

Datasheet for 200-401-874**S100 Protein Antibody****Overview**

Description:	Anti-S100 Protein (RABBIT) Antibody - 200-401-874
Item No.:	200-401-874
Size:	500 µg
Applications:	IHC, WB
Reactivity:	Human, Mouse, Rat, Bovine
Host Species:	Rabbit

Product Details

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.
Synonyms:	rabbit anti-S100 Protein Antibody, S100 calcium-binding protein A1, S-100 protein subunit alpha, S-100 protein alpha chain
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	S100A1
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Reactivity:	Human, Mouse, Rat, Bovine
Immunogen Type:	Native Protein
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).
Purity/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.
Relevant Links:	• UniProtKB - P02639 • NCBI - NP_001092512.1 • GeneID - 528735

Application Details

Tested Applications:	IHC, WB
Application Note:	This Protein A purified antibody has been tested for use in immunohistochemistry, and western blot and is suitable for ELISA. 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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:25,000
IHC:	1:200 - 1:2,000
WB:	1:500 - 1:3,000

Formulation

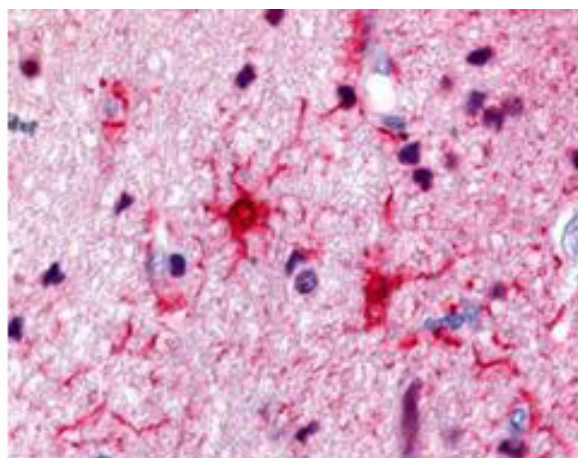
Physical State:	Lyophilized
Concentration:	5.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide

Stabilizer:	None
Reconstitution Volume:	100 μ L
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

Shipping Condition:	Ambient
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.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Immunohistochemistry

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.



Immunohistochemistry

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.



Western Blot

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 µg of a rat brain whole cell lysate (p/n W12-000-T077) 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 (p/n 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.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.