

Qty: 100 µg/200 µl

Mouse anti-Connexin 43

Catalog No. 13-8300

Lot No. See product label

Mouse anti-Connexin 43

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-1B1

ISOTYPE: Mouse IgG₁-kappa

IMMUNOGEN

Synthetic peptide corresponding to a cytoplasmic sequence located near the C-terminus of rat Connexin 43^(2,3).

SPECIFICITY

CX-1B1 is specific for one of the unphosphorylated forms of Connexin 43. This antibody was at one time thought to be specific for all unphosphorylated forms of Connexin 43, but that can no longer be claimed since it was discovered that Connexin 43 can be phosphorylated at multiple sites. Recent studies have shown that phosphorylation occurs at a serine within the epitope recognized by this antibody.⁽²⁴⁾ CX-1B1 recognizes Connexin 43 only when the serine at residue 368 is unphosphorylated.^(1, 21-23) CX-1B1 will, however, recognize Connexin 43 if it is phosphorylated at sites besides Ser368.^(19, 20, 25) In some cell types, cross-reactivity with a ~70 kDa protein of unknown identity has been observed. This cross-reactivity is likely due to a shared epitope.

REACTIVITY

Reactivity has been confirmed by Western blot analysis of extracts derived from dog heart, human heart, mouse brain, mouse heart, rat brain, and Clone 9 (C1-9) rat liver cells. Clone 9 is the recommended positive control for CX-1B1.

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 µg/ml
Western Blotting ^(1, 13-15, 21, 22)		1-3 µg/ml
Immunolocalization ^(16, 21)		
Immunofluorescence ^(1, 14, 17-18)		
Immunohistochemistry ^(15, 21, 22)		2-5 µg/ml
Electron microscopy ^(1, 21-22)		

This antibody has also been used in immunofluorescence⁽¹¹⁾ applications and immunolocalization⁽¹²⁾ of Connexin 43, however, for immunohistochemical applications polyclonal Rabbit anti-Connexin 43 (Cat. no. 71-0700) is recommended.

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

(cont'd)

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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 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, posttranslational 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).

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RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Mouse anti-Connexin 32	CX-2C2	13-8200
Rabbit anti-Connexin 26	Z-Z8	71-0500
Mouse anti-Connexin 26	CX-12H10	13-8100
Rabbit anti-Connexin 32	Z-AA6	71-0600
Rabbit anti-Connexin 43	Z-JB1	71-0700
Immunoassay reagents	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
Goat anti-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
	Alkaline Phosphatase	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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