

Recombinant Human CCS protein

Cat. No. CCS-189H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CCS(1-274aa) was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	1-274 a.a.
Description	Superoxide dismutase (SOD) is an antioxidant enzyme involved in the defense system against reactive oxygen species (ROS). SOD catalyzes the dismutation reaction of superoxide radical anion (O₂⁻) to hydrogen peroxide, which is then catalyzed to innocuous O₂ and H₂O by glutathione peroxidase and catalase. Several classes of SOD have been identified. These include intracellular copper, zinc SOD (Cu, Zn-SOD/SOD-1), mitochondrial manganese SOD (Mn-SOD/SOD-2) and extracellular Cu, Zn-SOD (EC-SOD/SOD-3). SOD-1 is found in all eukaryotic species as a homodimeric 32 kDa enzyme containing one each of Cu and Zn ion per subunit. The manganese containing 80 kDa tetrameric enzyme SOD-2, is located in the mitochondrial matrix in close proximity to a primary endogenous source of superoxide, the mitochondrial respiratory chain. SOD-3 is a heparin-binding multimer of disulfide-linked dimers, primarily expressed in human lungs, vessel walls and airways. SOD-4 is a copper chaperone for superoxide dismutase (CCS), which specifically delivers Cu to copper/zinc superoxide dismutase. CCS may activate copper/zinc superoxide dismutase through direct insertion of the Cu cofactor.

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Form	Lyophilized from 20mM HEPES, pH 7.4
Molecular Mass	29 kDa
Purity	> 95% by SDS-PAGE
Storage	Store at -20 centigrade. After reconstitution, store at -80 centigrade and avoid frequent freeze and thaw.

GENE INFORMATION

Gene Name	CCS copper chaperone for superoxide dismutase [Homo sapiens]
Official Symbol	CCS
Synonyms	CCS; copper chaperone for superoxide dismutase; superoxide dismutase copper chaperone; MGC138260;
Gene ID	9973
mRNA Refseq	NM_005125
Protein Refseq	NP_005116
MIM	603864
UniProt ID	O14618
Chromosome Location	11
Pathway	Amyotrophic lateral sclerosis (ALS), organism-specific biosystem; Amyotrophic lateral

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sclerosis (ALS), conserved biosystem;

Function

copper ion binding; copper ion transmembrane transporter activity; metal ion binding; protein binding; NOT superoxide dismutase activity; superoxide dismutase copper chaperone activity; zinc ion binding;

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