

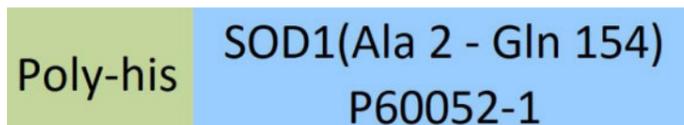
**Synonym**

SOD1, Superoxide dismutase 1, hSod1

**Source**

Human SOD1, His Tag(SO1-H5148) is expressed from E. coli cells. It contains AA Ala 2 - Gln 154 (Accession # [P60052-1](#)).

Predicted N-terminus: Met

**Molecular Characterization**

This protein carries a polyhistidine tag at the N-terminus

The protein has a calculated MW of 16.8 kDa. The protein migrates as 19-21 kDa under reducing (R) condition (SDS-PAGE).

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>97% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

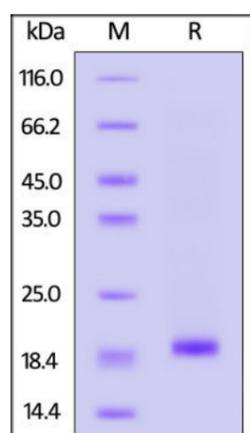
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human SOD1, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 97%.

**Bioactivity**

Measured by its ability to catalyzes the dismutation of the superoxide anion into hydrogen peroxide and molecular oxygen. One Unit is defined as the amount of SOD that inhibits the xanthine oxidase activity by 50% (IC<sub>50</sub> (µg)) under the assay conditions. The specific activity is >40,000 U/mg (QC tested).

## Background

Superoxide dismutase [Cu-Zn] (SOD1) is also known as superoxide dismutase 1 (hSod1), an enzyme that in humans is encoded by the SOD1 gene, located on chromosome 21. SOD1 can bind copper and zinc ions and is one of three superoxide dismutases responsible for destroying free superoxide radicals in the body. The encoded isozyme (SOD1) is a soluble cytoplasmic and mitochondrial intermembrane space protein, acting as a homodimer to convert naturally occurring, but harmful, superoxide radicals to molecular oxygen and hydrogen peroxide. Furthermore, the mutations of SOD1 gene can result in a neurodegenerative disorder affecting upper motor neurons in the brain and lower motor neurons in the brain stem and spinal cord.

## Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.