

connexin 30.3 (C-17): sc-74373

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 4 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.
- Tamaki, Y., et al. 2006. A case of erythrokeratoderma variabilis: loosened gap junctions in the acanthotic epidermis. *J. Dermatol.* 33: 419-423.
- Zheng-Fischhöfer, Q., et al. 2007. Characterization of connexin 30.3-deficient mice suggests a possible role of connexin 30.3 in olfaction. *Eur. J. Cell Biol.* 86: 683-700.

CHROMOSOMAL LOCATION

Genetic locus: GJB4 (human) mapping to 1p34.3.

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.

SOURCE

connexin 30.3 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of connexin 30.3 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-74373 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

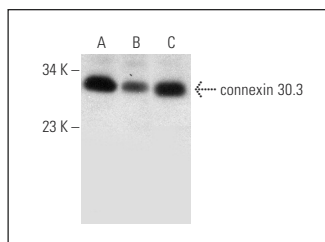
connexin 30.3 (C-17) is recommended for detection of connexin 30.3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 (h): sc-72970, connexin 30.3 shRNA Plasmid (h): sc-72970-SH and connexin 30.3 shRNA (h) Lentiviral Particles: sc-72970-V.

Molecular Weight of connexin 30.3: 30 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, HeLa whole cell lysate: sc-2200 or C32 whole cell lysate: sc-2205.

DATA



connexin 30.3 (C-17): sc-74373. Western blot analysis of connexin 30.3 expression in C32 (A), SK-MEL-28 (B) and KNRK (C) whole cell lysates.

PROTOCOLS

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