

connexin 40.1 (D-23): sc-133473

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 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, δ 4, 40.1 kDa) 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., Nielsen, P.A., Eiberger, J. and Willecke, K. 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. and Willecke, K. 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., Patel, V.V., Kostetskii, I., Xiong, Y., Chu, A.F., Jacobson, J.T., Yu, C., Morley, G.E., Molkenkin, J.D. and Radice, G.L. 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. and Young, C.S. 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., Vinken, M., De Vuyst, E., Krysko, D.V., D'Herde, K., Vanhaecke, T., Vandenaabeele, P., Rogiers, V. and Leybaert, L. 2009. Connexin-related signaling in cell death: to live or let die? *Cell Death Differ.* 16: 524-536.

CHROMOSOMAL LOCATION

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

SOURCE

connexin 40.1 (D-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic connexin 40.1 peptide of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

connexin 40.1 (D-23) is recommended for detection of connexin 40.1 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)] 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.

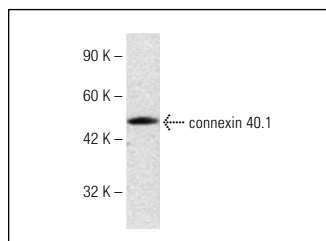
Molecular Weight (observed) of connexin 40.1: 49 kDa.

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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



connexin 40.1 (D-23): sc-133473. Western blot analysis of connexin 40.1 expression in Hep G2 whole cell lysate.

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 or our catalog for detailed protocols and support products.