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S100A1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1093a

Product Information

Application	WB, IHC, E
Primary Accession	P23297
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2C8B8; 2C8E8; 3C8D8
Isotype	IgG1
Calculated MW	10546
Description	S100 calcium binding protein A1 (S100-alpha/ S100A1), it is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members which are located as a cluster on chromosome 1q21. This protein may function in stimulation of Ca2+-induced Ca2+ release, inhibition of microtubule assembly, and inhibition of protein kinase C-mediated phosphorylation. Reduced expression of this protein has been implicated in cardiomyopathies.
Immunogen	Purified recombinant fragment of S100A1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	6271
Other Names	Protein S100-A1, S-100 protein alpha chain, S-100 protein subunit alpha, S100 calcium-binding protein A1, S100A1, S100A
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	S100A1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	S100A1
Synonyms	S100A
Function	Small calcium binding protein that plays important roles in several biological processes such as Ca(2+) homeostasis, chondrocyte biology and cardiomyocyte regulation (PubMed:12804600). In response to an increase in intracellular Ca(2+) levels, binds calcium which triggers conformational changes (PubMed:23351007). These changes allow interactions with specific target proteins and modulate their activity (PubMed:22399290). Regulates a network in cardiomyocytes controlling sarcoplasmic reticulum Ca(2+) cycling and mitochondrial function through interaction with the ryanodine receptors RYR1 and RYR2, sarcoplasmic reticulum Ca(2+)-ATPase/ATP2A2 and mitochondrial F1-ATPase (PubMed:12804600). Facilitates diastolic Ca(2+) dissociation and myofilament mechanics in order to improve relaxation during diastole (PubMed:11717446).
Cellular Location	Cytoplasm. Sarcoplasmic reticulum. Mitochondrion {ECO:0000250|UniProtKB:P56565}
Tissue Location	Highly prevalent in heart (PubMed:12804600, PubMed:1384693). Also found in lesser quantities in skeletal muscle and brain (PubMed:1384693).

References

1. Koenig A, Wojcieszyn J, Weeks BR, et al. Vet Pathol. 2001;38(4):427-35. 2. Hoyaux D, Decaestecker C, Heizmann CW, et al. Brain Res. 2000;867(1-2):280-8. 3. Pingerelli PL, Mizukami H, Wagner AS, et al. J Protein Chem. 1990;9(2):169-75.

Images

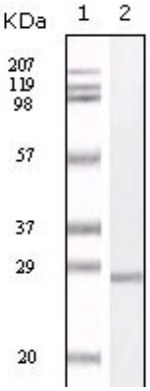

Figure 1: Western blot analysis using S100A mouse mAb against truncated S100A recombinant protein.

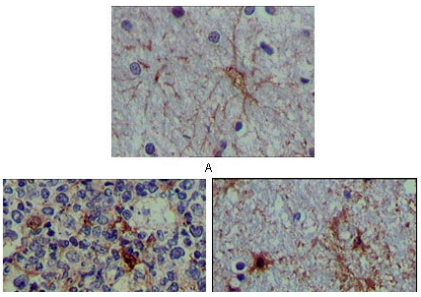

Figure 2: Immunohistochemical analysis of paraffin-embedded human brain tissue (A), lymphoid follicles tissue (B) and interbrain tissue (C), showing cytoplasmic localization using S100A mouse mAb with DAB staining.