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

Anti-S100 Protein (RABBIT) Antibody

S100 Protein Antibody
Catalog # ASR4405

Specification

Anti-S100 Protein (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Bovine**
Reactivity	**Rat, Human, Mouse, Bovine**
Clonality	**Polyclonal**
Application	**WB, IHC, E, I, LCI**
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.**
Physical State	**Lyophilized**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
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).**
Reconstitution Volume	**100 µL**
Reconstitution Buffer	**Restore with deionized water (or equivalent)**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-S100 Protein (RABBIT) Antibody - Additional Information

Gene ID 528735

Other Names
528735

Purity
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.

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.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-S100 Protein (RABBIT) Antibody - Protein Information

Name S100A1

Function
Small calcium binding protein that plays important roles in several biological processes such as Ca(2+) homeostasis, chondrocyte biology and cardiomyocyte regulation. In response to an increase in intracellular Ca(2+) levels, binds calcium which triggers conformational changes. These changes allow interactions with specific target proteins and modulate their activity. 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. Facilitates diastolic Ca(2+) dissociation and myofilament mechanics in order to improve relaxation during diastole.

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:P23297}. Sarcoplasmic reticulum {ECO:0000250|UniProtKB:P23297}. Mitochondrion {ECO:0000250|UniProtKB:P56565}

Tissue Location
Although predominant among the water-soluble brain proteins, S100 is also found in a variety of other tissues

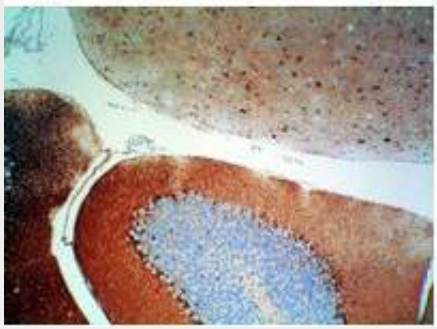
Anti-S100 Protein (RABBIT) Antibody - Protocols

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

Anti-S100 Protein (RABBIT) Antibody - Images

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



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.

Anti-S100 Protein (RABBIT) Antibody - 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.