SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 26 (1C6): sc-293223

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. 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 effected. For instance, approximately half the cases of autosomal recessive non-syndromic hearing loss and a significant proportion of sporadic hearing loss can be linked to mutation in the gene encoding connexin 26.

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 connexion 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. Hone, S.W. and Smith, R.J. 2003. Genetic screening for hearing loss. Clin. Otolaryngol. Allied Sci. 28: 285-290.

CHROMOSOMAL LOCATION

Genetic locus: GJB2 (human) mapping to 13q12.11.

SOURCE

connexin 26 (1C6) is a mouse monoclonal antibody raised against amino acids 1-226 representing full length connexin 26 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

connexin 26 (1C6) is recommended for detection of connexin 26 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

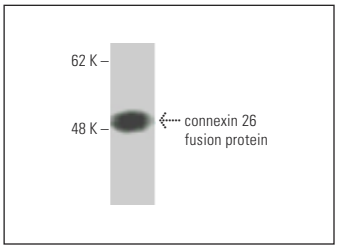
Suitable for use as control antibody for connexin 26 siRNA (h): sc-37050, connexin 26 shRNA Plasmid (h): sc-37050-SH and connexin 26 shRNA (h) Lentiviral Particles: sc-37050-V.

Molecular Weight of connexin 26: 26 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



connexin 26 (1C6): sc-293223. Western blot analysis of human recombinant connexin 26 fusion protein.

SELECT PRODUCT CITATIONS

1. Ruch, R.J. 2019. Connexin43 suppresses lung cancer stem cells. Cancers 11: 175.

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 for detailed protocols and support products.