

connexin 50 (B-11): sc-373801

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, deletion of the gene encoding connexin 50, normally expressed in the lens, produces cataracts, though not as severe as with deletion of connexin 46.

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 connexin 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.

CHROMOSOMAL LOCATION

Genetic locus: GJA8 (human) mapping to 1q21.2; Gja8 (mouse) mapping to 3 F2.1.

SOURCE

connexin 50 (B-11) is a mouse monoclonal antibody raised against amino acids 228-292 mapping within a cytoplasmic domain of connexin 50 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

connexin 50 (B-11) is available conjugated to agarose (sc-373801 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373801 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373801 PE), fluorescein (sc-373801 FITC), Alexa Fluor® 488 (sc-373801 AF488), Alexa Fluor® 546 (sc-373801 AF546), Alexa Fluor® 594 (sc-373801 AF594) or Alexa Fluor® 647 (sc-373801 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373801 AF680) or Alexa Fluor® 790 (sc-373801 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

connexin 50 (B-11) is recommended for detection of connexin 50 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 50 siRNA (h): sc-43083, connexin 50 siRNA (m): sc-43084, connexin 50 shRNA Plasmid (h): sc-43083-SH, connexin 50 shRNA Plasmid (m): sc-43084-SH, connexin 50 shRNA (h) Lentiviral Particles: sc-43083-V and connexin 50 shRNA (m) Lentiviral Particles: sc-43084-V.

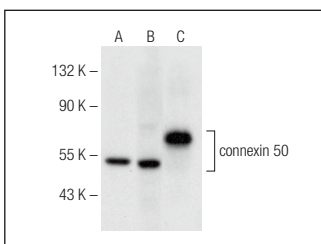
Molecular Weight of connexin 50: 70 kDa.

Positive Controls: rat brain extract: sc-2392, rat eye extract: sc-364805 or Y79 cell lysate: sc-2240.

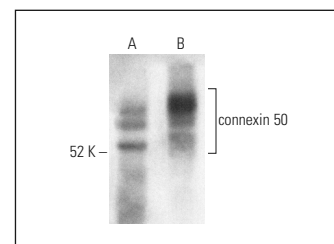
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



connexin 50 (B-11): sc-373801. Western blot analysis of connexin 50 expression in 293T (A) and Y79 (B) whole cell lysates and rat brain tissue extract (C).



connexin 50 (B-11): sc-373801. Western blot analysis of connexin 50 expression in human eye (A) and rat eye (B) tissue extracts. Detection reagent used: m-IgG κ BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Nakazawa, Y., et al. 2020. Degradation of connexin 50 protein causes waterclefts in human lens. *Open Med.* 15: 1163-1171.
2. Gong, X.D., et al. 2021. Aging-dependent loss of GAP junction proteins Cx46 and Cx50 in the fiber cells of human and mouse lenses accounts for the diminished coupling conductance. *Aging* 13: 17568-17591.

RESEARCH USE

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