

connexin 40 (A-17): sc-20464

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

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 inter-cellular 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.
4. Dupont, E., et al. 2001. The gap-junctional protein connexin 40 is elevated in patients susceptible to postoperative atrial fibrillation. *Circulation* 103: 842-849.
5. Lamarche, J., et al. 2001. Molecular analysis of connexin 40 in the familial form of atrial fibrillation. *Eur. Heart J.* 22: 1511-1512.
6. Dhein, S., et al. 2002. Pharmacological modulation and differential regulation of the cardiac gap junction proteins connexin 43 and connexin 40. *Biol. Cell* 94: 409-422.

CHROMOSOMAL LOCATION

Genetic locus: GJA5 (human) mapping to 1q21.2.

SOURCE

connexin 40 (A-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of connexin 40 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-20464 P, (100 μ g pep-tide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

connexin 40 (A-17) is recommended for detection of connexin 40 of human origin by Western Blotting (starting dilution 1:200, 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).

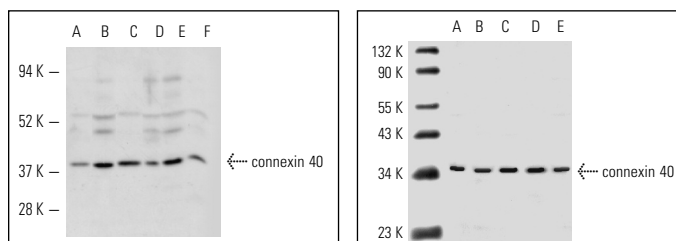
connexin 40 (A-17) is also recommended for detection of connexin 40 in additional species, including canine, bovine and porcine.

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

Molecular Weight of connexin 40: 40 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

DATA



connexin 40 (A-17): sc-20464. Western blot analysis of connexin 40 expression in CCD-1064Sk (A), A549 (B), HeLa (C), WI 38 (D), SK-N-MC (E) and SK-N-SH (F) whole cell lysates.

connexin 40 (A-17): sc-20464. Western blot analysis of connexin 40 expression in CCD-1064Sk (A), A549 (B), JEG-3 (C), HeLa (D) and Hs68 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mills, W.R., et al. 2007. Stem cell therapy enhances electrical viability in myocardial infarction. *J. Mol. Cell. Cardiol.* 42: 304-314.

STORAGE

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

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **connexin 40 (B-3): sc-365107**, our highly recommended monoclonal alternative to connexin 40 (A-17).