SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 36 (H-9): sc-398063

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 affected. For instance, global ischemia induces connexin 36 expression, implying a role for this connexin in interneuronal survival.

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.

CHROMOSOMAL LOCATION

Genetic locus: GJD2 (human) mapping to 15q14; Gjd2 (mouse) mapping to 2 E4.

SOURCE

connexin 36 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 286-321 C-terminus of connexin 36 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 36 (H-9) is available conjugated to agarose (sc-398063 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398063 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398063 PE), fluorescein (sc-398063 FITC), Alexa Fluor® 488 (sc-398063 AF488), Alexa Fluor® 546 (sc-398063 AF546), Alexa Fluor® 594 (sc-398063 AF594) or Alexa Fluor® 647 (sc-398063 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398063 AF680) or Alexa Fluor® 790 (sc-398063 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398063 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

connexin 36 (H-9) is recommended for detection of connexin 36 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).

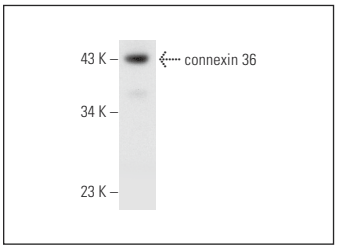
connexin 36 (H-9) is also recommended for detection of connexin 36 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for connexin 36 siRNA (h): sc-35089, connexin 36 siRNA (m): sc-35090, connexin 36 shRNA Plasmid (h): sc-35089-SH, connexin 36 shRNA Plasmid (m): sc-35090-SH, connexin 36 shRNA (h) Lentiviral Particles: sc-35089-V and connexin 36 shRNA (m) Lentiviral Particles: sc-35090-V.

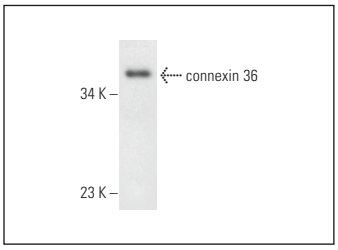
Molecular Weight of connexin 36: 42 kDa.

Positive Controls: mouse brain extract: sc-2253 or human cerebral cortex extract: sc-516707.

DATA



connexin 36 (H-9): sc-398063. Western blot analysis of connexin 36 expression in mouse brain tissue extract.



connexin 36 (H-9): sc-398063. Western blot analysis of connexin 36 expression in human cerebral cortex tissue extract.

SELECT PRODUCT CITATIONS

1. Wojtanowicz-Markiewicz, K., et al. 2020. Expression of selected connexin and aquaporin genes and real-time proliferation of porcine endometrial luminal epithelial cells in primary culture model. Biomed Res. Int. 2020: 7120375.
2. Zhang, Y.F., et al. 2022. Frequency cumulative effect of subthreshold energy laser-activated remote phosphors irradiation on visual function in guinea pigs. Int. J. Ophthalmol. 15: 213-220.
3. Hali, M., et al. 2022. α4 contributes to the dysfunction of the pancreatic β cell under metabolic stress. Mol. Cell. Endocrinol. 557: 111754.
4. An, M., et al. 2024. Gain of function mutation in K(ATP) channels and resulting upregulation of coupling conductance are partners in crime in the impairment of Ca^{2+} oscillations in pancreatic β-cells. Math. Biosci. 374: 109224.

STORAGE

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