

connexin 46 (C-3): sc-365394

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, deletion of the gene encoding connexin 46, normally expressed in the lens, produces severe cataracts.

CHROMOSOMAL LOCATION

Genetic locus: GJA3 (human) mapping to 13q12.11.

SOURCE

connexin 46 (C-3) is a mouse monoclonal antibody raised against amino acids 301-435 mapping at the C-terminus of connexin 46 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 46 (C-3) is available conjugated to agarose (sc-365394 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365394 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365394 PE), fluorescein (sc-365394 FITC), Alexa Fluor[®] 488 (sc-365394 AF488), Alexa Fluor[®] 546 (sc-365394 AF546), Alexa Fluor[®] 594 (sc-365394 AF594) or Alexa Fluor[®] 647 (sc-365394 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365394 AF680) or Alexa Fluor[®] 790 (sc-365394 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

connexin 46 (C-3) is recommended for detection of connexin 46 of 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 46 siRNA (h): sc-60431, connexin 46 shRNA Plasmid (h): sc-60431-SH and connexin 46 shRNA (h) Lentiviral Particles: sc-60431-V.

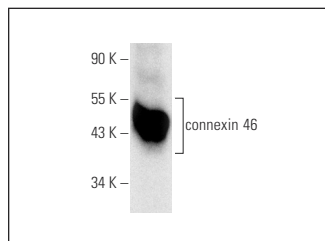
Molecular Weight of connexin 46: 53 kDa.

Positive Controls: Y79 cell lysate: sc-2240 or ARPE-19 whole cell lysate: sc-364357.

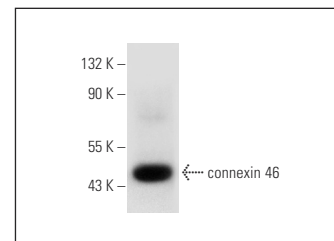
STORAGE

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

DATA



connexin 46 (C-3): sc-365394. Western blot analysis of connexin 46 expression in Y79 whole cell lysate.



connexin 46 (C-3): sc-365394. Western blot analysis of connexin 46 expression in ARPE-19 whole cell lysate.

SELECT PRODUCT CITATIONS

- Mayan, M.D., et al. 2013. Human articular chondrocytes express multiple gap junction proteins: differential expression of connexins in normal and osteoarthritic cartilage. *Am. J. Pathol.* 182: 1337-1346.
- Schadzek, P., et al. 2018. Concatenation of human connexin 26 (hCx26) and human connexin 46 (hCx46) for the analysis of heteromeric gap junction hemichannels and heterotypic gap junction channels. *Int. J. Mol. Sci.* 19: 2742.
- Ruch, R.J. 2019. Connexin43 suppresses lung cancer stem cells. *Cancers* 11: 175.
- Pei, R., et al. 2020. A novel mutation of LIM2 causes autosomal dominant membranous cataract in a Chinese family. *Int. J. Ophthalmol.* 13: 1512-1520.
- 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.
- Fernández-Olivares, A., et al. 2022. Extracellular cysteines are critical to form functional Cx46 hemichannels. *Int. J. Mol. Sci.* 23: 7252.
- Dierks, A., et al. 2022. The bioactive phenolic agents diaryl ether CVB2-61 and diarylheptanoid CVB4-57 as connexin hemichannel blockers. *Pharmaceuticals* 15: 1173.
- Fadjukov, J., et al. 2022. Gap junctions and connexin hemichannels both contribute to the electrical properties of retinal pigment epithelium. *J. Gen. Physiol.* 154: e202112916.

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.