SANTA CRUZ BIOTECHNOLOGY, INC.

Pannexin-2 (2B11): sc-517064

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 more distantly related. Pannexin-2 is a transmembrane protein expressed in the central nervous system that is unable to assemble in homomeric channels but forms heteromeric channels with Pannexin-1.

REFERENCES

1. Bruzzone, R., et al. 2003. Pannexins, a family of gap junction proteins expressed in brain. Proc. Natl. Acad. Sci. USA 100: 13644-13649.
2. Bao, L., et al. 2004. Pannexin membrane channels are mechanosensitive conduits for ATP. FEBS Lett. 572: 65-68.
3. Baranova, A., et al. 2004. The mammalian pannexin family is homologous to the invertebrate innexin gap junction proteins. Genomics 83: 706-716.
4. Vogt, A., et al. 2005. Pannexin1 and Pannexin2 expression in the developing and mature rat brain. Brain Res. Mol. Brain Res. 141: 113-120.
5. Bruzzone, R., et al. 2005. Pharmacological properties of homomeric and heteromeric pannexin hemichannels expressed in *Xenopus* oocytes. J. Neurochem. 92: 1033-1043.
6. Panchin, Y.V. 2005. Evolution of gap junction proteins—the pannexin alternative. J. Exp. Biol. 208: 1415-1419.
7. Söhl, G., et al. 2005. Expression and functions of neuronal gap junctions. Nature reviews. Neuroscience 6: 191-200.
8. Ray, A., et al. 2005. Site-specific and developmental expression of pannexin1 in the mouse nervous system. Eur. J. Neurosci. 21: 3277-3290.
9. Barbe, M.T., et al. 2006. Cell-cell communication beyond connexins: the pannexin channels. Physiology 21: 103-114.

CHROMOSOMAL LOCATION

Genetic locus: PANX2 (human) mapping to 22q13.33; Panx2 (mouse) mapping to 15 E3.

SOURCE

Pannexin-2 (2B11) is a mouse monoclonal antibody raised against amino acids 133-219 representing partial length Pannexin-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Pannexin-2 (2B11) is recommended for detection of Pannexin-2 of mouse, rat and 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-2 siRNA (h): sc-106351, Pannexin-2 siRNA (m): sc-152004, Pannexin-2 shRNA Plasmid (h): sc-106351-SH, Pannexin-2 shRNA Plasmid (m): sc-152004-SH, Pannexin-2 shRNA (h) Lentiviral Particles: sc-106351-V and Pannexin-2 shRNA (m) Lentiviral Particles: sc-152004-V.

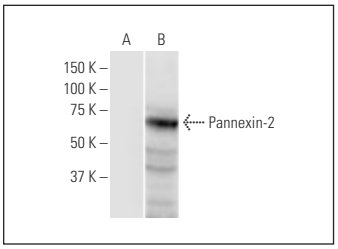
Molecular Weight of Pannexin-2: 70 kDa.

Positive Controls: Pannexin-2 transfected 293T whole cell lysate.

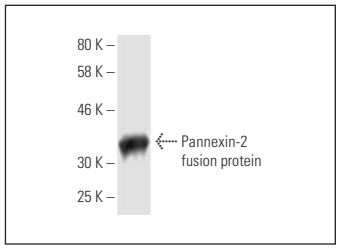
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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-2 (2B11): sc-517064. Western blot analysis of Pannexin-2 expression in non-transfected (**A**) and Pannexin-2 transfected (**B**) 293T whole cell lysates.



Pannexin-2 (2B11): sc-517064. Western blot analysis of human recombinant Pannexin-2 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.