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

S100B Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1127a

Product Information

Application	WB, IHC, E
Primary Accession	P04271
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	9A11B9
Isotype	IgG1
Calculated MW	10713
Description	S100B (S100 calcium binding protein B) 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. S-100 proteins and parvalbumin proteins are each expressed in neural tissues. In addition, S100B are present in a variety of other tissues, and calbindin is present in intestine and kidney. Parvalbumin B is found in many tumor tissues as well as in the organ of Corti. Calbindin, S-100 proteins and parvalbulmins have all been detected in leydig cells and the testis. These proteins are thought to play a role in hormone production and spermatogenesis. Chromosomal rearrangements and altered expression of this gene have been implicated in several neurological, neoplastic, and other types of diseases, including Alzheimer's disease, Down's syndrome, epilepsy, amyotrophic lateral sclerosis, melanoma, and type I diabetes.
Immunogen	Purified recombinant fragment of S100B expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	6285
Other Names	Protein S100-B, S-100 protein beta chain, S-100 protein subunit beta, S100 calcium-binding protein B, S100B
Dilution	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 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	S100B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	S100B {ECO:0000303|PubMed:6487634, ECO:0000312|HGNC:HGNC:10500}
Function	Small zinc- and- and calcium-binding protein that is highly expressed in astrocytes and constitutes one of the most abundant soluble proteins in brain (PubMed:20950652, PubMed:6487634). Weakly binds calcium but binds zinc very tightly-distinct binding sites with different affinities exist for both ions on each monomer (PubMed:20950652, PubMed:6487634). Physiological concentrations of potassium ion antagonize the binding of both divalent cations, especially affecting high-affinity calcium-binding sites (By similarity). Acts as a neurotrophic factor that promotes astrocytosis and axonal proliferation (By similarity). Involved in innervation of thermogenic adipose tissue by acting as an adipocyte-derived neurotrophic factor that promotes sympathetic innervation of adipose tissue (By similarity). Binds to and initiates the activation of STK38 by releasing autoinhibitory intramolecular interactions within the kinase (By similarity). Interaction with AGER after myocardial infarction may play a role in myocyte apoptosis by activating ERK1/2 and p53/TP53 signaling (By similarity). Could assist ATAD3A cytoplasmic processing, preventing aggregation and favoring mitochondrial localization (PubMed:20351179). May mediate calcium-dependent regulation on many physiological processes by interacting with other proteins, such as TPR-containing proteins, and modulating their activity (PubMed:22399290).
Cellular Location	Cytoplasm. Nucleus. Secreted {ECO:0000250|UniProtKB:P50114} Note=Secretion into the medium is promoted by interaction with isoform CLSTN3beta of CLSTN3. {ECO:0000250|UniProtKB:P50114}
Tissue Location	Although predominant among the water-soluble brain proteins, S100 is also found in a variety of other tissues

References

1. Shapiro LA. Marks A. Whitaker-Azmitia PM. Brain Res. 2004, Jun 4,1010(1-2):17-21. 2. Sorci G. Riuzzi F. Arcuri C. et al. Mol Cell Biol. 2004, Jun,24(11):4880-94. 3. Zimmer DB. Chaplin J. Baldwin A. et al. Cell Mol Biol (Noisy-le-grand).2005,Sep 5,51(2):201-14.

Images

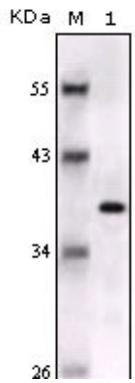
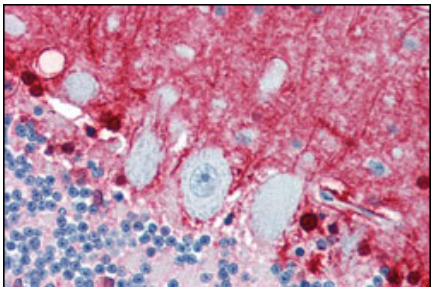


Figure 1: Western blot analysis using S100B mouse mAb against full-length S100B recombinant protein.

Figure 2: Immunohistochemical analysis of paraffin-embedded human brain, cerebellun using S100B mouse mAb with DAB staining.



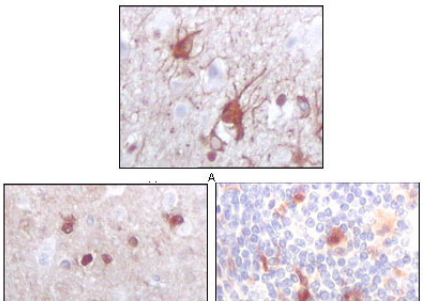


Figure 3: Immunohistochemical analysis of paraffin-embedded human brain (A) and human thymus tissues (B), showing cytoplasmic localization using S100B mouse mAb with DAB staining.

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