SANTA CRUZ BIOTECHNOLOGY, INC.

p-connexin 43 (Tyr 265): sc-17220

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 postranslationally modified during mitosis, and mitosis-specific phosphorylation of connexin 43 correlates with the transient loss of GAP junction intercellular communication and redistribution of connexin 43.

CHROMOSOMAL LOCATION

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

SOURCE

p-connexin 43 (Tyr 265) is available as either goat (sc-17220) or rabbit (sc-17220-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 265 phosphorylated connexin 43 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-connexin 43 (Tyr 265) is recommended for detection of Tyr 265 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-connexin 43 (Tyr 265) is also recommended for detection of correspondingly phosphorylated connexin 43 in additional species, including equine, canine, bovine and porcine.

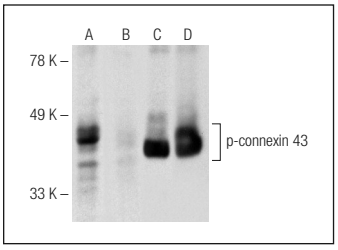
Suitable for use as control antibody for connexin 43 siRNA (h): sc-29276, connexin 43 siRNA (m): sc-35091, connexin 43 shRNA Plasmid (h): sc-29276-SH, connexin 43 shRNA Plasmid (m): sc-35091-SH, connexin 43 shRNA (h Lentiviral Particles: sc-29276-V and connexin 43 shRNA (m) Lentiviral Particles: sc-35091-V.

Molecular Weight of connexin 43: 43 kDa.

STORAGE

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

DATA



Western blot analysis of connexin 43 phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) human heart tissue extracts. Antibodies tested include p-connexin 43 (Tyr 265)-R: sc-17220-R (**A**,**B**) and connexin 43 (C-20)-R: sc-6560-R (**C**,**D**).

SELECT PRODUCT CITATIONS

1. Isakson, B.E., et al. 2006. Oxidized phospholipids alter vascular connexin expression, phosphorylation, and heterocellular communication. Arterioscler. Thromb. Vasc. Biol. 26: 2216-2221.
2. Peterson-Roth, E., et al. 2009. Src-induced cisplatin resistance mediated by cell-to-cell communication. Cancer Res. 69: 3619-3624.
3. Sachdev, S., et al. 2009. Paxillin-Y118 phosphorylation contributes to the control of Src-induced anchorage-independent growth by FAK and adhesion. BMC Cancer 9: 12.
4. Chung, T.H., et al. 2009. The interaction of estrogen receptor α and caveolin-3 regulates connexin 43 phosphorylation in metabolic inhibition-treated rat cardiomyocytes. Int. J. Biochem. Cell Biol. 41: 2323-2333.
5. Andrysík, Z., et al. 2013. Aryl hydrocarbon receptor-mediated disruption of contact inhibition is associated with connexin 43 downregulation and inhibition of gap junctional intercellular communication. Arch. Toxicol. 87: 491-503.

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.