



Qty: 100 µg/200 µl

Mouse anti-Connexin-26

Catalog No. 13-8100

Lot No. See product label

Mouse anti-Connexin-26

FORM

This monoclonal antibody is supplied as a 200 µl aliquot at 0.5 mg/ml in phosphate buffered saline, pH 7.4, containing 0.1% sodium azide. The antibody is highly purified from mouse ascites by peptide-specific affinity chromatography.

CLONE: CX-12H10

ISOTYPE: Mouse IgG₁-kappa

IMMUNOGEN

Synthetic peptide corresponding to a segment of the cytoplasmic loop of rat Connexin-26. ^(4,5)

SPECIFICITY

This antibody reacts strongly with Connexin-26, which has a predicted molecular weight of 26.5 kDa. Although the polyclonal anti-Cx26 antibody (Cat. No. 71-0500) raised against the same sequence as this monoclonal anti-Cx26 antibody cross reacts with Cx30, this monoclonal anti-Cx26 appears to exhibit minimal cross reaction with Cx30 by western blotting. ^(1,2) The degree of cross reaction with Cx30 by IHC is uncertain, but may be influenced by fixation conditions.

REACTIVITY

Rat, mouse, and human ⁽¹²⁾. Reactivity of this antibody on Western blots has been confirmed by using extracts from mouse liver, mouse brain, and rat brain.

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. The suitability of this antibody for applications other than those listed below has not been tested. We recommend the following ranges as starting points for this product.

ELISA: 0.1-1 µg/ml
IHC (frozen sections) ^(2, 10, 12): 1-2 µg/ml
Western Blotting ⁽²⁾: 1 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.

BACKGROUND ^(6,7,9)

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 carboxyl-terminal cytoplasmic tail of varying length ^(4,5). 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 ^(4,5). These domains are, therefore, 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, posttranslational processing (especially phosphorylation), gating, and insertion or removal from the plasma membrane. 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 ⁽⁸⁾.

(cont'd)

www.invitrogen.com

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

PI 13-8100

(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, J.I., et al; *Neuroscience* 78:533-548 (1997).
2. Nagy, J.I. et al., *J. Comp. Neurol.*, 441:302-323 (2001)
3. Dahl, E., et al; *J. Biol. Chem.*, 271:17903-17910 (1996).
4. Hertzberg, E.L., et al; *Cell* 39:61-69 (1984).
5. Zhang, J.T., et al; *J. Cell. Biol.* 109: 3391-3401 (1989).
6. Saez, J.C., et al; *In Advances in Second Messenger and Phosphoprotein Research*; eds S., Shenolikar and A., Narin. Raven Press, New York (1993).
7. Bennet, M.V.L., et al; *Neuron* 6:305-320 (1990). Wilgenbus, KK., et al; *Int. J. Cancer* 51:522-529 (1992).
8. Kuraoka, A., et al; *J. Histochem. and Cytochem.* 41:971-980 (1993).
9. Davis, L.M., et al; *J. Amer. Coll. Cardiol.* 24: 1124-1132 (1994).
10. You, et al; *Cancer Research* 58:1498:1502 (1998).
11. Nagy, J.I., et al; *Neuroscience*, In Press (1998).
12. Rouan, F., et al ; *J. Cell Sci.* 114: 2105-2113 (2001).

RELATED PRODUCTS

Product	PAD*clone	Cat. No.
Rb x Connexin-26	UM214	51-2800
Rb x Connexin-26	Z-Z8	71-0500
Ms x Connexin-26	CX-1E8	33-5800
Rb x Connexin-29	ZMD.81	34-4200
Rb x Connexin-30	Z-PP9	71-2200
Ms x Connexin-30	CX30-8E8	33-2500
Rb x Connexin-32	ZMD.193	34-5700
Ms x Connexin-32	CX-2C2	13-8200
Rb x Connexin-32	Z-AA6	71-0600
Rb x Connexin-36	CY44	51-6300
Ms x Connexin-43	3D8A5	35-5000
Ms x Connexin-43	CX-1B1	13-8300
Rb x Connexin-43	Z-JB1	71-0700
Ms x Connexin-50	C6	33-4300
Connexin Sampler Pack (26,32,43)	3 Abs + Controls	90-0500

Product	Conjugate	Cat. No.
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.

For Research Use Only

www.invitrogen.com

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

PI 13-8100

(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.