Anti-S100 Protein (RABBIT) Antibody - 200-401-874

Code: 200-401-874 **Size:** 500 µg

Product Description: Anti-S100 Protein (RABBIT) Antibody - 200-401-874

Concentration: 5.0 mg/mL by UV absorbance at 280 nm

PhysicalState: Lyophilized

Label	Unconjugated
Host	Rabbit
Gene Name	S100A1
Species Reactivity	bovine
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
Storage Condition	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Synonyms	S100 calcium-binding protein A1 S-100 protein subunit alpha S-100 protein alpha chain
Application Note	This Protein A purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band ~ 11 kDa in size corresponding to S100 monomer by western blotting in the appropriate cell lysate or extract.
Background	S-100 protein derived from brain tissue is an acidic calcium-binding protein with molecular weight of about 21kDa. In human brain tissue S-100 protein is mainly presented as two isoforms - bb homodimer (S-100b) and ab heterodimer (S-100a). Because of its predominant location in astroglial cells S-100 protein can be used as a sensitive and reliable marker for central nervous system injury. Structural damage of glial cells causes leakage of S-100 protein into the extracellular matrix and into cerebrospinal fluid, further releasing into the bloodstream. Measurements of S-100 protein in patient serum samples are useful in monitoring of traumatic brain injury, ischemic brain damage after circulatory arrests, and in diagnosis and prognosis of clinical outcome in acute stroke. Although predominant among the water-soluble brain proteins, S-100 is also found in a variety of other tissues. S-100 is an intracellular protein that weakly binds calcium. It binds zinc very tightly, however, and this appears to increase the affinity of the protein for calcium. Distinct binding sites, with different affinities, exist for both ions on each monomer. Physiological concentrations of potassium ion antagonize the binding of both divalent cations, especially affecting high-affinity calcium-binding sites.
Purity And Specificity	This Protein A purified antibody is directed against bovine S100 protein. The product was purified from monospecific antiserum by Protein A chromatography. A BLAST analysis was used to suggest reactivity with this protein from bovine based on 100% homology with the immunogen sequence. A 98% homology is noted for S100 alpha chain from primate sources. Mouse, rat and dog show 94% homology with the bovine S100 alpha sequence. Expect cross reactivity with S100 from most mammalian sources. Cross reactivity with S100 from other specific sources has not been determined. Homologies for the S100 beta chain are similar.
Assay Dilutions	User Optimized
ELISA	1:5,000 - 1:25,000
Immunohistochemistry	1:200 - 1:2,000
WESTERN BLOT	1:500 - 1:3,000
IHC	1:200 - 1:2,000
OTHER ASSAYS	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
Immunogen	This Protein A purified antibody was prepared from whole rabbit serum produced by repeated immunizations with full-length bovine S100 protein (mixture of aa homodimers and ab heterodimers).
General Reference	Isobe,T. and Okuyama,T. (1981) The amino-acid sequence of the alpha subunit in bovine brain S-100a protein. Eur. J. Biochem. 116 (1), 79-86.

Baudier,J. and Gerard,D. (1983) Ions binding to S100 proteins: structural changes induced by calcium and zinc on S100a and S100b proteins. Biochemistry 22 (14), 3360-3369.

Kuwano,R., Maeda,T., Usui,H., Araki,K., Yamakuni,T., Ohshima,Y., Kurihara,T. and Takahashi,Y. (1986) Molecular cloning of cDNA of S100 alpha subunit mRNA. FEBS Lett. 202 (1), 97-101.

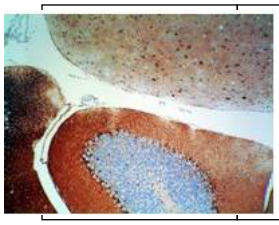
Related Products

611-1302	Anti-RABBIT IgG (H&L) (GOAT) Antibody Peroxidase Conjugated - 611-1302
B501-0500	BLOTTO Immunoanalytical Grade (Non-Fat Dry Milk) - B501-0500
MB-070	Blocking Buffer for Fluorescent Western Blotting - MB-070
W09-000-364	HeLa Whole Cell Lysate - W09-000-364

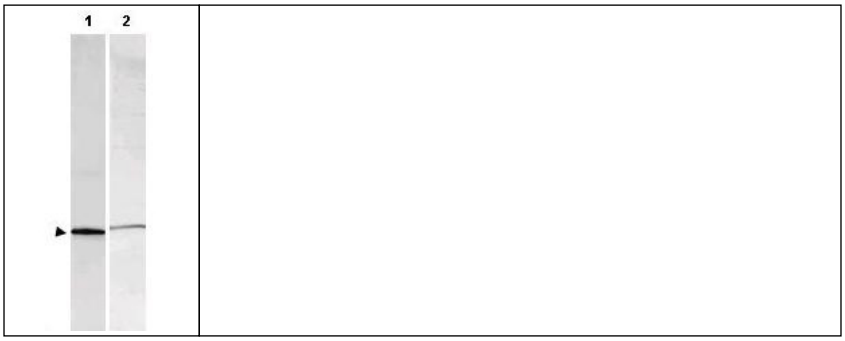
Related Links

Images

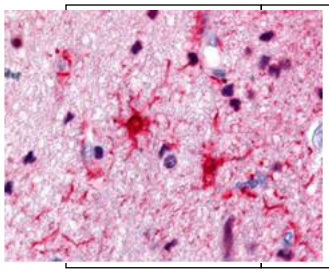
1 Rabbit anti-S-100 protein was used at a 1:500 dilution to detect S-100 by immunohistochemistry using a 2-step indirect method. Dark nuclear staining is observed within basket cells located near the Purkinje cells in the cerebellum. Mouse brain tissue was immersed for 24 hours in 10% neutral buffered formalin and paraffin processed followed by sectioning at 4 microns. No antigen unmasking (HIER) or protease digestion was performed prior to immunostaining. Sections were deparaffinized in xylene, and hydrated through graded alcohol to distilled water. All incubations were done at room temperature. All rinses were either distilled water or Tris-HCl with 0.05% Tween 20. Endogenous peroxidase activity was blocked with 3% Hydrogen peroxide for 10'. Non-specific binding was blocked using PowerBlock (Biogenex) for 10'. Primary antibody was diluted as stated and reacted for 30' followed by washes and the addition of donkey anti-rabbit HRP diluted 1:500 for 30'. DAB+ (Dakocytomation) was used as a substrate and was allowed to react for 5'. Personal Communication, Teri Johnson, Stowers Institute, Kansas City, MO.



2 Western blot using Rockland's Affinity Purified anti-S-100 antibody shows detection of a band ~11 kDa corresponding to bovine S-100 monomer (100 ng loaded, arrowhead lane 1). The antibody also detects S-100 from rat brain lysate (lane 2). Approximately 35 ?g of a rat brain whole cell lysate was separated by 16% SDS-PAGE and transferred onto nitrocellulose. After blocking, the membrane was probed with the primary antibody diluted to 1:1,000 for 2h at room temperature followed by washes and reaction with a 1:10,000 dilution of IRDye™800 conjugated Gt-a-Rabbit IgG [H&L] MX (611-132-122) for 45 min at room temperature. IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.



3 Rabbit anti-S100 was used at a 1:500 dilution to detect S100 by immunohistochemistry in human brain astrocyte tumor tissue. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Alan Yen, LifeSpanBiosciences, Seattle, WA.



Disclaimer

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