



# connexin 37 (h2): 293T Lysate: sc-117429

## 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-termini 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, connexin 37, while expressed in the cardiac endothelium, does not exhibit downregulation associated with heart failure, as is the case with other cardiac connexins.

## REFERENCES

1. Manjunath, C.K., Goings, G.E. and Page, E. 1987. Human cardiac gap junctions: isolation, ultrastructure, and protein composition. *J. Mol. Cell. Cardiol.* 19: 131-134.
2. Grossman, H.B., Liebert, M., Lee, I.W. and Lee, S.W. 1994. Decreased connexon expression and intercellular communication in human bladder cancer cells. *Cancer Res.* 54: 3062-3065.
3. Boerma, M., Forsberg, L., Van Zeijl, L., Morgenstern, R., De Faire, U., Lemne, C., Erlinge, D., Thulin, T., Hong, Y. and Cotgreave, I.A. 1999. A genetic polymorphism in connexin 37 as a prognostic marker for atherosclerotic plaque development. *J. Intern. Med.* 246: 211-218.
4. Dupont, E., Matsushita, T., Kab, a R.A., Vozzi, C., Coppen, S.R., Khan, N., Kaprielian, R., Yacoub, M.H. and Severs, N.J. 2001. Altered connexin expression in human congestive heart failure. *J. Mol. Cell. Cardiol.* 33: 359-371.
5. Harris, A.L. 2001. Emerging issues of connexin channels: biophysics fills the gap. *Q. Rev. Biophys.* 34: 325-472.
6. Lin, S.H., Lu, C.Y., Muhammad, R., Chou, W.Y., Lin, F.C., Wu, P.C., Lin, C.R. and Yang L.C. 2002. Induction of connexin 37 expression in a rat model of neuropathic pain. *Brain Res. Mol. Brain Res.* 99: 134-140.
7. Teilmann, S.C. 2005. Differential expression and localisation of connexin 37 and connexin 43 in follicles of different stages in the 4-week-old mouse ovary. *Mol. Cell. Endocrinol.* 234: 27-35.
8. Park, S.J., Lee, K.S., Kim, S.R., Min, K.H., Lee, K.Y., Choe, Y.H., Park, S.Y., Hong, S.H. and Lee, Y.C. 2007. Change of connexin 37 in allergen-induced airway inflammation. *Exp. Mol. Med.* 39: 629-640.
9. Burt, J.M., Nelson, T.K., Simon, A.M. and Fang, J.S. 2008. Connexin 37 profoundly slows cell cycle progression in rat Insulinoma cells. *Am. J. Physiol. Cell Physiol.* 295: C1103-C1112.

## CHROMOSOMAL LOCATION

Genetic locus: GJA4 (human) mapping to 1p34.3.

## PRODUCT

connexin 37 (h2): 293T Lysate represents a lysate of human connexin 37 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

connexin 37 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive connexin 37 antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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) for detailed protocols and support products.