SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 39 (M-13): sc-104847

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The Power to Question

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 between connexins arise from specific amino-acid substitutions in the most highly conserved domains: the transmembrane and extracellular regions. Connexin 40.1, also known as GJD4 (gap junction protein, δ4, 40.1 kDa) or CX40.1, is a 370 amino acid multi-pass membrane protein that localizes to the cell junction and is expressed in liver, heart, kidney, pancreas, placenta and skeletal muscle. Existing as a component of hexameric connexin complexes, connexin 40.1 helps to facilitate the diffusion of low molecular weight proteins from one cell to another cell. The rodent homolog of connexin 40.1 is known as connexin 39 and functions in a similar manner to its mammalian counterpart.

REFERENCES

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2. Söhl, G. and Willecke, K. 2003. An update on connexin genes and their nomenclature in mouse and man. Cell Commun. Adhes. 10: 173-180.
3. Delmar, M. 2003. Gap junction remodeling in the failing heart: different connexins—different message? J. Cardiovasc. Electrophysiol. 14: 1213-1214.
4. Li, J., Patel, V.V., Kostetskii, I., Xiong, Y., Chu, A.F., Jacobson, J.T., Yu, C., Morley, G.E., Molkentin, J.D. and Radice, G.L. 2005. Cardiac-specific loss of N-cadherin leads to alteration in connexins with conduction slowing and arrhythmogenesis. Circ. Res. 97: 474-481.
5. Duigou, G.J. and Young, C.S. 2005. Replication-competent adenovirus formation in 293 cells: the recombination-based rate is influenced by structure and location of the transgene cassette and not increased by overproduction of HsRad51, Rad51-interacting, or E2F family proteins. J. Virol. 79: 5437-5444.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611922. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Decrock, E., Vinken, M., De Vuyst, E., Krysko, D.V., D'Herde, K., Vanhaecke, T., Vandenabeele, P., Rogiers, V. and Leybaert, L. 2009. Connexin-related signaling in cell death: to live or let die? Cell Death Differ. 16: 524-536.

CHROMOSOMAL LOCATION

Genetic locus: Gjd4 (mouse) mapping to 18 A1.

SOURCE

connexin 39 (M-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of connexin 39 of mouse 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-104847 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

connexin 39 (M-13) is recommended for detection of connexin 39 of mouse and rat 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).

Suitable for use as control antibody for connexin 39 siRNA (m): sc-142498, connexin 39 shRNA Plasmid (m): sc-142498-SH and connexin 39 shRNA (m) Lentiviral Particles: sc-142498-V.

Molecular Weight of connexin 39: 40 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.

SELECT PRODUCT CITATIONS

1. Frinchi, M., Macaluso, F., Licciardi, A., Perciavalle, V., Coco, M., Belluardo, N., Morici, G. and Mudò, G. 2014. Recovery of damaged skeletal muscle in mdx mice through low-intensity endurance exercise. Int. J. Sports Med. 35: 19-27.

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 or our catalog for detailed protocols and support products.