

S100-A8 recombinant protein

Recombinant Rattus norvegicus Protein S100-A8

CATALOG # AAA309783	HOST Yeast	REACTIVITY Rat
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PRODUCT SYNONYMS

S100-A8; Recombinant Rattus norvegicus Protein S100-A8; Calgranulin-A; Migration inhibitory factor-related protein 8; MRP-8; p8S100 calcium-binding protein A8; S10A8; S100-A8 recombinant protein

PRODUCT SPECIFICATIONS

Host	Yeast
Reactivity	Rat
Purity/Purification	Greater than 90% as determined by SDS-PAGE.
Form/Format	Tris-based buffer 50% glycerol
Sequence	ATELEKALSN VIEVYHNYSG IKGNNHHALYR DDFRKMVTTE CPQFVQNKNT ESLFKELDVN SDNAINFEEF LVLVIRVGVA AHKDSHKE
Tag Info	N-terminal 6x his-tagged
Preparation and Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C. Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

ADDITIONAL INFORMATION

Related Product Information for S100-A8 recombinant protein

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 chemotaxis and adhesion. Predominantly found as calprotectin (S100A8/A9) which has a wide plethora of intra- and extracellular 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 assembly at the cell membrane, transferring arachidonic acid, an essential cofactor, to the enzyme complex and S100A8 contributes to the enzyme assembly by directly binding to NCF2/P67PHOX. The extracellular functions involve proinflammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities. Its proinflammatory activity includes recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates 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 seems to contribute to S-nitrosylation site selectivity.

NCBI AND UNIPROT INFORMATION

NCBI GI #	281485600
NCBI GeneID	116547
NCBI Accession #	NP_446274.2
NCBI GenBank Nucleotide #	NM_053822.2
UniProt Accession #	P50115
Molecular Weight	Calculated MW: 12.1 kDa
NCBI Official Full Name	protein S100-A8
NCBI Official Synonym Full Names	S100 calcium binding protein A8
NCBI Official Symbol	S100a8
NCBI Official Synonym Symbols	Mrp8
NCBI Protein Information	protein S100-A8
UniProt Protein Name	Protein S100-A8
UniProt Gene Name	S100a8
UniProt Synonym Gene Names	Mrp8; MRP-8; p8

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://www.aaabiotech.com/s100a8-recombinant-protein-yeast/309783>