



Rat Superoxide dismutase [Mn], mitochondrial(SOD2) ELISA kit

Product Code	CSB-EL022398RA
Abbreviation	SOD2
Target Name	superoxide dismutase 2, mitochondrial
Uniprot No.	P07895
Alias	IPO-B, MNSOD, MVCD6, Mn-SOD, Mn superoxide dismutase indophenoloxidase B manganese-containing superoxide dismutase mangano-superoxide dismutase
Product Type	ELISA Kit
Immunogen Species	Rattus norvegicus (Rat)
Sample Types	serum, plasma, tissue homogenates
Detection Range	1.87 pg/mL-120 pg/mL
Sensitivity	0.47 pg/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Metabolism
Gene Names	Sod2
Tag Info	quantitative
Protein Description	Sandwich

Description

The Rat Superoxide dismutase [Mn], mitochondrial (SOD2) ELISA kit is a powerful tool for researchers studying oxidative stress and metabolism in Rattus norvegicus (rat) samples. This ELISA kit is designed to accurately quantify SOD2 levels in serum, plasma, and tissue homogenates.

The Rat SOD2 ELISA kit has a detection range of 1.87 pg/mL-120 pg/mL and a sensitivity of 0.47 pg/mL, making it a highly precise tool for detecting even trace amounts of SOD2 in samples. With an assay time of 1-5 hours and a sample volume requirement of 50-100 ul.

The assay principle of the Rat SOD2 ELISA kit is quantitative and based on a sandwich measurement. The kit utilizes a high-quality antibody specific to SOD2, ensuring accurate and reliable results. The detection wavelength is 450 nm, providing a clear and precise readout of results.



The Rat SOD2 ELISA kit is a critical tool for researchers studying oxidative stress and metabolism. SOD2 plays a critical role in protecting cells from oxidative stress and is essential for maintaining cellular homeostasis. This kit has been specifically designed to accurately measure SOD2 levels in rat samples, making it an essential addition to any lab studying oxidative stress and metabolism.

Target Details

This gene is a member of the iron/manganese superoxide dismutase family. It encodes a mitochondrial protein that forms a homotetramer and binds one manganese ion per subunit. This protein binds to the superoxide byproducts of oxidative phosphorylation and converts them to hydrogen peroxide and diatomic oxygen. Mutations in this gene have been associated with idiopathic cardiomyopathy (IDC), premature aging, sporadic motor neuron disease, and cancer. Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%
Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%
Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of rat SOD2 in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

	Sample	Serum(n=4)
1:1000	Average %	89
	Range %	84-92
1:2000	Average %	95
	Range %	91-98
1:4000	Average %	88
	Range %	84-91
1:8000	Average %	99
	Range %	93-102

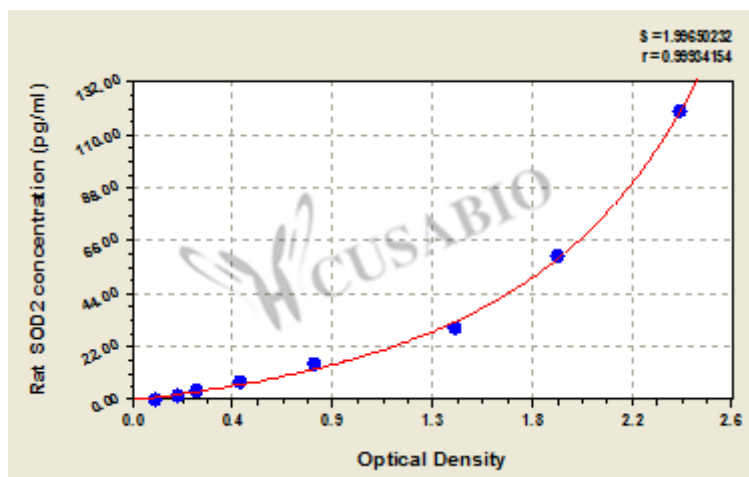
Recovery

The recovery of rat SOD2 spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	90	87-93
EDTA plasma (n=4)	101	98-104

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



pg/ml	OD1	OD2	Average	Corrected
120	2.427	2.398	2.413	2.307
60	1.887	1.862	1.875	1.769
30	1.449	1.402	1.426	1.320
15	0.803	0.813	0.808	0.702
7.5	0.492	0.466	0.479	0.373
3.75	0.292	0.287	0.290	0.184
1.87	0.202	0.213	0.208	0.102
0	0.107	0.105	0.106	

Msds

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