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 255, resulting in a stable interaction between both proteins leading to inhibition of GAP functional 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-connexin 43 (Ser 279/282) is available as either goat (sc-12900) or rabbit (sc-12900-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing dually phosphorylated Ser 279 and Ser 282 of 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-12900 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-connexin 43 (Ser 279/282) is recommended for detection of Ser 279 and Ser 282 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 lysates], 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 (Ser 279/282) is also recommended for detection of correspondingly phosphorylated Ser on connexin 43 in additional species, including equine, canine, bovine, porcine and avian.

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.

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, D), PMA treated (B, E) and PMA and lambda protein phosphatase (sc-200312A) treated (C, F) HEK293 whole cell lysates. Antibodies tested include p-connexin 43 (Ser 279/282)-R: sc-12900-R (A, B, C) and connexin 43 (C-20)-R: sc-6560-R (D, E, F).

SELECT PRODUCT CITATIONS


RESEARCH USE

For research use only, not for use in diagnostic procedures.