

Product Information

Anti-Connexin 43 antibody, Mouse monoclonal
clone CXN-6, hybridoma cell culture supernatant

Product Number **SAB4200730**

Product Description

Anti-Connexin 43 antibody, Mouse monoclonal, (mouse IgM isotype) is derived from the hybridoma CXN-6 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide from the C-terminal region of Connexin 43 protein conjugated to KLH. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Connexin 43 specifically recognizes Connexin 43 from human,^{1,2} mouse,² rat,³ bovine, porcine,⁴ chicken,⁵ and feline⁶ origin. The antibody may be used in various immunochemical techniques including Immunoblot² (40-43 kDa may appear in several bands due to phosphorylation), Immunohistochemistry,² and Immunofluorescence.

Connexin 43 protein (Cx43), also known as Gap junction alpha-1 protein or Gap junction 43 kDa heart protein, is a member of Connexins family, which are structurally-related transmembrane proteins that span the plasma membrane four times with N- and C-terminal oriented cytoplasmic tails⁷. Six connexin subunits form a connexon or hemichannel in the plasma membrane and head-to-head docking between two hemichannels result in the formation of a gap junction channel. Gap junctions are necessary to coordinate the cell function by passing electrical current flow between heart and nerve cells, or by allowing the exchange of chemical signals and energy substrates.⁷ Connexin 43 is the most abundant connexin in the brain and in the heart.⁸ Connexin 43 functions as a neuroprotector and is most prominently expressed in astrocytes and microglial cells in the brain.^{7,9} It is purported to play a crucial role in the synchronized contraction of the heart.⁷ In addition, Connexin 43 is suggested to function as a modulator of the cell migration and cell adhesion processes.¹⁰ Changes in Connexin 43 expression contribute to several cardiovascular pathologies (e.g. brain and heart irreversible injury and arrhythmias) and malignancies (e.g. breast and pancreatic cancers).

Reagent

The product is supplied as a culture supernatant solution containing 15 mM sodium azide as a preservative. The product contains bovine serum albumin and a human-derived protein.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. 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. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:5,000-1:7,500 is recommended using mouse myoblast C2C12 cell line extract.

Immunofluorescence: a working dilution of 1:500-1:1,000 is recommended using mouse myoblast C2C12 cell line.

Immunohistochemistry: a working dilution of 1:200-1:500 is recommended using heat-retrieved formalin-fixed, paraffin-embedded mouse heart sections.

Note: In order to obtain best results in different techniques and preparations it is recommended to determine optimal working concentration by titration test.

References

1. Hong, X. et al., *Oncotarget.*, **6**, 15566-77 (2015).
2. Gonzalez, J.P. et al., *Sci. Rep.*, **5**, 13490 (2015).
3. Ott, H.C. et al., *Nat. Med.*, **14**, 213-21 (2008).
4. Wong, P.S. et al., *Br. J. Pharmacol.*, **171**, 2751-66 (2014).
5. Boswell, B.A. et al., *Exp. Eye Res.*, **88**, 919-27 (2009).
6. Meurs, K.M. *Hum. Mol. Genet.*, **14**, 3587-93 (2005).
7. Schulz. R. et al., *Pharmacol. Ther.*, **153**, 90-106 (2015).
8. Boylay, A.C. et al., *Brain Behav. Immun.*, **56**, 1-9 (2016).
9. Giaume, C., and Theis, M., *Brain Res. Rev.*, **63**, 160-76 (2010).
10. Kameritsch, P. et al., *Biochim. Biophys. Acta*, **1818**, 1993-2001 (2012).

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