Methionine-R-Sulfoxide Reductase B1-A (msrb1) Danio Rerio Recombinant Protein

PRODUCT OVERVIEW

Product Name	Methionine-R-sulfoxide reductase B1-A (msrb1), Recombinant Protein
Full Product Name	Recombinant Danio rerio Methionine-R-sulfoxide reductase B1-A (msrb1)
Product Gene Name	msrb1 recombinant protein
Product Synonym Gene Name	msrb1
Sequence	MSFCSFSGGE IYKDHFESGM YVCAQCGYEL FSSRSKYEHS SPWPAFTETI HEDSVSKQEE RWGAYKVRCG KCGNGLGHEF VNDGPKHGLS RFUIFSSSLK FIPKVKNEQQ
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	12,553 Da
Sequence Positions	1-110, Full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q802G6
Species	Zebrafish
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for msrb1 recombinant protein	MBS1318472 is a recombinant protein targeting msrb1. Also known as Recombinant Danio rerio Methionine-R-sulfoxide reductase B1-A (msrb1). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of msrb1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for msrb1. It may not necessarily be applicable to this product.

NCBI GI #	46048169
NCBI GeneID	352916
NCBI Accession #	NP_840073.2
UniProt Primary Accession #	Q802G6
UniProt Secondary Accession #	Q6NWX6
UniProt Related Accession #	Q802G6

GenBank Nucleotide #	NM_178288.5
NCBI Official Full Name	methionine-R-sulfoxide reductase B1-A
NCBI Official Synonym Full Names	methionine sulfoxide reductase B1a
NCBI Official Symbol	msrb1a
NCBI Official Synonym Symbols	MsrB; SePR; selx; cb687; sepx1; SelX-A; sepx1a; MsrB1-A; wu:fa03e09
UniProt Protein Name	Methionine-R-sulfoxide reductase B1-A
UniProt Synonym Protein Names	Selenoprotein X-A; SePR; SelX-A
Protein Family	Methionine-R-sulfoxide reductase
UniProt Gene Name	msrb1
UniProt Synonym Gene Names	sepx1; sepx1a; MsrB; MsrB1-A; SePR; SelX-A
NCBI Protein Information	methionine-R-sulfoxide reductase B1-A
NCBI Summary for msrb1	The protein encoded by this gene belongs to the methionine-R-sulfoxide reductase B (MsrB) family. Members of this family function as repair enzymes that protect proteins from oxidative stress by catalyzing the reduction of methionine-R-sulfoxides to methionines. This protein is highly expressed in liver and kidney, and is localized to the nucleus and cytosol. It is the only member of the MsrB family that is a selenoprotein, containing a selenocysteine (Sec) residue at its active site. It also has the highest methionine-R-sulfoxide reductase activity compared to other members containing cysteine in place of Sec. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather than as a stop signal. A paralog of this gene (msrb1b) exists on chromosome 12. [provided by RefSeq, Oct 2016]
UniProt Comments for msrb1	Methionine-sulfoxide reductase that specifically reduces methionine (R)-sulfoxide back to methionine. While in many cases, methionine oxidation is the result of random oxidation following oxidative stress, methionine oxidation is also a post-translational modification that takes place on specific residue. Acts as a regulator of actin assembly by reducing methionine (R)-sulfoxide mediated by MICALs (mical1, mical2 or mical3) on actin, thereby promoting filament repolymerization. Plays a role in innate immunity by reducing oxidized actin, leading to actin repolymerization in macrophages.
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