

## FXN Protein, Rat

<b>Cat. No.:</b>	HY-P72200
<b>Synonyms:</b>	Frataxin; mitochondrial; Fxn; EC 1.16.3.1; Frataxin intermediate form; Frataxin mature form
<b>Species:</b>	Rat
<b>Source:</b>	E. coli
<b>Accession:</b>	D3ZYW7 (L41-T208)
<b>Gene ID:</b>	499335
<b>Molecular Weight:</b>	Approximately 18.6 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> L H V T A N A D A I   R H S H L N L H Y L   G Q I L N I K K Q S   V C V V H L R N S G T L G N P S S L D E   T A Y E R L A E E T   L D A L A E F F E D   L A D K P Y T L K D Y D V S F G D G V L   T I K L G G D L G T   Y V I N K Q T P L L   Y L W F S G P C S G P K R Y D W T G K N   W V Y S H D G V S L   H E L L A R E L T E   A L N T K L D L S S L A Y S G K G T           </pre>
<b>Biological Activity</b>	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm solution of Tris-based buffer, 50% Glycerol.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>FXN Protein acts as an activator in the persulfide transfer process within the core iron-sulfur cluster (ISC) assembly complex, essential for [2Fe-2S] cluster assembly. It facilitates sulfur transfer from NFS1 persulfide intermediate to ISCU and small thiols like L-cysteine and glutathione, leading to persulfuration and sulfide release. During [2Fe-2S] cluster assembly, FXN binds ferrous ion and is released upon the addition of L-cysteine and reduced FDX2. The ISC assembly complex, comprising FXN, NFS1, LYRM4, NDUFAB1, and FDX2, initiates de novo synthesis of [2Fe-2S] clusters, transferring them to chaperone proteins like HSCB, HSPA9, and GLRX5. FXN may protect against iron-catalyzed oxidative stress, displaying ferroxidase</p>
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activity in its oligomeric form. It might function as an iron chaperone, safeguarding aconitase [4Fe-4S]<sup>2+</sup> clusters, participating in mitochondrial heme biosynthesis, and modulating the RNA-binding activity of ACO1. Additionally, FXN could contribute to cytoplasmic iron-sulfur protein biogenesis, oxidative stress resistance, and overall cell survival.

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

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