Methionine-R-Sulfoxide Reductase B1 (MSRB1) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Methionine-R-sulfoxide reductase B1 (MSRB1), Recombinant Protein
Full Product Name	Recombinant Human Methionine-R-sulfoxide reductase B1 (MSRB1)
Product Gene Name	MSRB1 recombinant protein
Product Synonym Gene Name	MSRB1
Sequence	MSFCSFFGGE VFQNHFEPGV YVCAKCGYEL FSSRSKYAHS SPWPAFTETI HADSVAKRPE HNRSEALKVS CGKCGNGLGH EFLNDGPKPG QSRFUIFSSS LKFVPKGKET SASQGH
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	12,760 Da
Sequence Positions	1-116, 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.
OMIM	606216
3D Structure	ModBase 3D Structure for Q9NZV6
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for MSRB1 recombinant protein	This gene encodes a selenoprotein, which contains a selenocysteine (Sec) residue at its active site. The selenocysteine is encoded by the UGA codon that normally signals translation termination. The 3 UTR of selenoprotein genes have a common stem-loop structure, the sec insertion sequence (SECIS), that is necessary for the recognition of UGA as a Sec codon rather than as a stop signal. This protein belongs to the methionine sulfoxide reductase B (MsrB) family, and it is expressed in a variety of adult and fetal tissues.
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.
Searchable Terms for MSRB1 purchase	MBS1325449 is a recombinant protein targeting MSRB1. Also known as Recombinant Human Methionine-R-sulfoxide reductase B1 (MSRB1). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MSRB1. It may not necessarily be applicable to this product.

NCBI GI #	7706511
NCBI GeneID	51734

NCBI Accession #	NP_057416.1
UniProt Primary Accession #	Q9NZV6
UniProt Secondary Accession #	Q96RX6; Q9BTV2; Q9P0B1
UniProt Related Accession #	Q9NZV6
GenBank Nucleotide #	NM_016332.3
NCBI Official Full Name	methionine-R-sulfoxide reductase B1
NCBI Official Synonym Full Names	methionine sulfoxide reductase B1
NCBI Official Symbol	MSRB1
NCBI Official Synonym Symbols	SELR; SELX; SepR; SEPX1; HSPC270
UniProt Protein Name	Methionine-R-sulfoxide reductase B1
UniProt Synonym Protein Names	Selenoprotein X; SelX
Protein Family	Methionine-R-sulfoxide reductase
UniProt Gene Name	MSRB1
UniProt Synonym Gene Names	SEPX1; MsrB1; SelX
NCBI Protein Information	methionine-R-sulfoxide reductase B1
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 pseudogene of this locus has been identified on chromosome 19. [provided by RefSeq, Aug 2017]
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.
Research Articles on MSRB1	**1.** In vivo, MsrB1 shRNAi can inhibit lung metastasis in metastasis model. In conclusion, MsrB1 regulates proliferation and invasion of u2os cells by affecting MAPK pathway and EMT, and MsrB1 gene may be a novel therapeutic target against tumors.
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