



Qty: 100 µg/400 µL

Rabbit anti-Pannexin 3

Catalog No. 433270

Lot No.

## Rabbit anti-Pannexin 3

### 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.700

### IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the mouse and rat Pannexin 3 protein (Accession# NP\_766042 (mouse), XP\_236034 (rat), which is 80% homologous to human sequence.

### SPECIFICITY

This antibody is specific for the Pannexin 3 (PANX3, PX3) protein. On Western blots, it identifies the target band at ~45 kDa.

### REACTIVITY

Reactivity has been confirmed with C6 cells (Western blot) and HeLa cells (Immunocytochemistry) transfected with rat Pannexin 3 cDNA. Based on amino acid sequence homology, reactivity with mouse and human is expected.

| Sample | Western Blotting | Immuno-cytochemistry |
|--------|------------------|----------------------|
| Human  | ND               | ND                   |
| Mouse  | ND               | ND                   |
| Rat    | +++              | +++                  |

(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 that listed below has not been determined. The following concentration range is the recommended starting point for this product.

**Western Blotting:** 1-2 µg/mL  
**Immunocytochemistry:** 2-3 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**

Pannexins constitute a new family of gap junction type proteins. They are highly conserved in worms, mollusks, insects and mammals and are predicted to have four transmembrane regions, two extracellular loops, one intracellular loop and intracellular N- and C-termini.<sup>1</sup> Besides the connexin proteins, Pannexin 1 and 2 seem to be molecular components of neuronal gap junctions ("electrical synapses") that are thought to form connections between principal cells in the hippocampus.<sup>2</sup> Functional expression in paired *Xenopus* oocytes indicated that pannexins are capable of forming communicating junctions.<sup>3</sup> In addition to forming gap junction channels in paired oocytes, Pannexin 1 can also form a mechanosensitive and ATP-permeable channel in the nonjunctional plasma membrane.<sup>4</sup> Pannexin 1 and 3 are both glycoproteins with a cell surface distribution profile and life cycle dynamics distinct from connexin 43.<sup>5</sup> Pannexin 3 expression was prevalent in skin and cartilage. In transiently expressing cells both pannexin 1 and 3 were incapable of forming intercellular channels but assembled into functional cell surface channels.<sup>5</sup> Suggested roles in the ischemic death of neurons, schizophrenia, inflammation and tumor suppression have drawn attention for properties and cellular functions of pannexins.<sup>6</sup>

**REFERENCES**

1. Baranova A, et al. The mammalian pannexin family is homologous to the invertebrate innexin gap junction proteins. *Genomics*. 2004 Apr;83(4):706-16.
2. Bruzzone R, et al. Pannexins, a family of gap junction proteins expressed in brain. *Proc Natl Acad Sci U S A*. 2003 Nov 11;100(23):13644-9.
3. Vanden Abeele F, et al. Functional implications of calcium permeability of the channel formed by pannexin 1. *J Cell Biol*. 2006 Aug 14;174(4):535-46.
4. Huang YJ, et al. The role of pannexin 1 hemichannels in ATP release and cell-cell communication in mouse taste buds. *Proc Natl Acad Sci U S A*. 2007 Apr 10;104(15):6436-41.
5. Penuela S, et al. Pannexin 1 and pannexin 3 are glycoproteins that exhibit many distinct characteristics from the connexin family of gap junction proteins. *J Cell Sci*. 2007 Nov 1;120(Pt 21):3772-83.
6. Shestopalov VI, et al. Pannexins and gap junction protein diversity. *Cell Mol Life Sci*. 2008 Feb;65(3):376-94. Review.

**RELATED PRODUCTS**

| <b>Product</b>              | <b>Conjugate</b> | <b>Cat. No.</b> |
|-----------------------------|------------------|-----------------|
| Protein A                   | Sepharose 4B     | 10-1041         |
| rec-Protein G               | Sepharose 4B     | 10-1241         |
| ZyMAX™ Goat anti-rabbit IgG | Unconjugated     | 81-6100         |
| ZyMAX™ Goat anti-mouse IgG  | Unconjugated     | 81-6500         |

Secondary antibody conjugates.

| <b>Conjugate</b> | <b>Goat anti-rabbit IgG (H+L)</b> | <b>Goat anti-mouse IgG (H+L)</b> | <b>Ex/Em*</b> | <b>Fluorescence similar to--</b> |
|------------------|-----------------------------------|----------------------------------|---------------|----------------------------------|
| Alexa Fluor® 488 | A11008                            | A11001                           | 495/519       | FITC                             |
| Alexa Fluor® 555 | A21428                            | A21422                           | 555/565       | Cy3                              |
| Alexa Fluor® 594 | A11012                            | A11005                           | 590/617       | Texas Red                        |
| Alexa Fluor® 647 | A21244                            | A21235                           | 650/668       | Cy5                              |
| HRP              | 81-6120                           | 81-6520                          | NA**          | NA                               |
| AP               | 81-6122                           | 81-6522                          | NA            | NA                               |
| Biotin           | B2770                             | B2763                            | NA            | NA                               |

\*Excitation/emission (nm); \*\*Not applicable

For additional secondary antibody conjugates, visit [www.invitrogen.com/antibodies](http://www.invitrogen.com/antibodies)

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