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Connexin 43 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1541b

Product Information

Application	WB, E
Primary Accession	P17302
Other Accession	P16863, P18246
Reactivity	Human, Rat, Mouse
Predicted	Xenopus, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	43008
Antigen Region	107-138

Additional Information

Gene ID	2697
Other Names	Gap junction alpha-1 protein, Connexin-43, Cx43, Gap junction 43 kDa heart protein, GJA1, GJAL
Target/Specificity	This Connexin 43 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 107-138 amino acids from the N-terminal region of human Connexin 43.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Connexin 43 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GJA1
Synonyms	GJAL
Function	Gap junction protein that acts as a regulator of bladder capacity. A gap

	junction consists of a cluster of closely packed pairs of transmembrane channels, the connexons, through which materials of low MW diffuse from one cell to a neighboring cell. May play a critical role in the physiology of hearing by participating in the recycling of potassium to the cochlear endolymph. Negative regulator of bladder functional capacity: acts by enhancing intercellular electrical and chemical transmission, thus sensitizing bladder muscles to cholinergic neural stimuli and causing them to contract (By similarity). May play a role in cell growth inhibition through the regulation of NOV expression and localization. Plays an essential role in gap junction communication in the ventricles (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Cell junction, gap junction. Endoplasmic reticulum {ECO:0000250|UniProtKB:P23242}. Note=Localizes at the intercalated disk (ICD) in cardiomyocytes and the proper localization at ICD is dependent on TMEM65. {ECO:0000250|UniProtKB:P23242}
Tissue Location	Expressed at intercalated disks in the heart (at protein level) (PubMed:11741837, PubMed:18662195). Expressed in the fetal cochlea (PubMed:11741837).

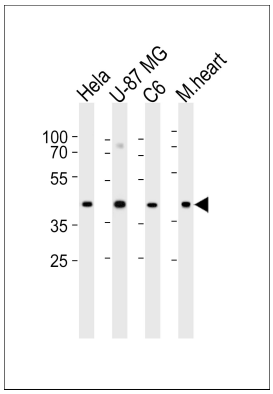
Background

Gap junction protein, alpha 1 is a member of the connexin gene family and a component of gap junctions. Gap junctions are composed of arrays of intercellular channels and provide a route for the diffusion of materials of low molecular weight from cell to cell. Connexin 43 is the major protein of gap junctions in the heart, and gap junctions are thought to have a crucial role in the synchronized contraction of the heart and in embryonic development. Connexin 43 is targeted by several protein kinases that regulate myocardial cell-cell coupling. A related intron-less connexin 43 pseudogene, GJA1P, has been mapped to chromosome 5.

References

Spinella, F., et al., J. Biol. Chem. 278(42):41294-41301 (2003). Contreras, J.E., et al., Proc. Natl. Acad. Sci. U.S.A. 100(20):11388-11393 (2003). Qin, H., et al., J. Biol. Chem. 278(32):30005-30014 (2003). Cameron, S.J., et al., J. Biol. Chem. 278(20):18682-18688 (2003). Ma, X.D., et al., World J. Gastroenterol. 9(5):946-950 (2003).

Images



Western blot analysis of lysates from Hela, U-87 MG, C6 cell line and mouse heart tissue lysate (from left to right), using GJA1 Antibody (N121)(Cat. #AP1541b). AP1541b was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

Citations

- Calcium-calmodulin gating of a pH-insensitive isoform of connexin43 gap junctions.
- The SH3-binding domain of Cx43 participates in loop/tail interactions critical for Cx43-hemichannel activity.
- The C-terminal domain of connexin43 modulates cartilage structure via chondrocyte phenotypic changes.

- Connexin 43 controls the multipolar phase of neuronal migration to the cerebral cortex.
- Intramolecular loop/tail interactions are essential for connexin 43-hemichannel activity.
- Knockdown of microRNA-181 by lentivirus mediated siRNA expression vector decreases the arrhythmogenic effect of skeletal myoblast transplantation in rat with myocardial infarction.
- Involvement of the cytoplasmic C-terminal domain of connexin43 in neuronal migration.