

p-connexin 43 (Ser 368): sc-101660

BACKGROUND

The connexins are a group of gap junction proteins which form a hexamer to compose a connexon. Clusters of connexons form a gap junction through which low molecular weight proteins may diffuse from cell to cell. Several mammalian cells with malignant phenotypes exhibit decreased connexin expression and gap junction communication. There is a decrease in gap junctional communication in Src transformed cells. The decreased communication appears to be associated with tyrosine phosphorylation of connexin 43. Activated c-Src phosphorylates the C-terminal tail of connexin 43 on residue Tyr 265, resulting in a stable interaction between both proteins leading to inhibition of gap junctional communication. In addition to tyrosine phosphorylation, connexin 43 has also been shown to be phosphorylated on Serine in the absence of Src kinases and on both serine and tyrosine in cells expressing Src kinases, such as pp60v-Src and/or c-Src. In human vascular endothelial cells, connexin 43 is posttranslationally modified during mitosis. Mitosis-specific phosphorylation of connexin 43 correlates with the transient loss of gap junction intercellular communication and redistribution of connexin 43.

REFERENCES

- Manjunath, C.K., et al. 1987. Human cardiac GAP junctions: isolation, ultrastructure, and protein composition. *J. Mol. Cell. Cardiol.* 19: 131-134.
- Tibbitts, T.T., et al. 1990. Diffraction diagnosis of protein folding in GAP junction connexins. *Biophys. J.* 57: 1025-1036.
- Swenson, K.I., et al. 1990. Tyrosine phosphorylation of the GAP junction protein connexin 43 is required for the pp60v-Src-induced inhibition of communication. *Cell Regul.* 1: 989-1002.
- Rash, J.E., et al. 1992. Improved structural detail in freeze-fracture replicas: high-angle shadowing of GAP junctions cooled below -170°C and protected by liquid nitrogen-cooled shrouds. *Microsc. Res. Tech.* 20: 187-204.
- Grossman, H.B., et al. 1994. Decreased connexin expression and intercellular communication in human bladder cancer cells. *Cancer Res.* 54: 3062-3065.

CHROMOSOMAL LOCATION

Genetic locus: GJA1 (human) mapping to 6q22.31; Gja1 (mouse) mapping to 10 B4.

SOURCE

p-connexin 43 (Ser 368) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 368 phosphorylated connexin 43 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

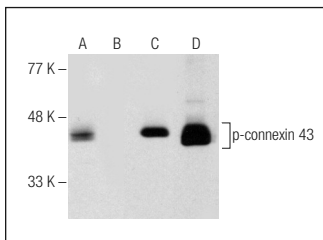
p-connexin 43 (Ser 368) is recommended for detection of Ser 368 phosphorylated connexin 43 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for connexin 43 siRNA (h): sc-29276, connexin 43 siRNA (m): sc-35091, connexin 43 siRNA (r): sc-60008, connexin 43 shRNA Plasmid (h): sc-29276-SH, connexin 43 shRNA Plasmid (m): sc-35091-SH, connexin 43 shRNA Plasmid (r): sc-60008-SH, connexin 43 shRNA (h) Lentiviral Particles: sc-29276-V, connexin 43 shRNA (m) Lentiviral Particles: sc-35091-V and connexin 43 shRNA (r) Lentiviral Particles: sc-60008-V.

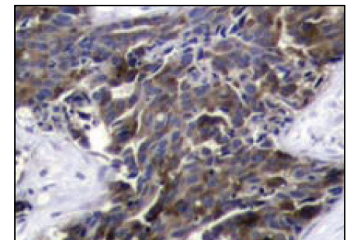
Molecular Weight of p-connexin 43: 43 kDa.

Positive Controls: K-562 + PMA whole cell lysate: sc-2280, rat heart extract: sc-2393 or HeLa-PMA cell lysate: sc-2258.

DATA



Western blot analysis of connexin 43 phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) rat heart tissue extracts. Antibodies tested include p-connexin 43 (Ser 368): sc-101660 (A, B) and connexin 43 (C-20)-R: sc-6560-R (C, D).



p-connexin 43 (Ser 368): sc-101660. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

SELECT PRODUCT CITATIONS

- Ohsumi, A., et al. 2010. Temporal and spatial profile of phosphorylated connexin43 after traumatic brain injury in rats. *J. Neurotrauma* 27: 1255-1263.
- Zhu, H.J., et al. 2012. Impaired N-cadherin-mediated adhesion increases the risk of inducible ventricular arrhythmias in isolated rat hearts. *Sci. Res. Essays* 7: 2983-2991.

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.