

# Pannexin-2 (D-20): sc-51382

## 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. Pannexin-1 and Pannexin-2 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.
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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 Pannexin-1 in the mouse nervous system. *Eur. J. Neurosci.* 21: 3277-3290.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Pannexin-2 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of Pannexin-2 of human origin.

## STORAGE

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

## 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-51382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Pannexin-2 (D-20) 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), 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-2 (D-20) is also recommended for detection of Pannexin-2 in additional species, including equine, canine, bovine, porcine and avian.

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: Hep G2 cell lysate: sc-2227.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.