Recombinant Mouse S100A8 Protein (2-89 aa), His-tagged

Cat. No. S100A8-1510M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse S100A8 Protein (2-89 aa) is produced by Yeast expression system. This protein is fused with a 6xHis tag at the N-terminal. Protein Description: Full Length of Mature Protein.
Species	Mouse
Source	Yeast
ProteinLength	2-89 aa
Description	S100A8 is a calcium- and zinc-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. It can induce neutrophil chotaxis and adhesion. Predominantly found as calprotectin (S100A8/A9) which has a wide plethora of intra- and Extracellular domain functions. The intracellular functions include: facilitating leukocyte arachidonic acid trafficking and metabolism, modulation of the tubulin-dependent cytoskeleton during migration of phagocytes and activation of the neutrophilic NADPH-oxidase. Activates NADPH-oxidase by facilitating the enzyme complex assbly at the cell mbrane, transferring arachidonic acid, an essential cofactor, to the enzyme complex and S100A8 contributes to the enzyme assbly by directly binding to NCF2/P67PHOX. The Extracellular domain functions involve proinfammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities. Its proinflammatory activity includes recruitment of leukocytes, promotion of cytokine and chokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	innate immune cells via binding to pattern recognition receptors such as Toll-like receptor 4 (TLR4) and receptor for advanced glycation endproducts (AGER). Binding to TLR4 and AGER activates the MAP-kinase and NF-kappa-B signaling pathways resulting in the amplification of the proinflammatory cascade. Has antimicrobial activity towards bacteria and fungi and exerts its antimicrobial activity probably via chelation of Zn2+ which is essential for microbial growth. Can induce cell death via autophagy and apoptosis and this occurs through the cross-talk of mitochondria and lysosomes via reactive oxygen species (ROS) and the process involves BNIP3. Can regulate neutrophil number and apoptosis by an anti-apoptotic effect; regulates cell survival via ITGAM/ITGB and TLR4 and a signaling mechanism involving MEK-ERK. Its role as an oxidant scavenger has a protective role in preventing exaggerated tissue damage by scavenging oxidants. The iNOS-S100A8/A9 transnitrosylase complex is proposed to direct selective inflammatory stimulus-dependent S-nitrosylation of multiple targets such as GAPDH, ANXA5, EZR, MSN and VIM by recognizing a [IL]-x-C-x-x-[DE] motif; S100A8 ses to contribute to S-nitrosylation site selectivity.
Form	Tris-based buffer,50% glycerol
Molecular Mass	12.2 kDa
AA Sequence	PSELEKALSNLIDVYHNYSNIQGNHHALYKNDFKKMVTTECPQFVQNINIENLFRELDINSDNAINFEEFLAMVIKVGVASHKDSHKE
Purity	> 90% as determined by SDS-PAGE.
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4 centigrade for up to one week.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage

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	temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.
Concentration	A hardcopy of COA with reconstitution instruction is sent along with the products.

GENE INFORMATION

Gene Name	S100a8 S100 calcium binding protein A8 (calgranulin A) [Mus musculus]
Official Symbol	S100A8
Synonyms	S100A8; MRP-8; p8; B8Ag; CFAg; Caga; MRP8; CP-10; 60B8Ag; AI323541;
Gene ID	20201
mRNA Refseq	NM_013650
Protein Refseq	NP_038678
UniProt ID	P27005

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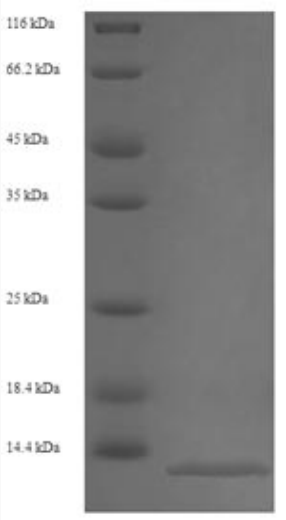

(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

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