abcam

Product datasheet

Recombinant human Superoxide Dismutase 1 protein ab74916

1 Image

Description

Product name	Recombinant human Superoxide Dismutase 1 protein
Biological activity	Specific activity is > 90 units/mg, in which one unit will inhibit the rate of reduction of cytochrome c by 50% in a coupled system, using xanthine and Xanthine oxidase at pH 7.8 at 25°C in a 1.5 ml reaction volume. **Activity Assay** Prepare a 1.5 ml reaction mix into a suitable container and pre-chill on ice before use: The final concentrations are 50mM potassium phosphate, 0.1mM ethylendiaminetetraacetic acid, 0.01mM cytochrome C 0.05mM xanthine, 0.005 units xanthine oxidase. Equilibrate to 25°C and monitor at A550nm until the value is constant using a spectrophotometer. Add 50 ul of recombinant SOD protein in various concentrations (0.5ug, 1ug) in assay buffer. Mix by inversion and record the increase at A550nm for 5 minutes.
Purity	> 95 % SDS-PAGE. ab74916 is purified by conventional chromatography techniques.
Expression system	Escherichia coli
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MATKAVCVLK GDGPVQGIIN FEQKESNGPV KVWGSIKGLT EGLHGFHVHE FGDNTAGCTS AGPHFNPLSR KHGGPKDEER HVGDLGNVTA DKDGVADVSI EDSVISLSGD HCIIGRTLVV HEKADDLGKG GNEESTKTGN AGSRLACGVI GIAQ

Specifications

Our **Abpromise guarantee** covers the use of **ab74916** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE

Form	Liquid

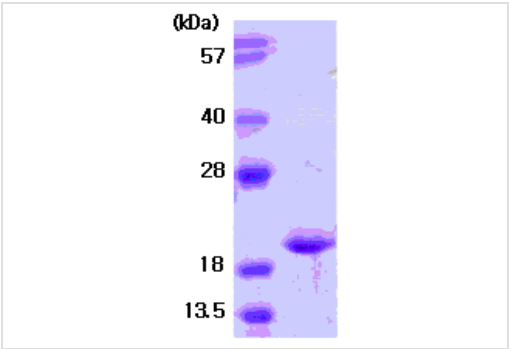
Preparation and Storage

Stability and Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.242% Tris, 10% Glycerol (glycerin, glycerine) This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

Function	Destroys radicals which are normally produced within the cells and which are toxic to biological systems.
Involvement in disease	Defects in SOD1 are the cause of amyotrophic lateral sclerosis type 1 (ALS1) [MIM:105400]. ALS1 is a familial form of amyotrophic lateral sclerosis, a neurodegenerative disorder affecting upper and lower motor neurons and resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology of amyotrophic lateral sclerosis is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10% of cases leading to familial forms.
Sequence similarities	Belongs to the Cu-Zn superoxide dismutase family.
Post-translational modifications	Unlike wild-type protein, the pathogenic variants ALS1 Arg-38, Arg-47, Arg-86 and Ala-94 are polyubiquitinated by RNF19A leading to their proteasomal degradation. The pathogenic variants ALS1 Arg-86 and Ala-94 are ubiquitinated by MARCH5 leading to their proteasomal degradation. The ditryptophan cross-link at Trp-33 is reponsible for the non-disulfide-linked homodimerization. Such modification might only occur in extreme conditions and additional experimental evidence is required.
Cellular localization	Cytoplasm. The pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.

Images



SDS-PAGE - Recombinant human Superoxide Dismutase 1 protein (ab74916)

15% SDS-PAGE of ab74916 (3µg).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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