



Qty: 100 µg/400 µL

Rabbit anti-Pannexin 2 (C-term)

Catalog No. 42-2800

Lot No.

Rabbit anti-Pannexin 2 (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.548

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of mouse and rat pannexin 2, which differs by one non-conservative amino acid replacement from human and from predicted monkey, bovine, and dog sequences

SPECIFICITY

This antibody is specific for the C-terminal region of the pannexin 2 (Px2, PANX2) protein. On Western blots, it identifies the target band at ~103 kDa in pannexin 2-GFP-transfected C6 cells.

REACTIVITY

Reactivity has been confirmed with rat pannexin 2-GFP-transfected C6 cells by Western blotting and immunofluorescence. Based on amino acid sequence homology, reactivity with mouse and human is also expected.

Sample	Western Blotting	Immuno-fluorescence
Rat	+++*	+++*
Mouse	ND	ND
Human	ND	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

*Reactivity has only been established in cultured cells transfected with pannexin-2; investigators must determine specificity of detection in vivo.

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*: 0.5 – 2.0 µg/mL

Immunofluorescence*: 0.5 – 2.0 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.

(cont'd)

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BACKGROUND

Gap junctions are channel-forming structures that allow direct metabolic and electrical communication between adjacent cells of almost all types in mammalian tissues. In the human body, they are absent only in adult skeletal muscle cells and some circulating blood cells. A gap junction is formed two hemichannels, one in each of the neighboring cells, composed of six subunits. In mice and humans, at least 20 connexin and 3 pannexin genes encode gap junction proteins.¹ Connexins are only found in chordates, while pannexins are present in both chordate and invertebrate genomes.² Pannexins, previously known as innexins, are predicted to have four transmembrane regions, two extracellular loops, one intracellular loop, and intracellular N- and C-termini.³

Both human and mouse genomes contain three pannexin-encoded genes. Pannexin 2 (Px2, PANX2) appears to be a brain-specific gene, and is abundantly expressed in the central nervous system, as is pannexin 1.⁴ In many neuronal cell populations, including hippocampus, olfactory bulb, cortex, and cerebellum, pannexin 1 and pannexin 2 are co-expressed; in other brain regions such as white matter, only pannexin 1-positive cells are found.⁴ Pannexin 1 and -2 expression levels are inversely regulated during rat brain development, with pannexin 1 highly expressed in embryonic and young postnatal brain and declining in adult, and pannexin 2 expression low in prenatal brain and increasing during postnatal development.⁵

REFERENCES

1. Sohl G, et al. *Nature Rev Neurosci* 6(3):191-200, 2005.
2. Panchin YV, et al. *J Exp Biol* 208(Pt. 8):1415-1419, 2005.
3. Baranova A, et al. *Genomics* 83(4):706-716, 2004.
4. Bruzzone R, et al. *PNAS* 100(23):13644-13649, 2003.
5. Vogt A, et al. *Brain Res Mol Brain Res* 141(1):113-120, 2005.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose® 4B	10-1041
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
Cy™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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