heart tissue. Reactivity of this antibody with connexin 43 is independent of phosphorylation status.⁽¹⁷⁾

USAGE

Working concentrations for specific applications should be determined by the investigator. Optimal dilutions will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. We recommend the following ranges as starting points for this product.

	ELISA:	0.1-1.0 µg/ml
IHC (frozen sections⁽¹⁵⁻¹⁷⁾):		1-5 µg/ml
IHC (paraffin-embedded*):		1-5 µg/ml
Western Blotting⁽¹⁷⁾:		~2-4 µg/ml

* Paraffin embedded sections require a heat-induced epitope retrieval (HIER) step. Please visit our website or contact Zymed for procedure. Tested on mouse heart tissue.

STORAGE

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

BACKGROUND^(4,5)

Intracellular communication mediated by gap junctions plays an important role in a variety of cellular processes including homeostasis, morphogenesis, cell differentiation, and growth control. Gap junctions are transmembrane channels that serve to directly link neighboring cells by mediating the exchange of low-molecular weight metabolites, ions, and second messengers. Gap junctions are formed by the interaction of connexons or hemichannels on adjacent cells. The connexon itself is composed of a hexameric assembly of proteins referred to as connexins. Connexins are highly homologous proteins encoded by a multigene family. The connexins exhibit similar structural features which include a cytoplasmic amino terminal region, four transmembrane domains, two extracellular loops, and a carboxy-terminal cytoplasmic tail of varying length^(2,3). Comparison of the amino acid sequences of the various connexin family members indicate that the two areas of greatest divergence amongst the connexin family members are the intracellular loop connecting the second and third transmembrane segments and the carboxy-terminal tail. These domains are thought to mediate connexin-type specific properties including phosphorylation, responses to gating stimuli, as well as assembly and membrane turnover. Modulation of gap junctional communication can be achieved by multiple mechanisms and can occur very rapidly or over a period of several hours. These mechanisms include alterations in transcription, translation, stability, postranslational processing (especially phosphorylation), gating, and insertion or removal from the plasma membrane⁽⁷⁾. Interestingly, reduction or alterations in the levels or types of connexin expressed in a given cell type has been found to correlate with tumor progression and metastasis^(7,9).

www.invitrogen.com

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

PI 71-0700

(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.

REFERENCES

1. Nagy JI, et al. *Exp Cell Res* 236:127-136, 1997.
2. Beyer E, et al. *Cell Biol* 105:2621-2629, 1987.
3. Fishman GI, et al. *J Cell Biol* 111:589-598, 1990.
4. Saez JC, et al. In: Advances in Second Messenger and Phosphoprotein Research Eds: Shenolikar S, Narin A. Raven Press, New York 1993.
5. Bennet MVL, et al. *Neuron* 6:305-320, 1990.
6. Beyer EC, et al. *J Cell Biol* 108:595-605, 1989.
7. Crow DS, et al. *Mol Cell Biol* 10:1754-1763, 1990.
8. Kanter HL, et al. *Circ Res* 73:344-350, 1993.
9. Wilgenbus, et al. *Int J Cancer* 51:522-529, 1992.
10. Davis LM, et al. *Am Coll Cardiol* 24:1124-1132, 1994.
11. Masgrou-Peya E, et al. *J Histochem Cytochem* 45(9):1207-1215, 1997.
12. Martin PEM, et al. *J Biol Chem* 273(3):1719-1726, 1998.
13. Kamibayashi Y, et al. *J Invest Dermatol* 101(6):773-778, 1993.
14. Toyofuku T, et al. *J Biol Chem* 273(3):1519-1528, 1998.
15. Hosny S, Jennes L. *Neuroendocrinology* 67:101-108, 1998.
16. Li WEI, Nagy JI. *Neuroscience* 97(1):113-123, 2000.
17. Li WEI, et al. *Euro J Neurosci* 10:2444-2463, 1998.
18. Nusrat A, et al. *J Biol Chem* 275 (38):29816-29822, 2000.

RELATED PRODUCTS

Cat. No.	Product	Quantity
Mouse anti-Connexin 32	Purified	13-8200
Rabbit anti-Connexin 26	Purified	71-0500
Mouse anti-Connexin 26	Purified	13-8100
Rabbit anti-Connexin 32	Purified	71-0600
Mouse anti-Connexin 43	Purified	13-8300
Goat anti-Mouse IgG (H+L) (ZyMax™ Grade)	Purified	81-6500
	FITC	81-6511
	TRITC	81-6514
	Cy™3	81-6515
	Cy™5	81-6516
	HRP	81-6520
	AP	81-6522
	Biotin:	81-6540
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Zymed® and ZyMAX™ are trademarks of Zymed Laboratories Inc. Cy™ is a trademark of Amersham Life Sciences, Inc. Sepharose® is a registered trademark of Pharmacia LKB.

Research Use Only

www.invitrogen.com

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

PI 71-0700

(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.