

Selenoprotein M Protein, Human, Recombinant (His)

General Information

Synonyms:	SEPM
Protein Construction:	A DNA sequence encoding the mature form of human SELM (Q8WWX9) (Ala 24-Leu 145) was fused with a polyhistidine tag at the C-terminus and an initial Met at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q8WWX9
Molecular Weight:	15.4kDa (predicted); 19 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 50 mM Tris, 50 mM NaCl, 50 mM Arg, 0.3% Tween 20, 5% glycerol, pH 8.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Selenoprotein M is a selenoprotein, which contains a selenocysteine (Sec) residue at its active site. The selenocysteine M 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 gene is expressed in a variety of tissues, and the protein is localized to the perinuclear structures. Selenoprotein M May function as a thiol-disulfide oxidoreductase that participates in disulfide bond formation. This protein is widely expressed and is highly expressed in brain. It is found in Cytoplasm, perinuclear region, Endoplasmic reticulum, Golgi apparatus. Localized to perinuclear structures corresponding to Golgi and endoplasmic reticulum. Experiments results have suggested that selenoprotein M may have an important role in protecting against oxidative damage in the brain and may potentially function in calcium regulation.

Reference

Reeves MA,et al.(2010) The neuroprotective functions of selenoprotein M and its role in cytosolic calcium regulation. *Antioxid Redox Signal.* 12(7): 809-18.

Lu W,et al.(2012) Reproductive function of Selenoprotein M in Chinese mitten crabs (*Eriocheir sinensis*). *Peptides.* 34 (1): 168-76.

Garcia-Triana A,et al.(2010) Expression and silencing of Selenoprotein M (SelM) from the white shrimp *Litopenaeus vannamei*: effect on peroxidase activity and hydrogen peroxide concentration in gills and hepatopancreas. *Comp Biochem Physiol A Mol Integr Physiol.* 155(2): 200-4.

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