

# Active Superoxide Dismutase 1 (SOD1) Instruction Manual

## SBPB285Hu01

### Homo sapiens (Human)

<b>Buffer Formulation</b>	PBS, pH7.4, containing 5% Trehalose.
<b>Traits</b>	Freeze-dried powder
<b>Purity</b>	> 90%
<b>Isoelectric Point</b>	6.1
<b>Applications</b>	Cell culture; Activity Assays.

### ACTIVITY TEST

Calculation

$$\text{SOD3 activity (U/mg)} = \frac{0.070 - A_{325} / \text{min}}{0.070} \times 100\% / M$$

50%

Where:

0.070=pyrogallol autoxidation rate

A325/min= inhibition pyrogallol autoxidation rate of SOD1

M=mass of enzyme

Superoxide Dismutase 1 (SOD1) is an enzyme that in human is encoded by the SOD1 gene. This gene encodes a member of the superoxide dismutase (SOD) protein family. SODs are antioxidant enzymes that catalyze the dismutation of two superoxide radicals into hydrogen peroxide and oxygen. According to the report, in a weakly alkaline buffer solution (pH=8.2) with N-tris(hydroxymethyl)amino methane-HCL, pyrogallol can occur autoxidation in the air, then SOD can inhibit this reaction. Thus, we use this way to measure the activity of recombinant human SOD1. The reaction was performed in adding 7 µl 5 mmol/L pyrogallol to 200 µl 50 mmol/L Tris-HCl, rapidly mixing at 25 °C, then read at 325 nm (using 50mmol/L Tris-HCl as blank control) in kinetic mode for 3 minutes using a microplate reader controlling the pyrogallol autoxidation rate at 0.70 OD/min. Different concentrations of recombinant human SOD1 were added into 200 µl 50 mmol/L Tris-HCl, incubated for 20min at 25 °C, then adding 7µl 5mmol/L pyrogallol to each well, rapidly mixing and read at 325 nm in kinetic mode for 3 minutes. Under these conditions, the enzyme amount of 50% inhibition of pyrogallol autoxidation per minute is defined as a unit. The specific activity of recombinant human SOD1 is 732 U/mg.

## USAGE

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

## STORAGE

Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months.

## STABILITY

The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

### Image

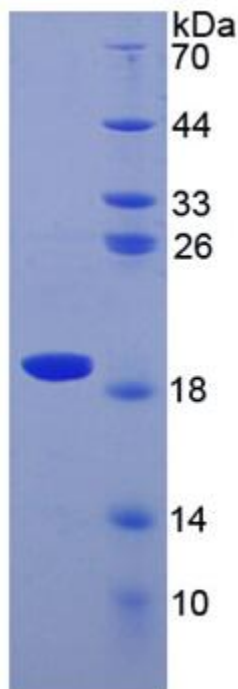


Figure. SDS-PAGE

**[IMPORTANT NOTE]**

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.