Product Information

Methionine Sulfoxide Reductase A  
human, recombinant,  
histidine-tagged, expressed in *Escherichia coli*

Catalog Number M8698
Storage Temperature 2–8 °C

Synonyms: MsrA, methionine S-oxide reductase (S-form oxidizing), peptide-methionine sulfoxide reductase, protein-methionine-S-oxide-reductase

**Product Description**

Methionine (Met) residues of proteins are readily oxidized to methionine sulfoxide (MetO), especially under oxidative stress conditions. Oxidative alteration of Met to R and S Met(O) stereoisomers is reversed by methionine sulfoxide reductases: MsrA reduces S-MetO and MsrB reduces the R isomer. This may prevent irreversible oxidative protein damage and thus extend the organism's life span.\(^1\)\(^-\)\(^3\)

A series of proteins of considerable medical interest has been identified as substrates of MsrA. These include calmodulin and HIV protease.\(^4\)\(^,\)\(^5\) There is evidence of a connection between MsrA and Alzheimer's disease.\(^6\)

This product is supplied in a solution of 50 mM Tris, pH 7.6, with 150 mM NaCl.

Purity: ≥90% (SDS-PAGE)

**Note**: The recombinant protein may dimerize due to intermolecular disulfide bridge formation.

Specific activity: ≥8 units/mg-protein

Unit definition: One unit will cause the oxidation of 1 μmole of NADPH per minute at 37 °C at pH 7.6.

The assay is based on the ability of MsrA to reduce methionine sulfoxide, which is measured by monitoring the level of NADPH oxidation in the presence of a thioredoxin-regenerating system.

**Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Storage/Stability**

The product ships on wet ice and storage at 2–8 °C is recommended.

The product is stable at 2–8 °C for at least 2 years.

**References**


KAA,EB,MAM 03/09-1