

# connexin 40.1 (Q-13): sc-104848

## 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 between connexins arise from specific amino-acid substitutions in the most highly conserved domains: the transmembrane and extracellular regions. Connexin 40.1, also known as GJD4 (gap junction protein,  $\delta$  4, 40.1kDa) or CX40.1, is a 370 amino acid multi-pass membrane protein that localizes to the cell junction and is expressed in liver, heart, kidney, pancreas, placenta and skeletal muscle. Existing as a component of hexameric connexin complexes, connexin 40.1 helps to facilitate the diffusion of low molecular weight proteins from one cell to another cell.

## REFERENCES

1. Söhl, G., et al. 2003. Expression profiles of the novel human connexin genes hCx30.2, hCx40.1, and hCx62 differ from their putative mouse orthologues. *Cell Commun. Adhes.* 10: 27-36.
2. Söhl, G., et al. 2003. An update on connexin genes and their nomenclature in mouse and man. *Cell Commun. Adhes.* 10: 173-180.
3. Delmar, M. 2003. Gap junction remodeling in the failing heart: different connexins—different message? *J. Cardiovasc. Electrophysiol.* 14: 1213-1214.
4. Li, J., et al. 2005. Cardiac-specific loss of N-cadherin leads to alteration in connexins with conduction slowing and arrhythmogenesis. *Circ. Res.* 97: 474-481.
5. Duigou, G.J., et al. 2005. Replication-competent adenovirus formation in 293 cells: the recombination-based rate is influenced by structure and location of the transgene cassette and not increased by overproduction of HsRad51, Rad51-interacting, or E2F family proteins. *J. Virol.* 79: 5437-5444.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611922. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Decrock, E., et al. 2009. Connexin-related signaling in cell death: to live or let die? *Cell Death Differ.* 16: 524-536.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: GJD4 (human) mapping to 10p11.21.

## SOURCE

connexin 40.1 (Q-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of connexin 40.1 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-104848 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

connexin 40.1 (Q-13) is recommended for detection of connexin 40.1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for connexin 40.1 siRNA (h): sc-90537, connexin 40.1 shRNA Plasmid (h): sc-90537-SH and connexin 40.1 shRNA (h) Lentiviral Particles: sc-90537-V.

Molecular Weight (predicted) of connexin 40.1: 40 kDa.

Molecular Weight (observed) of connexin 40.1: 49 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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.