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ProductInformation

MONOCLONAL ANTI-CONNEXIN-32, CLONE CXN-32
Mouse Ascites Fluid

Product Number **C6344**

Product Description

Monoclonal Anti-Connexin-32 (mouse IgG1 isotype) is derived from the CXN-32 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. A synthetic Connexin-32 peptide (amino acids 105-123) conjugated to KLH was used as the immunogen. The isotype is determined using Sigma ImmunoType Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Connexin-32 may be used for the localization of Connexin-32, using various immunochemical assays such as ELISA, immunoblot and immunohistochemistry.

Gap junctions[1] are aggregations of intercellular channels that directly connect the cytoplasm of adjacent cells. Gap junctions coordinate cellular and organ function in tissues and are involved in metabolic cooperation between cells, synchronization of cellular physiological activities, growth control and developmental regulation. The gap junction channels allow intercellular exchange of ions, nucleotides and small molecules between adjacent cells. Unlike other membrane channels, intercellular channels span two plasma membranes and require the contribution of hemichannels, called connexons, from both participating cells. These channels are permeate to molecules as large as 1 kDa, and they have been detected in virtually every cell type in mammals, except mature skeletal muscle, spermatozoa and erythrocytes.[2] Two connexons interact in the extracellular space to form the complete intercellular channel. Each connexon is composed of six similar or identical proteins, which are termed connexins. Connexins (Cx) are a multi-gene family of highly related proteins ranging between molecular weights of 26 and 70 kDa.

At least a dozen distinct connexin genes have been identified and many are expressed in a tissue-specific manner.[2] Two distinct lineages have been identified in mammals. One termed class I or ∃ group to which Cx26, Cx30, Cx31, Cx31.1 and Cx32 belong, and the other termed class II or ∀ group, represented by Cx33, Cx37, Cx40, Cx43 and Cx46.[2] All of the connexins share a common membrane topology but differ in their unitary conductance and channel gating properties.[3-5] The structure of connexin molecules include a cytoplasmic N-terminal region, four transmembrane domains, two extracellular loops, and a C-terminal cytoplasmic tail of varying length. The various connexins are highly conserved in the transmembrane and extracellular regions, but they differ in their cytoplasmic domain. The 27 kDa connexin protein (Connexin-32, Cx32), belongs to the ∃-type (group I) subfamily of connexin proteins. It is expressed in most tissues, even though the pattern of expression may differ in various cell types (e.g., in the brain it is found in neurons and oligodendrocytes, but not in astrocytes, ependyma, leptomeninges and pinealocytes, or in the liver it is present in hepatocytes, but not in Ito cells). Gap junction protein levels change in response to disruption of tissue architecture.[6] For instance, a decreased expression of Cx32 plasma membrane mRNA and protein levels was found in rat after hepatic injury induced by common bile duct ligation (CBDL).[7] In addition, a combination of myelin disruption and axonal degeneration has been shown to occur with Cx32 mutations in Charcot-Marie-Tooth disease (CMTX).[8] Monoclonal antibodies reacting specifically with Cx32, may be used in diverse cellular and molecular approaches to the study of gap junctions and their properties, and to correlate their expression pattern with physiological functions or pathological conditions.

Reagents
Monoclonal Anti-Connexin-32 reacts specifically with Connexin-32. The product is may be used for ELISA, immunoblotting (27kDa) and immunohistochemistry (frozen sections). Reactivity has been observed with human, rat and mouse Connexin-32. The product is provided as ascites fluid with 15mM sodium azide as a preservative.

Precautions
Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage
For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile
A minimum working dilution of 1:1,000 is determined by immunoblotting using a whole mouse brain extract.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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