

# connexin 40 (C-20): sc-20466

## 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  $\alpha$ -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 example, upregulation of connexin 40 following cardiac surgery can mark a susceptibility to post-operative atrial fibrillation.

## CHROMOSOMAL LOCATION

Genetic locus: GJA5 (human) mapping to 1q21.2; Gja5 (mouse) mapping to 3 F2.1.

## SOURCE

connexin 40 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of connexin 40 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-20466 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

connexin 40 (C-20) is recommended for detection of connexin 40 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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). connexin 40 (C-20) is also recommended for detection of connexin 40 in additional species, including canine.

Suitable for use as control antibody for connexin 40 siRNA (h): sc-43078, connexin 40 siRNA (m): sc-43079, connexin 40 shRNA Plasmid (h): sc-43078-SH, connexin 40 shRNA Plasmid (m): sc-43079-SH, connexin 40 shRNA (h) Lentiviral Particles: sc-43078-V and connexin 40 shRNA (m) Lentiviral Particles: sc-43079-V.

Molecular Weight of connexin 40: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, JEG-3 whole cell lysate: sc-364255 or MCF7 whole cell lysate: sc-2206.

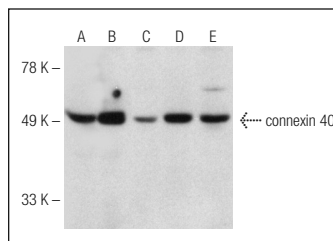
## RESEARCH USE

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

## STORAGE

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

## DATA



connexin 40 (C-20): sc-20466. Western blot analysis of connexin 40 expression in SK-N-MC (A), HeLa (B), A549 (C), JEG-3 (D) and MCF7 (E) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Gassanov, N., et al. 2004. Endothelin induces differentiation of ANP-EGFP expressing embryonic stem cells towards a pacemaker phenotype. *FASEB J.* 18: 1710-1712.
- Baudino, T.A., et al. 2008. Cell patterning: interaction of cardiac myocytes and fibroblasts in three-dimensional culture. *Microsc. Microanal.* 14: 117-125.
- Grikscheit, K., et al. 2008. Coexpression of connexin 45 with connexin 43 decreases gap junction size. *Cell. Commun. Adhes.* 15: 185-193.
- Trovato-Salinaro, A., et al. 2009. Regulation of connexin gene expression during skeletal muscle regeneration in the adult rat. *Am. J. Physiol., Cell Physiol.* 296: C593-C606.
- Morikawa, K., et al. 2010. Identification, isolation and characterization of HCN4-positive pacemaking cells derived from murine embryonic stem cells during cardiac differentiation. *Pacing Clin. Electrophysiol.* 33: 290-303.
- Thomas, N.M., et al. 2011. Sex differences in expression and subcellular localization of heart rhythm determinant proteins. *Biochem. Biophys. Res. Commun.* 406: 117-122.
- Harris, B.S., et al. 2012. Remodeling of the peripheral cardiac conduction system in response to pressure overload. *Am. J. Physiol. Heart Circ. Physiol.* 302: H1712-H1725.
- Makino, A., et al. 2015. O-GlcNAcase overexpression reverses coronary endothelial cell dysfunction in type 1 diabetic mice. *Am. J. Physiol. Cell Physiol.* 309: C593-C599.

**MONOS**  
Satisfaction  
Guaranteed

Try **connexin 40 (B-3): sc-365107**, our highly recommended monoclonal alternative to connexin 40 (C-20).