

Polyclonal Antibody to S100 alpha - Aff - Purified

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| Alternate names: | S-100 protein alpha chain, S-100 protein subunit alpha, S100 alpha, S100 calcium-binding protein A1, S100-A1, S100A |
| Catalog No.: | SP5355P |
| Quantity: | 0.1 mg |
| Background: | The S100 protein is a low-molecular-weight, acidic and calcium binding protein that in functional form exist in dimers. S100 has two subunits: S100-alpha (94 aa; human chromosome 1) and S100-beta (92 aa; human chromosome 21) that forms as either homodimers (alpha-alpha known as S-100a(0) or beta-beta known as S-100b) or as heterodimers (known as S-100a) of ~21 kDa. S100-alpha and -beta chains show ~58% sequence identity and are both highly conserved among species. S100-alpha was originally believed to be localized to the CNS, but studies have shown it to be found in numerous tissues including cardiac, skeletal and vascular smooth muscle cells. |
| Uniprot ID: | P23297 |
| NCBI: | NP_006262.1 |
| GeneID: | 6271 |
| Host: | Rabbit |
| Immunogen: | Purified S100-alpha protein from Human pectoral muscle cells. |
| Format: | State: Lyophilized purified IgG fraction Purification: Antigen Affinity Chromatography Buffer System: PBS, pH 7.4 Preservatives: 0.05% Sodium Azide Stabilizers: 15 mg/ml BSA |
| Applications: | ELISA: Assay dependent. Immunocytochemistry/Flow: 1/50-1/200. Immunofluorescence: 1/50-1/200. Immunoprecipitation: 5.0 µg/ml. Western Blot: 0.1 µg/ml. Immunohistochemistry on Formalin-Fixed, Paraffin-Embedded Sections: 1.0 µg/ml. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user. |
| Molecular Weight: | ~21 kDa |
| Specificity: | SP5355P detects S100-alpha protein and shows no cross-reactivity with the S100-beta protein. |

Species Reactivity: Tested: Bovine, Human, Mouse, Porcine, and Rat.

Storage: Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

Product Citations: Purchased from Acris:

1. Boerries M, Most P, Gledhill JR, Walker JE, Katus HA, Koch WJ, et al. Ca²⁺-dependent interaction of S100A1 with F1-ATPase leads to an increased ATP content in cardiomyocytes. *Mol Cell Biol.* 2007 Jun;27(12):4365-73. Epub 2007 Apr 16. PubMed PMID: 17438143.
2. Pleger ST, Shan C, Ksienzyk J, Bekeredjian R, Boekstegers P, Hinkel R, et al. Cardiac AAV9-S100A1 gene therapy rescues post-ischemic heart failure in a preclinical large animal model. *Sci Transl Med.* 2011 Jul 20;3(92):92ra64. doi: 10.1126/scitranslmed.3002097. PubMed PMID: 21775667.
3. Thireau J, Karam S, Fauconnier J, Roberge S, Cassan C, Cazorla O, et al. Functional evidence for an active role of B-type natriuretic peptide in cardiac remodelling and pro-arrhythmogenicity. *Cardiovasc Res.* 2012 Jul 1;95(1):59-68. doi: 10.1093/cvr/cvs167. Epub 2012 May 22. PubMed PMID: 22617407.

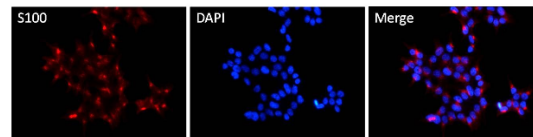
Originator or purchased from resellers:

1. Gramolini AO, Kislinger T, Alikhani-Koopaei R, Fong V, Thompson NJ, Isserlin R, et al. Comparative proteomics profiling of a phospholamban mutant mouse model of dilated cardiomyopathy reveals progressive intracellular stress responses. *Mol Cell Proteomics.* 2008 Mar;7(3):519-33. Epub 2007 Nov 30. PubMed PMID: 18056057.

General Readings:

1. Kato, K., Haimoto, H., Shimizu, A. & Tanaka, J. (1987) *Biomed. Res.* 8, 119-125.
2. Kimura S, Kato K, Semba R, Isobe T. Regional distribution of S-100a(0) (??), S-100a (??) and S-100b (??) in the bovine central nervous tissue determined with a sensitive enzyme immunoassay system. *Neurochem Int.* 1984;6(4):513-8. PubMed PMID: 20488077.

Pictures: Immunofluorescent analysis of S100 alpha (red) in HEK293T cells. Cells fixed with 4% formaldehyde were permeabilized and blocked with 1X PBS containing 5% BSA and 0.3% Triton X-100 for 1 hour at room temperature. Cells were probed with a S100 alpha polyclonal antibody (Cat.-No SP5355P) at a dilution of 1:100 overnight at 4°C in 1X PBS containing 1% BSA and 0.3% Triton X-100, washed with 1X PBS, and incubated with a fluorophore-conjugated goat anti-rabbit IgG secondary antibody at a dilution of 1:200 for 1 hour at room temperature. Nuclei (blue) were stained with DAPI. Images were taken on a Leica DM1000 microscope at 40X magnification. Data courtesy of the Innovators Program.



Western blot of S100-alpha from human muscle extract using S100 alpha Antibody Cat.-No SP5355P.

S100-alpha

