

Pannexin-1 (K-20): sc-49695

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

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.

CHROMOSOMAL LOCATION

Genetic locus: PANX1 (human) mapping to 11q21; Panx1 (mouse) mapping to 9 A2.

SOURCE

Pannexin-1 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of Pannexin-1 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-49695 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Pannexin-1 (K-20) is recommended for detection of Pannexin-1 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).

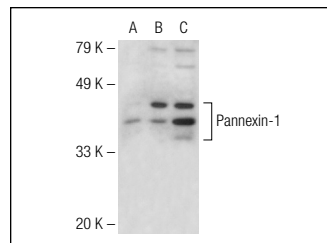
Pannexin-1 (K-20) is also recommended for detection of Pannexin-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Pannexin-1 siRNA (h): sc-61287, Pannexin-1 siRNA (m): sc-61288, Pannexin-1 siRNA (r): sc-270286, Pannexin-1 shRNA Plasmid (h): sc-61287-SH, Pannexin-1 shRNA Plasmid (m): sc-61288-SH, Pannexin-1 shRNA Plasmid (r): sc-270286-SH, Pannexin-1 shRNA (h) Lentiviral Particles: sc-61287-V, Pannexin-1 shRNA (m) Lentiviral Particles: sc-61288-V and Pannexin-1 shRNA (r) Lentiviral Particles: sc-270286-V.

Molecular Weight of Pannexin-1: 48 kDa.

Positive Controls: Pannexin-1 (h): 293 Lysate: sc-113361 or HeLa whole cell lysate: sc-2200.

DATA



Pannexin-1 (K-20): sc-49695. Western blot analysis of Pannexin-1 expression in non-transfected 293: sc-110760 (A), human Pannexin-1 transfected 293: sc-113361 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mayo, C., et al. 2008. Regulation by P2X7: epithelial migration and stromal organization in the cornea. *Invest. Ophthalmol. Vis. Sci.* 49: 4384-4391.
2. Johansen, D., et al. 2011. Ischemia induces closure of gap junctional channels and opening of hemichannels in heart-derived cells and tissue. *Cell. Physiol. Biochem.* 28: 103-114.

RESEARCH USE

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

MONOS
Satisfaction
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Try **Pannexin-1 (2E3): sc-293210**, our highly recommended monoclonal alternative to Pannexin-1 (K-20).