SANTA CRUZ BIOTECHNOLOGY, INC.

Pannexin-1 (2E3): sc-293210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Gap junctions are formed by a hexameric group of proteins called connexins for the transport of low molecular weight proteins from cell to cell. Connexins, which are present in all metazoan organisms, serve diverse functions ranging from control of cell growth and differentiation to electric conduction in excitable tissues. Several mammalian cells with malignant phenotypes exhibit decreased connexin expression and gap junction communication. The pannexin gene family encodes a second class of putative gap junction proteins. Pannexins are highly conserved in invertebrates and mammals, indicating the importance of their gap junctional coupling function. Mammalian Pannexin-1 and Pannexin-3 are closely related, while Pannexin-2 is a more distant relation. Pannexin-1 is a transmembrane protein that forms calcium-permeable gap junctions between adjacent cells and in the endoplasmic reticulum. In erythrocytes, Pannexin-1 forms a mechanosensitive ATP-permeable channel in the nonjunctional plasma membrane.

REFERENCES

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2. Baranova, A., et al. 2004. The mammalian pannexin family is homologous to the invertebrate innexin gap junction proteins. Genomics 83: 706-716.
3. Panchin, Y.V. 2005. Evolution of gap junction proteins—the pannexin alternative. J. Exp. Biol. 8: 1415-1419.
4. Söhl, G., et al. 2005. Expression and functions of neuronal gap junctions. Nat. Rev. Neurosci. 6: 191-200.
5. Ray, A., et al. 2005. Site-specific and developmental expression of Pannexin-1 in the mouse nervous system. Eur. J. Neurosci. 21: 3277-3290.
6. Barbe, M.T., et al. 2006. Cell-cell communication beyond connexins: the pannexin channels. Physiology 21: 103-114.
7. Locovei, S., et al. 2006. Pannexin-1 in erythrocytes: function without a gap. Proc. Natl. Acad. Sci. USA 103: 7655-7659.
8. Locovei, S., et al. 2006. Activation of Pannexin-1 channels by ATP through P2Y receptors and by cytoplasmic calcium. FEBS Lett. 580: 239-244.
9. Vanden Abeele, F., et al. 2006. Functional implications of calcium permeability of the channel formed by Pannexin-1. J. Cell Biol. 174: 535-546.

CHROMOSOMAL LOCATION

Genetic locus: PANX1 (human) mapping to 11q21.

SOURCE

Pannexin-1 (2E3) is a mouse monoclonal antibody raised against amino acids 327-425 of Pannexin-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Pannexin-1 (2E3) is recommended for detection of Pannexin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

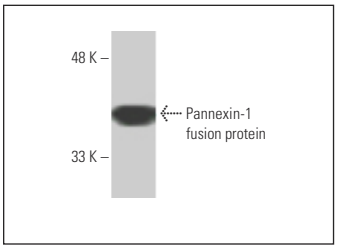
Suitable for use as control antibody for Pannexin-1 siRNA (h): sc-61287, Pannexin-1 shRNA Plasmid (h): sc-61287-SH and Pannexin-1 shRNA (h) Lentiviral Particles: sc-61287-V.

Molecular Weight of Pannexin-1: 48 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Pannexin-1 (2E3): sc-293210. Western blot analysis of human recombinant Pannexin-1 fusion protein.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.