## SANTA CRUZ BIOTECHNOLOGY, INC.

# connexin 45 (H-85): sc-25716



## 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  $\alpha$ -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. Each of the approximately 20 connexin isoforms produces channels with distinct permeabilities and electrical and chemical sensitivities; therefore, one connexin usually cannot fully substitute for another. Consequently, a wide variety of malignant phenotypes associate with decreased connexin that is effected. For instance, downregulation of connexin 45 in the left ventricle associates with end-stage heart failure due both to ischaemic cardiomyopathy and idiopathic dilated cardiomyopathy.

## CHROMOSOMAL LOCATION

Genetic locus: GJC1 (human) mapping to 17q21.31; Gjc1 (mouse) mapping to 11 E1.

#### SOURCE

connexin 45 (H-85) is a rabbit polyclonal antibody raised against amino acids 251-335 mapping near the N-terminus of connexin 45 of human origin.

### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

connexin 45 (H-85) is recommended for detection of connexin 45 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 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).

connexin 45 (H-85) is also recommended for detection of connexin 45 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for connexin 45 siRNA (h): sc-43080, connexin 45 siRNA (m): sc-43081, connexin 45 shRNA Plasmid (h): sc-43080-SH, connexin 45 shRNA Plasmid (m): sc-43081-SH, connexin 45 shRNA (h) Lentiviral Particles: sc-43080-V and connexin 45 shRNA (m) Lentiviral Particles: sc-43081-V.

Molecular Weight of connexin 45: 45 kDa.

#### **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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### DATA



connexin 45 (H-85): sc-25716. Immunofluorescence staining of normal mouse heart frozen section showing membrane staining.

#### SELECT PRODUCT CITATIONS

- Mills, W.R., et al. 2007. Stem cell therapy enhances electrical viability in myocardial infarction. J. Mol. Cell. Cardiol. 42: 304-314.
- Trovato-Salinaro, A., et al. 2009. Regulation of connexin gene expression during skeletal muscle regeneration in the adult rat. Am. J. Physiol., Cell Physiol. 296: C593-C606.
- Galat, V., et al. 2012. A model of early human embryonic stem cell differentiation reveals inter- and intracellular changes on transition to squamous epithelium. Stem Cells Dev. 21: 1250-1263.
- Harris, B.S., et al. 2012. Remodeling of the peripheral cardiac conduction system in response to pressure overload. Am. J. Physiol. Heart Circ. Physiol. 302: H1712-H1725.

## **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.

MONOS Satisfation Guaranteed

Try **connexin 45 (G-7): sc-374354**, our highly recommended monoclonal aternative to connexin 45 (H-85).