

S100A1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	AI266795;S100a;S100 calcium binding protein A1;S100
Protein Construction:	A DNA sequence encoding the mouse S100A1 (P56565) (Gly 2-Ser 94) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	E. coli
Accession:	P56565
Molecular Weight:	12.5 kDa (predicted); 14 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to bind human AGER in a functional ELISA.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>

Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.
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Protein Background

S100A1 is a Ca²⁺-binding protein of the EF-hand type that belongs to the S100 protein family. S100 proteins consisting of at least 19 members exist as dimers in the cytoplasm and/or nucleus of a wide range of cells, and are involved in the regulation of a number of cellular processes such as cell-cycle progression and cell differentiation. This protein has been shown to function in the processes including stimulation of Ca²⁺-induced Ca²⁺-release, inhibition of microtubule assembly, and inhibition of PKC-mediated phosphorylation. Phosphoglucomutase is a

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target protein whose activity is antagonistically regulated by S100A1, and recently, S100A1 is also identified as a potent molecular chaperone and a new member of the Hsp70/Hsp90 multichaperone complex. S100A1 displays a tissue-specific expression pattern with highest levels in myocardium and is considered to be an important regulator of cardiac contractility. Accordingly, reduced expression or mutations of S100A1 gene have been implicated in cardiomyopathies.

Reference

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