

connexin 31 (M-40): sc-134611

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 31, also known as GJB3 (gap junction β -3 protein), CX31, DFNA2 or EKV, is expressed in skin, testis, placenta, cochlea and developing hindbrain and, in mice, it is also found in peripheral auditory nerves. Mutations in the gene encoding connexin 31 can result in non-syndromic sensorineural deafness autosomal dominant type 2 (DFNA2) and/or erythrokeratoderma variabilis (EVK), a condition characterized by localized or generalized hyperkeratosis and random, transient erythematous patches.

REFERENCES

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- 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.
- Common, J.E., et al. 2005. Clinical and genetic heterogeneity of erythrokeratoderma variabilis. *J. Invest. Dermatol.* 125: 920-927.
- He, L.Q., et al. 2005. Intracellular distribution, assembly and effect of disease-associated connexin 31 mutants in HeLa cells. *Acta Biochim. Biophys. Sin.* 37: 547-554.
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CHROMOSOMAL LOCATION

Genetic locus: GJB3 (human) mapping to 1p34.3; Gjb3 (mouse) mapping to 4 D2.2.

SOURCE

connexin 31 (M-40) is a rabbit polyclonal antibody raised against amino acids 133-172 mapping within an extracellular domain of connexin 31 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.

RESEARCH USE

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

APPLICATIONS

connexin 31 (M-40) is recommended for detection of connexin 31 of mouse, rat and, to a lesser extent, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other connexin family members.

Suitable for use as control antibody for connexin 31 siRNA (h): sc-78791, connexin 31 siRNA (m): sc-142493, connexin 31 shRNA Plasmid (h): sc-78791-SH, connexin 31 shRNA Plasmid (m): sc-142493-SH, connexin 31 shRNA (h) Lentiviral Particles: sc-78791-V and connexin 31 shRNA (m) Lentiviral Particles: sc-142493-V.

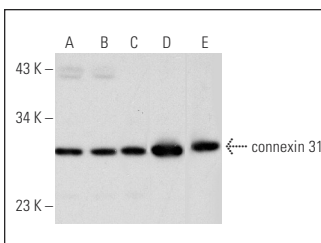
Molecular Weight of connexin 31: 31 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

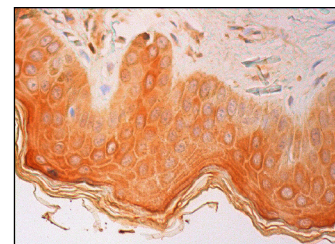
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



connexin 31 (M-40): sc-134611. Western blot analysis of connexin 31 expression in EOC 20 (A), NIH/3T3 (B) and F9 (C) whole cell lysates and rat brain (D) and mouse testis (E) tissue extracts.



connexin 31 (M-40): sc-134611. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes.

STORAGE

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