

S100A1
Catalog # PVGS1292**Specification**

S100A1 - Product InformationPrimary Accession [P23297](#)**Species**
Human**Sequence**
Met1-Ser94**Purity**
> 95% as analyzed by SDS-PAGE
> 95% as analyzed by HPLC**Endotoxin Level**
< 1 EU/ µg of protein by gel clotting method**Expression System**
E. coliFormulation **Lyophilized after extensive dialysis against
20 mM Tris-HCl, 0.1 mM EDTA, pH 7.0.****Reconstitution**
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O at 200 µg/ml.**Storage & Stability**
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.**S100A1 - Additional Information****Gene ID** 6271**Other Names**
Protein S100-A1, S-100 protein alpha chain, S-100 protein subunit alpha, S100 calcium-binding protein A1, S100A1, S100A**Target Background**
S100 calcium-binding protein A1 (S100A1) is a small calcium binding protein with EF-hand structures and belongs to the S100 family. S100 proteins include at least 25 members which are located as a cluster on human chromosome 1q21. S100A1 is found in the heart, skeletal muscle, brain, and kidney. S100A1 mainly resides on the sarcoplasmic reticulum, mitochondria and myofilaments. S100A1 may function in stimulation of Ca²⁺ induced Ca²⁺ release, inhibition of microtubule assembly, and inhibition of protein kinase C-mediated phosphorylation. Reduced expression of this protein has been implicated in

cardiomyopathies.

S100A1 - Protein Information

Name S100A1

Synonyms S100A

Function

Small calcium binding protein that plays important roles in several biological processes such as Ca(2+) homeostasis, chondrocyte biology and cardiomyocyte regulation (PubMed:12804600). In response to an increase in intracellular Ca(2+) levels, binds calcium which triggers conformational changes (PubMed:23351007). These changes allow interactions with specific target proteins and modulate their activity (PubMed:22399290). 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 (PubMed:12804600). Facilitates diastolic Ca(2+) dissociation and myofilament mechanics in order to improve relaxation during diastole (PubMed:11717446).

Cellular Location

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

Tissue Location

Highly prevalent in heart (PubMed:12804600, PubMed:1384693). Also found in lesser quantities in skeletal muscle and brain (PubMed:1384693).

S100A1 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

S100A1 - Images