

## SEPX1 Human

**Description:** SEPX1 Human Recombinant fused with a 20 amino acid His tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 136 amino acids (1-116 a.a.) and having a molecular mass of 14.8kDa. In bacteria, the selenocystein (Sec/U) element is positioned directly following the UGA codon within the reading frame for the selenoprotein so we mutated Sec-95 to Cys. The SEPX1 is purified by proprietary chromatographic techniques.

**Catalog #:** PRPS-267

For research use only.

**Synonyms:** Methionine-R-sulfoxide reductase B1, MsrB1, Selenoprotein X, SelX, SEPX1, SELR, SELX, HSPC270, MGC3344.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered colorless solution.

**Amino Acid Sequence:** MGSSHHHHHH SSGLVPRGSH MSFCSFFGGE VFQNHFEFPGV  
YVCAKCGYEL FSSRSKYAHS SPWPAFTETI HADSVAKRPE HNRSEALKVS CGKCGNGLGH  
EFLNDGPKPG QSRFCIFSSS LKFVPGKGT SASQGH.

**Purity:** Greater than 90.0% as determined by SDS-PAGE.

### Formulation:

The SEPX1 solution (0.5 mg/ml) contains 20mM Tris-HCl Buffer (pH 7.5), 1mM DTT, 0.1mM PMSF, 2mM EDTA and 10% Glycerol.

### Stability:

SEPX1 should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### Introduction:

Methionine sulfoxide reductase B1 (SEPX1 or MSRB1), is a selenoprotein that contains a selenocysteine (Sec) residue at its active site. The selenocysteine is encoded by the UGA codon that usually signals translation termination. SEPX1 is a member of the methionine sulfoxide reductase B (MsrB) family, and is expressed in an assortment of adult and fetal tissues. MSRs (Methionine sulfoxide reductases) catalyze the reduction of free and protein-bound methionine sulfoxides to corresponding methionines. The oxidation of methionine by ROS creates a diastereomeric mixture of methionine-S-sulfoxide (Met-S-SO) and methionine-R-sulfoxide (Met-R-SO). Two separate enzyme families evolved for reduction of these sulfoxides, with methionine-S-sulfoxide reductase (MsrA) being stereospecific for Met-S-SO and methionine-R-sulfoxide reductase (MsrB) for Met-R-SO.

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