SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 32 (CXN-32): sc-59948



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 α -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 communi-cation, 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

- Manjunath, C.K., et al. 1987. Human cardiac gap junctions: isolation, ultrastructure and protein composition. J. Mol. Cell. Cardiol. 19: 131-134.
- Grossman, H.B., et al. 1994. Decreased connexion expression and inter-cellular communication in human bladder cancer cells. Cancer Res. 54: 3062-3065.

CHROMOSOMAL LOCATION

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

SOURCE

connexin 32 (CXN-32) is a mouse monoclonal antibody raised against amino acids 105-123 of connexin 32 of human origin.

PRODUCT

Each vial contains 100 μ l ascites containing IgG₁ with < 0.1% sodium azide.

APPLICATIONS

connexin 32 (CXN-32) is recommended for detection of connexin 32 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:2000), immunoprecipitation [1-2 μ I per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:100-1:200).

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.

Positive Controls: connexin 32 (h2): 293T Lysate: sc-174827, mouse brain extract: sc-2253 or human liver extract: sc-363766.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/ thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA





connexin 32 (CXN-32): sc-59948. Western blot analysis of connexin 32 expression in non-transfected: sc-117752 (A) and human connexin 32 transfected: sc-174827 (B) 293T whole cell lysates. connexin 32 (CXN-32): sc-59948. Western blot analysis of connexin 32 expression in mouse brain (A) and human liver (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Cepeda, C., et al. 2015. In Rasmussen encephalitis, hemichannels associated with microglial activation are linked to cortical pyramidal neuron coupling: a possible mechanism for cellular hyperexcitability. CNS Neurosci. Ther. 21: 152-163.
- Tsai, W.L., et al. 2017. Efficient programming of human mesenchymal stem cell-derived hepatocytes by epigenetic regulations. J. Gastroenterol. Hepatol. 32: 261-269.
- Zhang, Y., et al. 2019. Cx32 mediates cisplatin resistance in human ovarian cancer cells by affecting drug efflux transporter expression and activating the EGFR-Akt pathway. Mol. Med. Rep. 19: 2287-2296.
- Zhu, Z., et al. 2019. Molecular hydrogen accelerates the reversal of acute obstructive cholangitis-induced liver dysfunction by restoring gap and tight junctions. Mol. Med. Rep. 19: 5177-5184.
- Tang, N., et al. 2019. Involvement of gap junctions in propylthiouracilinduced cytotoxicity in BRL-3A cells. Exp. Ther. Med. 17: 2799-2806.
- 6. Ruch, R.J. 2019. Connexin 43 suppresses lung cancer stem cells. Cancers 11: 175.
- Zhang, X.M., et al. 2019. The gap junction inhibitor INI-0602 attenuates mechanical allodynia and depression-like behaviors induced by spared nerve injury in rats. Neuroreport 30: 369-377.
- Luo, H., et al. 2019. Inhibition of ubiquitin-specific protease 14 promotes connexin 32 internalization and counteracts cisplatin cytotoxicity in human ovarian cancer cells. Oncol. Rep. 42: 1237-1247.

RESEARCH USE

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