SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 31.1 (C-14): sc-162710

SANTA CRUZ BIOTECHNOLOGY

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. Connexin 31.1, Cx31.1 or Gap junction β-5 protein, is a 271 amino acid protein that is predominantly expressed in skin with lower expression in testis. Expression of connexin 31.1 is also required for normal placental development in mice. Down-regulation of the connexin 31.1 gene correlates with head and neck squamous cell carcinomas (HNSCC) and therefore it may be a potential therapeutic target.

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. Hennemann, H., et al. 1992. Two gap junction genes, connexin 31.1 and 30.3, are closely linked on mouse chromosome 4 and preferentially expressed in skin. J. Biol. Chem. 267: 17225-17233.
3. Budunova, I.V., et al. 1995. The expression of gap junctional proteins during different stages of mouse skin carcinogenesis. Carcinogenesis 16: 2717-2724.
4. Davies, T.C., et al. 1996. Multiple members of the connexin gene family participate in preimplantation development of the mouse. Dev. Genet. 18: 234-243.
5. Harris, A.L. 2001. Emerging issues of connexin channels: biophysics fills the gap. Q. Rev. Biophys. 34: 325-472.

CHROMOSOMAL LOCATION

Genetic locus: GJB5 (human) mapping to 1p34.3; Gjb5 (mouse) mapping to 4 D2.2.

SOURCE

connexin 31.1 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of connexin 31.1 of human 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-162710 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.

APPLICATIONS

connexin 31.1 (C-14) is recommended for detection of connexin 31.1 of mouse, rat and human 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); non cross-reactive with other connexin family members.

Suitable for use as control antibody for connexin 31.1 siRNA (h): sc-88186, connexin 31.1 siRNA (m): sc-142494, connexin 31.1 shRNA Plasmid (h): sc-88186-SH, connexin 31.1 shRNA Plasmid (m): sc-142494-SH, connexin 31.1 shRNA (h) Lentiviral Particles: sc-88186-V and connexin 31.1 shRNA (m) Lentiviral Particles: sc-142494-V.

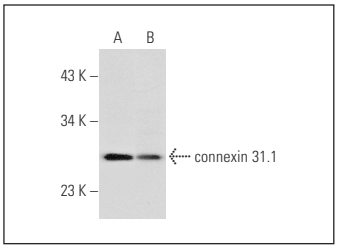
Molecular Weight of connexin 31.1: 31 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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 31.1 (C-14): sc-162710. Western blot analysis of connexin 31.1 expression in Jurkat (**A**) and K-562 (**B**) whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **connexin 31.1 (H-9): sc-515690**, our highly recommended monoclonal alternative to connexin 31.1 (C-14).