

Superoxide Dismutase 3, Extracellular (SOD3) Active Protein | SOD3 active protein

Active Superoxide Dismutase 3, Extracellular (SOD3)

CATALOG # AAA161691	HOST 293F cell	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Superoxide Dismutase 3; Extracellular (SOD3); Active Superoxide Dismutase 3; Extracellular; SOD3 active protein (eukaryotic; 293F cell); Human; SOD-3; EC-SOD; Extracellular Superoxide Dismutase Cu-Zn4; SOD3 active protein

PRODUCT SPECIFICATIONS

Host	293F cell
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Trp19~Ala2 40
Applicable Applications for SOD3 active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Eukaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.3
Research Area	Enzyme & Kinase
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

IMAGES

Calculation

$$\text{SOD3 activity (U/mg)} = \frac{\frac{0.070 - A_{325} / \text{min}}{0.070} \times 100\%}{50\%} / M$$

Where :

0.070=pyrogallol autooxidation rate

A325/min= inhibition pyrogallol autooxidation rate of SOD3

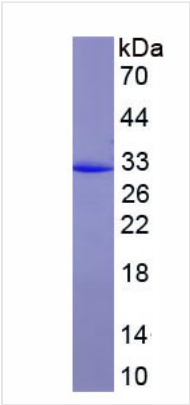
M=mass of enzyme

Bioactivity

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 autooxidation in the air, then SOD can inhibit this reaction. Thus, we use this way to measure the activity of recombinant human SOD3. The reaction was performed in adding 8 ul 5 mmol/L pyrogallol to 200 ul 50mmol/L Tris-HCl, rapidly mixing at 25 degree 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 autooxidation rate at 0.70 OD/min. Different concentrations of recombinant human SOD3 were added into 200 ul 50 mmol/L Tris-HCl, incubated for 20 min at 25 degree C, then adding 8 ul 5 mmol/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 autooxidation per minute is defined as a unit. The specific activity of recombinant human SOD3 is 846.6 U/mg.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for SOD3 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	108885292
NCBI GeneID	6649
UniProt Accession #	P08294; Q5U781; Q6FHA2
Molecular Weight	240
NCBI Official Full Name	Extracellular superoxide dismutase
NCBI Official Synonym Full Names	superoxide dismutase 3, extracellular
NCBI Official Symbol	SOD3
NCBI Official Synonym Symbols	EC-SOD
NCBI Protein Information	extracellular superoxide dismutase [Cu-Zn]; extracellular superoxide dismutase [Cu-Zn]
UniProt Protein Name	Extracellular superoxide dismutase [Cu-Zn]
UniProt Gene Name	SOD3
UniProt Synonym Gene Names	EC-SOD
UniProt Entry Name	SODE_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.