10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

S100A1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1093a

Specification

S100A1 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P23297
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

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.

S100A1 Antibody - 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

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.

S100A1 Antibody - 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).

S100A1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

S100A1 Antibody - Images

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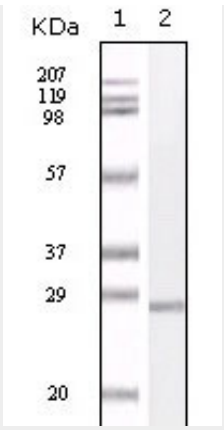

Figure 1: Western blot analysis using S100A mouse mAb against truncated S100A recombinant protein.

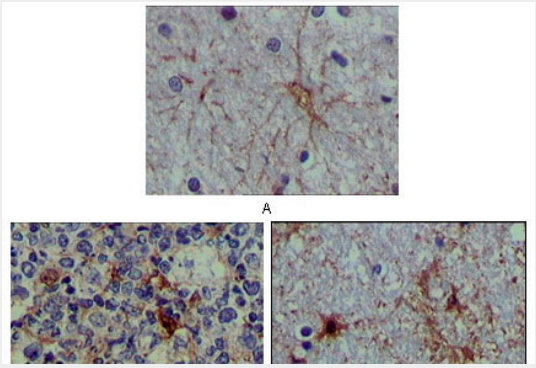

Figure 2: Immunohistochemical analysis of paraffin-embedded human brain tissue (A), lymphoid follicles tissue (B) and interbrain tissue (C), showing cytoplasmic localization using S100A mouse mAb with DAB staining.

S100A1 Antibody - 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.