

Active Superoxide Dismutase 3, Extracellular (SOD3) Instruction Manual

SBPA075Mu01

Mus musculus (Mouse)

Buffer Formulation

20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA,
1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.

Traits

Freeze-dried powder

Purity

> 90%

Isoelectric Point

6.8

Applications

Cell culture; Activity Assays.

ACTIVITY TEST

Calculation:

$$\text{SOD3 activity (U/mL)} = \frac{\frac{0.070 - A_{325} / \text{min}}{0.070} \times 100\%}{50\%} \times 0.93 / V \times N$$

Where:

0.070=pyrogallol autoxidation rate

A₃₂₅/min= inhibition pyrogallol autoxidation rate of SOD3

0.93=total volume in cuvette

V=sample volume

N=dilution factor

Specific SOD3 activity (U/mg)=SOD3 activity/amount of SOD3 in 1mL.

The specific activity of recombinant mouse SOD3 is 273.8U/mg.

Extracellular superoxide dismutase [Cu-Zn] is an enzyme that in humans is encoded by the SOD3 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 mouse SOD3. The reaction was performed in adding 30μL 50mmol/L pyrogallol to 900μL 50mmol/L Tris-HCl in 1.5mL cuvette (1.0cm light path), rapidly mixing at 25°C, then read at 325nm (zero the spectrophotometer using 50mmol/L Tris-HCl), record the OD value every 30 second for 6 times. Control the pyrogallol autoxidation rate at 0.70 OD/min. After, adding various concentrations of recombinant of SOD3 to 900μL 50mmol/L Tris-HCl, incubated for 20min at 25°C, then adding 30μL 50mmol/L pyrogallol to each tube, rapidly mixing and read at 325nm, record the OD value every 30 second for 6 times. Under these conditions, the enzyme amount of 50% per minute inhibition of pyrogallol autoxidation is defined as a unit.

USAGE

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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

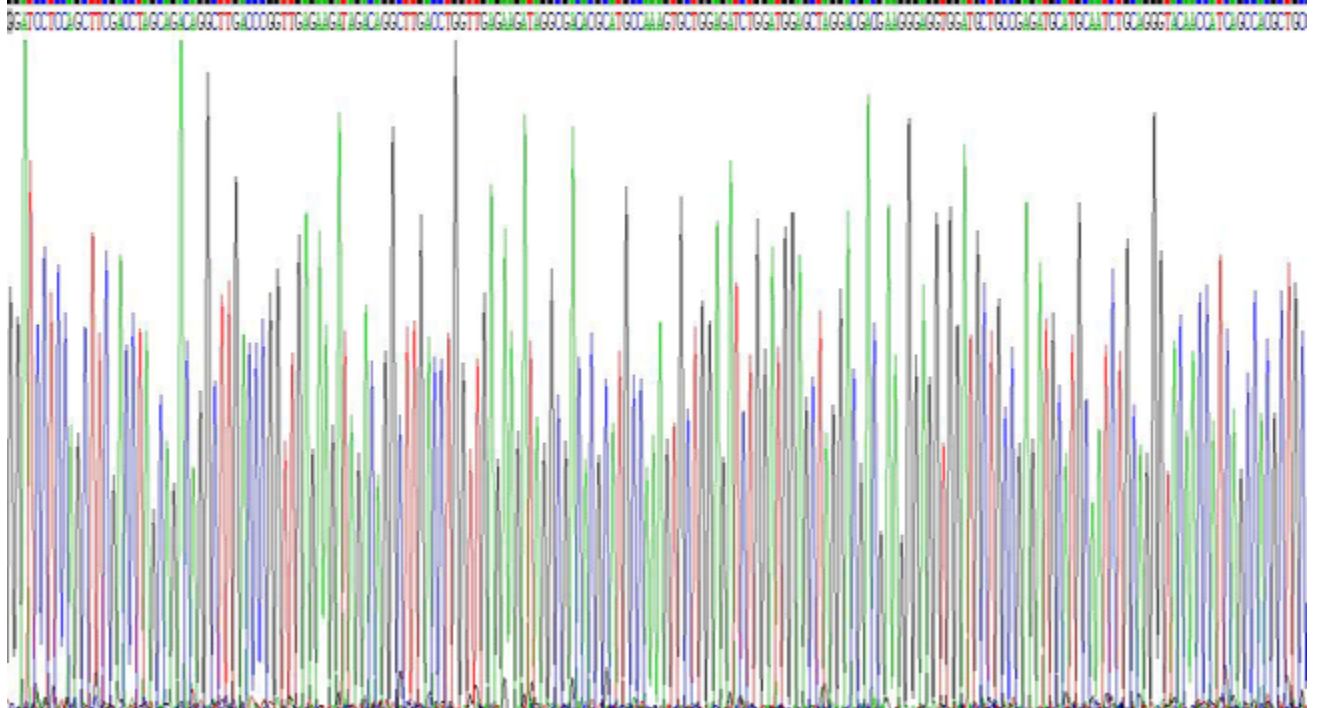


Figure . Gene Sequencing (extract)

Image

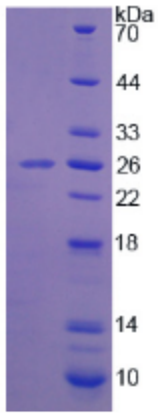


Figure. SDS-PAGE

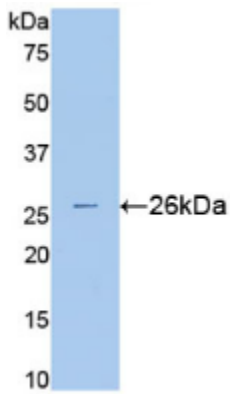


Figure. Western Blot

[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.