SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 46 (M-19): sc-20861

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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 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, deletion of the gene encoding connexin 46, normally expressed in the lens, produces severe cataracts.

REFERENCES

1. von Maltzahn, J., et al. 2004. The novel mouse connexin39 gene is expressed in developing striated muscle fibers. J. Cell Sci. 117: 5381-5392.
2. Xia, C.H., et al. 2006. Diverse gap junctions modulate distinct mechanisms for fiber cell formation during lens development and cataractogenesis. Development 133: 2033-2040.
3. Dunia, I., et al. 2006. Structural and immunocytochemical alterations in eye lens fiber cells from Cx46 and Cx50 knockout mice. Eur. J. Cell Biol. 85: 729-752.

CHROMOSOMAL LOCATION

Genetic locus: GJA3 (mouse) mapping to 14 C3.

SOURCE

connexin 46 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of connexin 46 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-20861 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.

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.

APPLICATIONS

connexin 46 (M-19) is recommended for detection of connexin 46 of mouse and rat 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).

Suitable for use as control antibody for connexin 46 siRNA (m): sc-43082, connexin 46 shRNA Plasmid (m): sc-43082-SH and connexin 46 shRNA (m) Lentiviral Particles: sc-43082-V.

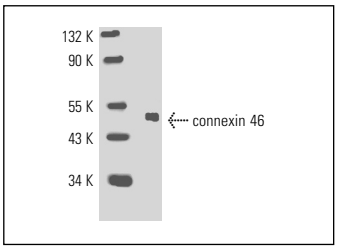
Molecular Weight of connexin 46: 53 kDa.

Positive Controls: rat eye extract: sc-364805.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



connexin 46 (M-19): sc-20861. Western blot analysis of connexin 46 expression in rat eye tissue extract.

SELECT PRODUCT CITATIONS

1. Shi, Y., et al. 2011. Further analysis of the lens phenotype in Lim2-deficient mice. Invest. Ophthalmol. Vis. Sci. 52: 7332-7339.
2. Leidal, A.M., et al. 2012. Subversion of autophagy by Kaposi's sarcoma-associated herpesvirus impairs oncogene-induced senescence. Cell Host Microbe 1: 167-180.