

# connexin 32 (L-16): sc-30980

## BACKGROUND

The connexin family of proteins form hexameric complexes called "connexons" that facilitate movement of low molecular weight proteins between cells via gap junctions. Connexin proteins share a common topology of four transmembrane  $\alpha$ -helical domains, two extracellular loops, a cytoplasmic loop and cytoplasmic N- and C-termini. Many of the key functional differences arise from specific amino-acid substitutions in the most highly conserved domains, the transmembrane and extracellular regions. Each of the approximately 20 connexin isoforms produces channels with distinct permeabilities and electrical and chemical sensitivities; therefore, one connexin usually cannot fully substitute for another. Consequently, a wide variety of malignant phenotypes associate with decreased connexin expression and gap junction communication, dependent on the particular connexin that is affected. For instance, mutations in connexin 32 result in charcot-marie-tooth disease, a demyelinating disease of the peripheral nervous system.

## REFERENCES

1. Manjunath, C.K., et al. 1987. Human cardiac gap junctions: isolation, ultrastructure, and protein composition. *J. Mol. Cell. Cardiol.* 19: 131-134.
2. Grossman, H.B., et al. 1994. Decreased connexin expression and intercellular communication in human bladder cancer cells. *Cancer Res.* 54: 3062-3065.
3. Harris, A.L. 2001. Emerging issues of connexin channels: biophysics fills the gap. *Q. Rev. Biophys.* 34: 325-472.
4. Menichella, D.M., et al. 2003. Connexins are critical for normal myelination in the CNS. *J. Neurosci.* 23: 5963-5973.
5. King, T.J., et al. 2004. The gap junction protein connexin 32 is a mouse lung tumor suppressor. *Cancer Res.* 64: 7191-7196.
6. Yamamoto, T., et al. 2004. IL-1 $\beta$  regulates expression of Cx32, Occludin and claudin-2 of rat hepatocytes via distinct signal transduction pathways. *Exp. Cell Res.* 299: 427-441.
7. Nakashima, Y., et al. 2004. Expression of gap junction protein connexin 32 in chronic hepatitis, liver cirrhosis and hepatocellular carcinoma. *J. Gastroenterol.* 39: 763-768.
8. Fujimoto, E., et al. 2005. Cytotoxic effect of the Her-2/Her-1 inhibitor PKI-166 on renal cancer cells expressing the connexin 32 gene. *J. Pharmacol. Sci.* 97: 294-298.
9. Murata, M., et al. 2005. Tight junction protein MAGI-1 is upregulated by transfection with connexin 32 in an immortalized mouse hepatic cell line: cDNA microarray analysis. *Cell Tissue Res.* 319: 341-347.

## CHROMOSOMAL LOCATION

Genetic locus: GJB1 (human) mapping to Xq13.1; Gjb1 (mouse) mapping to X D.

## SOURCE

connexin 32 (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of connexin 32 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30980 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

connexin 32 (L-16) is recommended for detection of connexin 32 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).

connexin 32 (L-16) is also recommended for detection of connexin 32 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for connexin 32 siRNA (h): sc-43076, connexin 32 siRNA (m): sc-43077, connexin 32 shRNA Plasmid (h): sc-43076-SH, connexin 32 shRNA Plasmid (m): sc-43077-SH, connexin 32 shRNA (h) Lentiviral Particles: sc-43076-V and connexin 32 shRNA (m) Lentiviral Particles: sc-43077-V.

Molecular Weight of connexin 32: 32 kDa.

## 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **connexin 32 (CXN-32): sc-59948**, our highly recommended monoclonal alternative to connexin 32 (L-16).