

SMIM4 Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702446
Synonyms:	Ubiquinol-cytochrome-c reductase complex assembly factor 5; Small integral membrane protein 4
Species:	Human
Source:	E. coli Cell-free
Accession:	Q8WV10 (M1-E70)
Gene ID:	440957
Molecular Weight:	11.5 kDa

PROPERTIES

AA Sequence	M F T R A Q V R R I L Q R V P G K Q R F G I Y R F L P F F F V L G G T M E W I M I K V R V G Q E T F Y D V Y R R K A S E R Q Y Q R R L E D E
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	SMIM4 is essential for the assembly and stability of the mitochondrial ubiquinol-cytochrome c reductase complex, also known as complex III or the cytochrome b-c1 complex. This multisubunit transmembrane complex plays a crucial role in the mitochondrial electron transport chain (ETC), which, in turn, drives oxidative phosphorylation. Beyond its involvement in the early biogenesis of complex III, SMIM4 participates in the regulation of electron transport chain protein levels, contributing to the dynamic adjustment of energy supply in response to changes in energy demand. Additionally, SMIM4 plays a role in the initial steps of cytochrome c oxidase complex (complex IV) assembly. It forms associations with the mitochondrial ribosome and interacts with UQCC6, facilitating the synthesis and membrane insertion of MT-CYB. Notably, SMIM4 is a key component of the COMB (coordinator of mitochondrial CYTB biogenesis) complex, working in concert with UQCC1, UQCC2, UQCC4, UQCC5, and UQCC6 to regulate MT-CYB synthesis and promote its effective integration into the
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mitochondrial membrane.

Caution: Product has not been fully validated for medical applications. For research use only.

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