

## Product datasheet

# Recombinant human Superoxide Dismutase 1 protein ab201438

### Description

<b>Product name</b>	Recombinant human Superoxide Dismutase 1 protein	
<b>Biological activity</b>	Fully biologically active when compared to standard.  The potency per mg was determined by Pyrogallic Acid method and was found to be more than $1.0 \times 10^4$ IU/mg.	
<b>Purity</b>	> 95 % SDS-PAGE. > 95 % by HPLC.	
<b>Expression system</b>	Escherichia coli	
<b>Accession</b>	<a href="#">P00441</a>	
<b>Protein length</b>	Full length protein	
<b>Animal free</b>	No	
<b>Nature</b>	Recombinant	
<b>Species</b>	Human	
<b>Sequence</b>	MGHHHHHHHHHSSGHIEGRHMTYARAAARQARALE ATKAVCVLKGDGPV QGIINFEQKESNGPVKVVWGSIKGLTEGLHGFHVHEFGD NTAGCTSAGPHF NPLSRKHGGPKDEERHVGDLGNVTADKDGADVSIIE DSVISLSGDHCIIG RTLVVHEKADDLGKGGNEESTKTGNAGSRLACGVIGIA Q	
<b>Predicted molecular weight</b>	40 kDa including tags	
<b>Amino acids</b>	2 to 154	
<b>Tags</b>	His tag N-Terminus	
<b>Additional sequence information</b>	A homodimer, non-glycosylated polypeptide chain containing $2 \times 189$ amino acids with Met, Gly and $10 \times$ His at N-terminus.	

### Specifications

Our [Abpromise guarantee](#) covers the use of **ab201438** in the following tested applications.

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

<b>Applications</b>	SDS-PAGE
	Functional Studies
	HPLC
<b>Form</b>	Lyophilised

---

## Preparation and Storage

<b>Stability and Storage</b>	<p>Shipped at 4°C. Store at -20°C long term. Avoid freeze / thaw cycle.</p> <p>pH: 7.40</p> <p>Constituent: 100% PBS</p> <p>0.2µm filtered</p> <p>This product is an active protein and may elicit a biological response in vivo, handle with caution.</p>
<b>Reconstitution</b>	<p>Briefly centrifuge prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at &lt;-20°C. Further dilutions should be made in appropriate buffered solutions.</p>

---

## General Info

<b>Function</b>	Destroys radicals which are normally produced within the cells and which are toxic to biological systems.
<b>Involvement in disease</b>	<p>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.</p>
<b>Sequence similarities</b>	Belongs to the Cu-Zn superoxide dismutase family.
<b>Post-translational modifications</b>	<p>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.</p> <p>The ditryptophan cross-link at Trp-33 is responsible for the non-disulfide-linked homodimerization. Such modification might only occur in extreme conditions and additional experimental evidence is required.</p>
<b>Cellular localization</b>	Cytoplasm. The pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.

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

---

## Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet

- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
  
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### **Terms and conditions**

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors