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

REFERENCES


CHROMOSOMAL LOCATION

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

SOURCE

p-connexin 43 (Ser 255)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 255 of 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.

Blocking peptide available for competition studies, sc-12899 P, (100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-connexin 43 (Ser 255)-R is recommended for detection of Ser 255 phosphorylated connexin 43 of mouse 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).

Suitable for use as control antibody for connexin 43 siRNA (h): sc-29276, connexin 43 siRNA (m): sc-35091, connexin 43 shRNA Plasmid (m): sc-29276-5SH, connexin 43 shRNA Plasmid (m): sc-35081-5SH, connexin 43 shRNA (m Lentiviral Particles: sc-29276-V and connexin 43 shRNA (m) Lentiviral Particles: sc-35091-V.

Molecular Weight of p-connexin 43: 43 kDa.

Positive Controls: K-562 + PMA whole cell lysate: sc-2280, HeLa-PMA cell lysate: sc-2258 or connexin 43 (m): 293T Lysate: sc-119391.

DATA

SELECT PRODUCT CITATIONS


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.

p-connexin 43 (Ser 255)-R: sc-12899-R. Western blot analysis of connexin 43 phosphorylation in non-transfected: sc-117752 (A) and mouse connexin 43 transfected: sc-119391 (B) 293T whole cell lysates.