

Pannexin-3 (K-16): sc-51386

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-3 and Pannexin-1 are closely related, while Pannexin-2 is more distantly related. Pannexin-3 is a multi-pass membrane protein that is not associated with channel activity or modulatory function.

REFERENCES

1. Bao, L., et al. 2004. Pannexin membrane channels are mechanosensitive conduits for ATP. *FEBS Lett.* 572: 65-68.
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.* 208: 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. Dahl, G., et al. 2006. Pannexin: to gap or not to gap, is that a question? *IUBMB Life* 58: 409-419.
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: PANX3 (human) mapping to 11q24.2; Panx3 (mouse) mapping to 9 A4.

SOURCE

Pannexin-3 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Pannexin-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51386 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Pannexin-3 (K-16) is recommended for detection of Pannexin-3 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pannexin-3 (K-16) is also recommended for detection of Pannexin-3 in additional species, including equine and canine.

Suitable for use as control antibody for Pannexin-3 siRNA (h): sc-72254, Pannexin-3 siRNA (m): sc-72255, Pannexin-3 shRNA Plasmid (h): sc-72254-SH, Pannexin-3 shRNA Plasmid (m): sc-72255-SH, Pannexin-3 shRNA (h) Lentiviral Particles: sc-72254-V and Pannexin-3 shRNA (m) Lentiviral Particles: sc-72255-V.

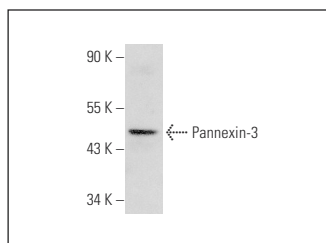
Molecular Weight of Pannexin-3: 45 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Pannexin-3 (K-16): sc-51386. Western blot analysis of Pannexin-3 expression in mouse brain tissue extract.

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.