

connexin 45 (C-19): sc-7679

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, downregulation of connexin 45 in the left ventricle associates with end-stage heart failure due both to ischaemic cardiomyopathy and idiopathic dilated cardiomyopathy.

CHROMOSOMAL LOCATION

Genetic locus: GJC1 (human) mapping to 17q21.31; Gjc1 (mouse) mapping to 11 E1.

SOURCE

connexin 45 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of connexin 45 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7679 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

connexin 45 (C-19) is recommended for detection of connexin 45 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 45 siRNA (h): sc-43080, connexin 45 siRNA (m): sc-43081, connexin 45 shRNA Plasmid (h): sc-43080-SH, connexin 45 shRNA Plasmid (m): sc-43081-SH, connexin 45 shRNA (h) Lentiviral Particles: sc-43080-V and connexin 45 shRNA (m) Lentiviral Particles: sc-43081-V.

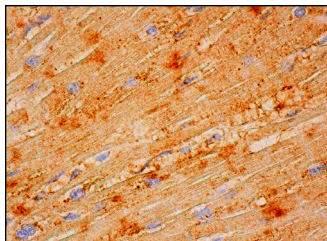
Molecular Weight of connexin 45: 45 kDa.

Positive Controls: mouse eye extract: sc-364241.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



connexin 45 (C-19): sc-7679. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Baudino, T.A., et al. 2008. Cell patterning: interaction of cardiac myocytes and fibroblasts in three-dimensional culture. *Microsc. Microanal.* 14: 117-125.
2. Lemcke, H., et al. 2013. Neuronal differentiation requires a biphasic modulation of gap junctional intercellular communication caused by dynamic changes of connexin 43 expression. *Eur. J. Neurosci.* 38: 2218-2228.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **connexin 45 (G-7): sc-374354**, our highly recommended monoclonal alternative to connexin 45 (C-19).