



Qty: 50 µg/200 µl

Rabbit anti-Connexin 26

Catalog No. 71-0500

Lot No.

## Rabbit anti-Connexin 26

### FORM

This polyclonal antibody is supplied as a 200 µl aliquot of 0.25 mg/ml solution in 10 mM phosphate buffered saline (PBS), pH 7.4, containing 0.1% sodium azide (NaN<sub>3</sub>). The antibody is epitope-affinity purified.

### POLYCLONAL ANTIBODY DESIGNATION (PAD): Z-Z8

### IMMUNOGEN

Peptide corresponding to a portion of the cytoplasmic loop of rat connexin 26.

### SPECIFICITY

This antibody reacts predominantly with Connexin 26. By immunoblot analysis, a 26 kDa protein from mouse liver membrane, mouse brain extract, and rat brain extract was detected (note: samples were not boiled prior to running SDS-PAGE). A few cross reactive bands were detected in the 45-50 kDa range. The identity of these proteins has yet to be confirmed; however, it is possible these bands represent dimeric forms of the Connexin 26 protein. Immunohistochemical staining of frozen sections of human cochlea showed positive reactivity for Connexin 26<sup>(1)</sup>.

### USAGE

The concentrations below are only recommendations. Optimal concentrations of this antibody should be determined by the researcher for each specific application

	<b>ELISA:</b>	0.1-1.0 µg/ml
	<b>Western Blotting<sup>(8-9)</sup>:</b>	0.5 µg/ml
	<b>Immunohistochemistry (frozen)<sup>(1,10)</sup>:</b>	10 µg/ml
	<b>Immunofluorescence<sup>(11)</sup></b>	

### 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

Intercellular communication through gap junctions plays an important role in a variety of cellular processes including homeostasis, morphogenesis, cell differentiation, and growth control.<sup>(2-5)</sup> Gap junctions are transmembrane channels that serve to directly link neighboring cells by mediating the exchange of low-molecular weight (<1200 Da) metabolites, ions, and second messengers. Gap junctions are formed by the interaction of hemichannels (connexons) on adjacent cells. The connexon itself is composed of a hexameric assembly of connexin proteins. 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. 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.<sup>(2,3)</sup> 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 junction 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. 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<sup>(6)</sup>.

Connexin 30 (Cx-30) is a recently identified member of the connexin gene family, isolated by screening a mouse genomic library with a rat Cx26 probe.<sup>(6)</sup> Cx30 is closely related to Cx26 (77% amino acid sequence identity).<sup>(7,8)</sup> but the two show distinct tissue expression patterns: Cx30 is highly expressed in adult skin and brain while but not in embryonic and fetal brain.<sup>(7,8)</sup> On the other hand, Cx26 is expressed highly in prenatal brain, decreasing after birth.

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## REFERENCES

1. Kelsell DP, et al. *Nature* 387:80-83 (1997).
2. Kumar, M. and Gilula, M.B., *Cell* 84:381-388 (1996).
3. Saez, J.C., et al; *In Advances in Second Messenger and Phosphoprotein Research*; eds S., Shenolikar and A., Narin. Raven Press, New York (1993).
4. Bennet, M.V.L., et al; *Neuron* 6:305-320 (1990).
5. Kuraoka, A., et al; *J. Histochem. and Cytochem.* 41:971-980 (1993).
6. Wilgenbus, K.K., et al; *Int. J. Cancer* 51:522-529 (1992).
7. Dahl, E. et al., *J. Biol. Chem.* 271:17903-17910 (1996).
8. Nagy, J.I., et al., *Neuroscience* 78:533-548 (1997).
9. Nagy, J.I., et al; *Neuroscience* 88(2):447-468 (1999).
10. Hosny S. and Jennes L.; *Neuroendocrinology* 67:101-108 (1998).
11. Bittman, K.S. et al; *Cerebral Cortex* 9:188-195 (1999).

## RELATED PRODUCTS

<b><u>Primary antibodies</u></b>	<b><u>PAD*/Clone</u></b>	<b><u>Cat. No.</u></b>
Ms x Connexin 26	CX-12H10	13-8100
Rb x Connexin 26	Z-Z8	71-0500
Rb x Connexin 30	Z-PP9	71-2200
Ms x Connexin 32	CX-2C2	13-8200
Rb x Connexin 32	Z-AA6	71-0600
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
<b><u>Immunoassay reagents</u></b>	<b><u>Conjugate</u></b>	<b><u>Cat. No.</u></b>
Goat x Rabbit IgG (H+L) (ZyMAX™ Grade)	Purified	81-6100
	FITC	81-6111
	TRITC	81-6114
	Cy™3	81-6115
	Cy™5	81-6116
	HRP	81-6120
	AP	81-6122
	Biotin	81-6140
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

\*PAD- polyclonal antibody designation

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