

## S100-A8 recombinant protein

Recombinant Rattus norvegicus Protein S100-A8

|                               |                      |                          |
|-------------------------------|----------------------|--------------------------|
| CATALOG #<br><b>AAA309783</b> | HOST<br><b>Yeast</b> | REACTIVITY<br><b>Rat</b> |
|-------------------------------|----------------------|--------------------------|

### 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 IKGNNHLYR DDFRKMVTTE CPQFVQNKNT ESLFKELDVN SDNAINFEEF<br>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 Zn<sup>2+</sup> 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                | <b>S100a8</b>                   |
| 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.

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Online datasheet: <https://stage.aaabiotech.com/s100a8-recombinant-protein-yeast/309783>