

Qty: 100 μg/400 μL Rabbit anti-Connexin 45 (C-term) Catalog No. 40-7000 Lot No.

Rabbit anti-Connexin 45 (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.490

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the mouse, rat, Chinese hamster, and golden hamster connexin 45 (Cx45, GJA7, gap junction alpha-7) protein

SPECIFICITY

This antibody is specific for the C-terminal region of the connexin 45 protein. On Western blots, it identifies the target bands at ~45 and 50 kDa. The band at ~50 kDa represents the phosphorylated form of the protein, while a band observed at ~35 kDa represents a breakdown product in overexpressed cells.

REACTIVITY

Reactivity has been confirmed with mouse brain homogenates and Cx45-transfected HeLa cell lysates by Western blotting. No reactivity was observed with untransfected HeLa cells. Reactivity has also been confirmed by immunohistochemistry and immunofluorescence with frozen mouse brain and retina tissues, where it demonstrates punctate labeling of blood vessels and the inner plexiform layer, respectively. Based on amino acid sequence homology, reactivity with rat, Chinese and golden hamster is expected.

Sample	Western Blotting	Immuno- histochemistry (frozen)*	Immuno- fluorescence
Mouse	+++	+++	+++
Rat	ND	ND	ND
Hamster	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
Immunohistochemistry (frozen)*:	1-3 μg/mL
Immunofluorescence:	1-3 μg/mL

* For immunohistochemistry and immunofluorescence, tissues were fixed in 1% paraformaldehyde and cryopreserved prior to staining.

STORAGE

PI407000

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)

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BACKGROUND

Connexins are a family of proteins that form intercellular gap junctions consisting of channels that allow direct the flow of ions and small molecules from the cytoplasm of one cell to that of a gap junctionally-coupled cell. Twenty mammalian connexins encoded by different genes have been identified to date, and these proteins are widely and differentially expressed in developing and adult tissues.¹

Connexin 45 (Cx45, GJA7) has been cloned from various species, including chicken,² mouse,³ zebrafish,⁴ and human.⁵ Cx45 forms among the smallest of any connexin channels studied,⁶ and it is highly phosphorylated, resulting in the detection of multiple bands migrating between ~45 and 50 kDa, representing unphosphorylated and phosphorylated forms of the protein.⁷⁻⁹ Numerous reports have described expression of Cx45 in a number of mammalian tissues, including working myocardium,¹⁰ kidney,¹¹ vascular smooth muscle cells in brain and elsewhere,¹²⁻¹³ granulosa cells of the ovary,¹⁴ and intestinal muscular plexus.¹⁵ Cx45 protein expression has also been detected in mouse retina. Targeted replacement of the Cx45 open reading frame by a lacZ reporter gene showed Cx45 promoter activity in somata of retinal neurons.¹⁶⁻¹⁷

REFERENCES

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PI407000

Product	Conjugate	Cat. No.
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rec-Protein G	Sepharose [®] 4B	10-1241

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
Су™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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