APB083Mu01 100μg
Active Superoxide Dismutase 2, Mitochondrial (SOD2)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Lys25~Lys222
Tags: N-terminal His-tag
Purity: >98%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5% Trehalose.
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 7.3
Predicted Molecular Mass: 23.5kDa
Accurate Molecular Mass: 23kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

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

[STORAGE AND STABILITY]

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

Stability Test: 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 37ºC 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.

[SEQUENCE]

KHSLPD LPYDYGALEP HINAQIMQLH HSKHHAAYVN NLNATEEKYH EALAKGDVTT QVALQPALKF NGGGHINHTI FWTNLSPKGG GEPKGELLEA IKRDFGSFEK FKEKLTAVSV GVQGSGWGWL GFNKEQGRLQ IAACSNQDPL QGTTGLIPLL GIDVWEHAYY LQYKNVRPDY LKAIWNVINW ENVTERYTAC KK

[ACTIVITY]

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. Acroding 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 measued the activity of recombinant mouse SOD2.The reaction was performed in adding 15μl 5mmol/L pyrogallol to 900μl 50mmol/L Tris-HCl in 1.5ml cuvette(1.0 cm light path),rapidly mixing at 25 ℃,then read at 325nm(zero the spectrophotometer using 50mmol/L Tris-HCl) , reacod 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 SOD2 to 900 μl 50mmol/L Tris-HCl, incubated for 20min at 25 ℃, then adding 15μl 5mmol/L pyrogallol to each tube, rapidly mixing and read at 325nm, reacod the OD value every 30 second for 6 times. Under these conditions, the enzyme amount of 50% per minute inhibition of pyrogallol autooxidation is defined as a unit.

Calculation

$$\text{SOD2 activity（U/ml）} = \frac{\frac{0.070 - A325/\min}{0.070} \times 100\%}{50\%} \times 0.915/V \times N$$

Where：

0.070=pyrogallol autoxidation rate
A325/min= inhibition pyrogallol autoxidation rate of SOD2
0.915= total volume in cuvette
V=sample volume
N=dilution factor

Specific SOD2 activity (U/mg)=SOD2 activity/amount of SOD2in 1ml.
The specific activity of recombinant mouse SOD2 is 338U/mg

[IDENTIFICATION]

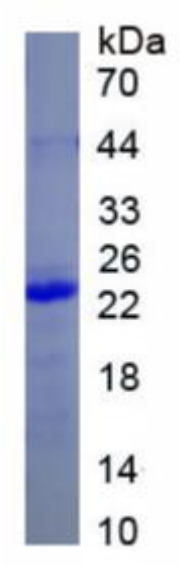

Figure 1. SDS-PAGE

Sample: Active recombinant SOD2, Mouse

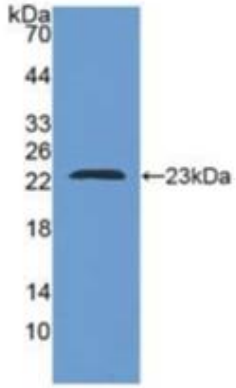

Figure2. Western Blot

Sample: Recombinant SOD2, Mouse;

Antibody: Rabbit Anti- Mouse SOD2 Ab (PAB083Mu01)

[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.