

COX4I1 Protein, Human (His-SUMO)

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| Cat. No.: | HY-P72150 |
| Synonyms: | AL024441; COX 4; COX IV 1; COX IV; COX IV-1; Cox4; COX41_HUMAN; Cox4a; COX4B; COX4I1; COX4I2; COX4L2; COXIV; Cytochrome c oxidase polypeptide IV; Cytochrome c oxidase subunit 4 isoform 1 mitochondrial; Cytochrome c oxidase subunit 4 isoform 1, mitochondrial; Cytochrome C Oxidase subunit IV; Cytochrome c oxidase subunit IV isoform 1; Cytochrome c oxidase subunit IV isoform 2 lung; ; Cytochrome c oxydase subunit 4; dJ857M17.2; MGC105470; MGC72016 |
| Species: | Human |
| Source: | E. coli |
| Accession: | P13073 (A23-K169) |
| Gene ID: | 1327 |
| Molecular Weight: | Approximately 33.2 kDa |

PROPERTIES

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| AA Sequence | <pre> A H E S V V K S E D F S L P A Y M D R R D H P L P E V A H V K H L S A S Q K A L K E K E K A S W S S L S M D E K V E L Y R I K F K E S F A E M N R G S N E W K T V V G G A M F F I G F T A L V I M W Q K H Y V Y G P L P Q S F D K E W V A K Q T K R M L D M K V N P I Q G L A S K W D Y E K N E W K K </pre> |
| Biological Activity | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized from a 0.2 µm solution of Tris-based buffer, 50% Glycerol. |
| 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. |
| 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

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| Background | COX4I1, a vital constituent of the cytochrome c oxidase, serves as a pivotal component in the mitochondrial electron transport chain, culminating in oxidative phosphorylation. This respiratory chain encompasses three multisubunit complexes—succinate dehydrogenase (complex II, CII), ubiquinol-cytochrome c oxidoreductase (cytochrome b-c1 complex, complex III, CIII), and cytochrome c oxidase (complex IV, CIV)—that collaboratively facilitate the transfer of electrons from NADH and succinate to molecular oxygen. This intricate process generates an electrochemical gradient across the inner |
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membrane, propelling transmembrane transport and fueling ATP synthase. Specifically, cytochrome c oxidase orchestrates the reduction of oxygen to water. The electron transfer from reduced cytochrome c in the intermembrane space involves intermediates, such as the dinuclear copper A center (CU(A)) in subunit 2 and heme A in subunit 1, ultimately converging at the active site in subunit 1—a binuclear center (BNC) comprised of heme A₃ and copper B (CU(B)). The BNC efficiently reduces molecular oxygen to two water molecules, utilizing four electrons from cytochrome c in the intermembrane space and four protons from the mitochondrial matrix. COX4I1 thus plays a central role in energy metabolism, contributing to the intricate processes of oxidative phosphorylation.

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

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