

Human SOD1 / Cu-Zn SOD Pre-formed Fibrils Protein, His Tag

Catalog # SO1-H5146



Synonyms

SOD1, Superoxide dismutase 1, hSod1

Source

Human SOD1 Pre-formed Fibrils Protein, His Tag (SO1-H5146) is expressed from *E. coli* cells. It contains AA Ala 2 - Gln 154 (Accession # [P00441](#)).

Predicted N-terminus: Met

Molecular Characterization

Poly-his	SOD1(Ala 2 - Gln 154) P00441
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This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 16.8 kDa.

Application

1. Sonication Conditions, Dissolution, Aliquoting, Storage, and Notes for PFF

Thawing: Thaw PFFs rapidly in a 37 °C water bath, or allow to thaw at room temperature.

Aliquoting: Since PFFs are supplied as a suspension, pipette up and down thoroughly before aliquoting to ensure homogeneity.

Storage: Store at -80 °C at all times; avoid storage at 4 °C or -20 °C, which can induce fibril depolymerization. * α -Syn fibrils cold-denatured to monomers at 0-20 °C and heat-denatured at 60-110 °C.

Sonication: The sonication protocols below are based on cell-based assay conditions.

-Option 1 (Probe Sonicator): Use a probe sonicator (SCIENZ) at 10% power (-95 W), applying 60 pulses of 0.5 s on/0.5 s off (recommended).

-Option 2 (Ultrasonic Bath): Sonicate in an ultrasonic cleaner (40 kHz, 200-400 W) at 37 °C for 1 hour; avoid performing the treatment at 4 °C or 20 °C.

Note: The above sonication protocols are based on cell-based assays; other applications (e.g., in vivo injections) may require optimization-users should determine their optimal settings for their specific use case.

2. Recommendations for PFF Use in Animal Models

Minimize Freeze-Thaw Cycles: For animal studies, it is recommend to use the PFF at once or aliquot before use to avoid repeated freeze-thaw cycles.

PFF Maintenance During Injections: During stereotaxic injections, keep the sonicated PFFs in a 37 °C water bath to prevent re-aggregation or sedimentation.

Purity

>90% as determined by SDS-PAGE.

Formulation

Supplied as 0.2 μ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Shipping and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

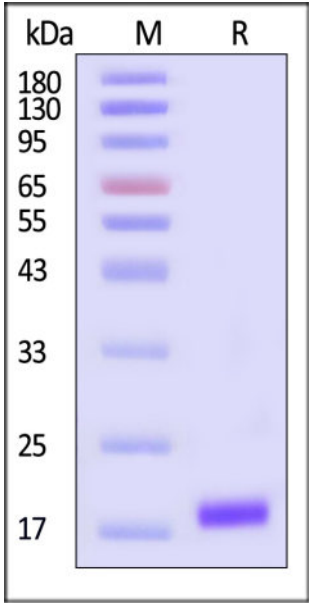
This product is stable after storage at:

- The product should be stored at -70°C or room temperature for short storage. Do not store fibrils on ice or at 4°C;
- The unsonicated fibril is validated to be stable after storage at -70°C for 1 year under sterile conditions;
- The sonicated fibril should be stored at -70°C for not more than 8 weeks.

ACRO Quality Management System

- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

SDS-PAGE



SOD1 / Cu-Zn SOD monomer on SDS-PAGE under reducing (R) condition.
The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

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 SOD2 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.



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