

connexin 30.3 (D-15): sc-74374

BACKGROUND

The connexin family of proteins form hexameric complexes called "connexons" that facilitate movement of low molecular weight proteins between cells via gap junctions. Connexin proteins share a common topology of four transmembrane α -helical domains, two extracellular loops, a cytoplasmic loop and cytoplasmic N- and C-termini. Many of the key functional differences arise from specific amino-acid substitutions in the most highly conserved domains: the transmembrane and extracellular regions. Connexin 30.3, also known as GJB4 (gap junction β -4 protein), CX30.3 or EKV, is expressed in the epidermis (upper spinous and granular layers) and is believed to play a role in keratinocyte intercellular communication. Mutations in the gene encoding connexin 30.3 can result in erythrokeratoderma variabilis (EVK), a condition characterized by localized or generalized hyperkeratosis and random, transient erythematous patches.

REFERENCES

- Manjunath, C.K., et al. 1987. Human cardiac gap junctions: isolation, ultrastructure, and protein composition. *J. Mol. Cell. Cardiol.* 19: 131-134.
- Macari, F., et al. 2000. Mutation in the gene for connexin 30.3 in a family with erythrokeratoderma variabilis. *Am. J. Hum. Genet.* 67: 1296-1301.
- Harris, A.L. 2001. Emerging issues of connexin channels: biophysics fills the gap. *Q. Rev. Biophys.* 34: 325-472.
- Plantard, L., et al. 2003. Molecular interaction of connexin 30.3 and connexin 31 suggests a dominant-negative mechanism associated with erythrokeratoderma variabilis. *Hum. Mol. Genet.* 12: 3287-3294.
- Richard, G., et al. 2003. Genetic heterogeneity in erythrokeratoderma variabilis: novel mutations in the connexin gene GJB4 (Cx30.3) and genotype-phenotype correlations. *J. Invest. Dermatol.* 120: 601-609.
- Arita, K., et al. 2003. Erythrokeratoderma variabilis without connexin 31 or connexin 30.3 gene mutation: immunohistological, ultrastructural and genetic studies. *Acta Derm. Venereol.* 83: 266-270.
- Fonseca, P.C., et al. 2004. Characterization of connexin 30.3 and 43 in thymocytes. *Immunol. Lett.* 94: 65-75.

CHROMOSOMAL LOCATION

Genetic locus: Gjb4 (mouse) mapping to 4 D2.2.

SOURCE

connexin 30.3 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of connexin 30.3 of mouse 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-74374 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

connexin 30.3 (D-15) is recommended for detection of connexin 30.3 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 30.3 siRNA (m): sc-72971, connexin 30.3 shRNA Plasmid (m): sc-72971-SH and connexin 30.3 shRNA (m) Lentiviral Particles: sc-72971-V.

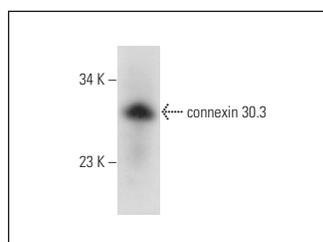
Molecular Weight of connexin 30.3: 30 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



connexin 30.3 (D-15): sc-74374. Western blot analysis of connexin 30.3 expression in RAW 264.7 whole cell lysate.

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.