

connexin 47 (T-15): sc-30335

BACKGROUND

Gap junctions are formed by a hexameric group of proteins called connexins for the transport of low molecular weight proteins. Connexins are present in all metazoan organisms, where they serve diverse functions, ranging from control of cell growth and differentiation to electric conduction in excitable tissues. Several mammalian cells with malignant phenotypes exhibit decreased connexin expression and gap junction communication. Connexin 47 is primarily expressed in the oligodendrocytes of highly myelinated CNS tissues and in a few calcium-binding protein S-100 β subunit-positive cells, but not in neurons or peripheral sciatic nerve. Connexin 47 is co-localized in many gap junction plaques on oligodendrocyte somata, particularly in gray matter.

REFERENCES

1. Odermatt, B., Wellershaus, K., Wallraff, A., Seifert, G., Degen, J., Euwens, C., Fuss, B., Büssov, H., Schilling, K., Steinhäuser, C. and Willecke, K. 2003. Connexin 47 (Cx47)-deficient mice with enhanced green fluorescent protein reporter gene reveal predominant oligodendrocytic expression of Cx47 and display vacuolized myelin in the CNS. *J. Neurosci.* 23: 4549-4559.
2. Kleopa, K.A., Orthmann, J.L., Enriquez, A., Paul, D.L. and Scherer, S.S. 2004. Unique distributions of the gap junction proteins connexin 29, connexin 32, and connexin 47 in oligodendrocytes. *Glia* 47: 346-357.
3. Kamasawa, N., Sik, A., Morita, M., Yasumura, T., Davidson, K.G., Nagy, J.I. and Rash, J.E. 2005. Connexin 47 and connexin 32 in gap junctions of oligodendrocyte somata, myelin sheaths, paranodal loops and Schmidt-Lanterman incisures: implications for ionic homeostasis and potassium siphoning. *Neuroscience* 136: 65-86.

CHROMOSOMAL LOCATION

Genetic locus: GJC2 (human) mapping to 1q42; Gja12 (mouse) mapping to 11 B1.3.

SOURCE

connexin 47 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of connexin 47 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30335 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

connexin 47 (T-15) is recommended for detection of connexin 47 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 47 siRNA (h): sc-105232, connexin 47 siRNA (m): sc-142499, connexin 47 shRNA Plasmid (h): sc-105232-SH, connexin 47 shRNA Plasmid (m): sc-142499-SH, connexin 47 shRNA (h) Lentiviral Particles: sc-105232-V and connexin 47 shRNA (m) Lentiviral Particles: sc-142499-V.

Molecular Weight of connexin 47: 47 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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