SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 30 (G-2): sc-514847

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 between connexins arise from specific amino-acid substitutions in the most highly conserved domains: the transmembrane and extracellular regions. Connexin 30, also known as GJB6 (gap junction β6), ED2, EDH, HED or DFNA3, is a 261 amino acid multi-pass membrane protein that localizes to the cell junction and belongs to the connexin family. Functioning as a hexamer with other connexin proteins, connexin 30 facilitates the diffusion of low molecular weight materials from one cell to another. Defects in the gene encoding connexin 30 are the cause of ectodermal dysplasia type 2 (ED2) and non-syndromatic sensorineural deafness autosomal dominant type 3 (DFNA3), the former of which is characterized by abnormal development of ectodermal structures (such as skin and nails).

REFERENCES

1. Kelley, P.M., et al. 1999. Human connexin 30 (GJB6), a candidate gene for nonsyndromic hearing loss: molecular cloning, tissue-specific expression, and assignment to chromosome 13q12. Genomics 62: 172-176.
2. Smith, F.J., et al. 2002. A novel connexin 30 mutation in Clouston syndrome. J. Invest. Dermatol. 118: 530-532.
3. Del Castillo, I., et al. 2003. Prevalence and evolutionary origins of the del(GJB6-D13S1830) mutation in the DFNB1 locus in hearing-impaired subjects: a multicenter study. Am. J. Hum. Genet. 73: 1452-1458.

CHROMOSOMAL LOCATION

Genetic locus: GJB6 (human) mapping to 13q12.11; Gjb6 (mouse) mapping to 14 C3.

SOURCE

connexin 30 (G-2) is a mouse monoclonal antibody raised against amino acids 215-261 mapping at the C-terminus of connexin 30 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

connexin 30 (G-2) is available conjugated to agarose (sc-514847 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514847 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514847 PE), fluorescein (sc-514847 FITC), Alexa Fluor® 488 (sc-514847 AF488), Alexa Fluor® 546 (sc-514847 AF546), Alexa Fluor® 594 (sc-514847 AF594) or Alexa Fluor® 647 (sc-514847 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514847 AF680) or Alexa Fluor® 790 (sc-514847 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

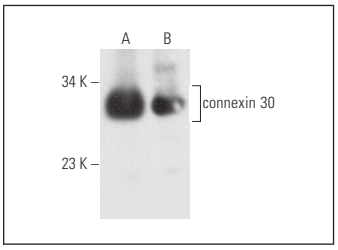
connexin 30 (G-2) is recommended for detection of connexin 30 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 30 siRNA (h): sc-43074, connexin 30 siRNA (m): sc-43075, connexin 30 shRNA Plasmid (h): sc-43074-SH, connexin 30 shRNA Plasmid (m): sc-43075-SH, connexin 30 shRNA (h) Lentiviral Particles: sc-43074-V and connexin 30 shRNA (m) Lentiviral Particles: sc-43075-V.

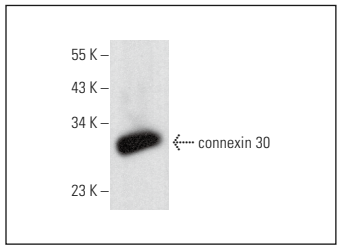
Molecular Weight of connexin 30: 30 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, mouse cerebellum extract: sc-2403 or human cerebral cortex extract: sc-516707.

DATA



connexin 30 (G-2): sc-514847. Western blot analysis of connexin 30 expression in human cerebral cortex tissue extract (**A**) and RT-4 whole cell lysate (**B**).



connexin 30 (G-2): sc-514847. Western blot analysis of connexin 30 expression in mouse cerebellum tissue extract.

SELECT PRODUCT CITATIONS

1. Arun, S., et al. 2016. Connexin 30 downregulates Insulin-like growth factor receptor-1, abolishes Erk and potentiates effects of an IGF-R inhibitor in a glioma cell line. Brain Res. 1643: 80-90.
2. Jothi, J., et al. 2020. Connexin 30 mediated rewiring of glucose metabolism in rat C6 xenograft and grades of glioma. Mol. Cell. Biochem. 470: 157-164.
3. Defourny, J., et al. 2020. Tricellular adherens junctions provide a cell surface delivery platform for connexin 26/30 oligomers in the cochlea. Hear. Res. 400: 108137.
4. Defourny, J., et al. 2021. Efnb2 haploinsufficiency induces early gap junction plaque disassembly and endocytosis in the cochlea. Brain Res. Bull. 174: 153-160.
5. Cavdar, S., et al. 2021. Comparing astrocytic gap junction of genetic absence epileptic rats with control rats: an experimental study. Brain Struct. Funct. 226: 2113-2123.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.