

Rabbit Monoclonal Antibody to Human Superoxide Dismutase 1, Soluble

Cat. No. CAB11605RH Lot. No. (See product label)

SPECIFICATION

Product Overview	Rabbit Monoclonal Antibody to Human Superoxide Dismutase 1, Soluble
Species	Human
Source	Rabbit
Antigen Description	Superoxide dismutase [Cu-Zn], also known as superoxide dismutase 1 and SOD1, is an enzyme that in humans is a cytoplasm protein which belongs to the Cu-Zn superoxide dismutase family. SOD1 binds copper and zinc ions and is one of three isozymes responsible for destroying free superoxide radicals in the body. SOD1 is a soluble cytoplasmic and mitochondrial intermembrane space protein, acting as a homodimer to convert naturally occurring, but harmful, superoxide radicals to molecular oxygen and hydrogen peroxide. SOD1 has a tendency to form fibrillar aggregates in the absence of the intramolecular disulfide bond or of bound zinc ions. These aggregates may have cytotoxic effects. Zinc binding promotes dimerization and stabilizes the native form. Defects in SOD1 are the cause of amyotrophic lateral sclerosis type 1 (ALS1) which is a familial form of amyotrophic lateral sclerosis, a neurodegenerative disorder affecting upper and lower motor neurons and resulting in fatal paralysis. Death usually occurs within 2 to 5 years. The disease is inherited in 5-10% of cases leading to familial forms.
Specificity	Human Superoxide Dismutase. No cross-reactivity with human cell lysate (293 cell line) in WB and ELISA.

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Immunogen	Recombinant human SOD1 protein
Isotype	Rabbit IgG
Clone	A102
Applications	Western blot; ELISA
Dilution	Western blot: This antibody can be used at 1 - 2 µg/mL with the appropriate secondary reagents to detect human SOD1 in WB. Using a DAB detection system, the detection limit for human SOD1 is approximately 0.25 ng/lane under non-reducing conditions and reducing conditions Direct ELISA: This antibody can be used at 0.1 - 0.2 µg/mL with the appropriate secondary reagents to detect human SOD1. The detection limit for human SOD1 is approximately 0.00245 ng/well
Preparation	This antibody was obtained from a rabbit immunized with purified, human cell-derived, recombinant human SOD1
Format	0.2 µm filtered solution in PBS with 5% trehalose
Storage	This antibody can be stored at 2-8°C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20 to -70 °C. Preservative-Free. Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be disposed of properly. Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	SOD1 superoxide dismutase 1, soluble [Homo sapiens]
Official Symbol	SOD1

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Synonyms	SOD1; superoxide dismutase 1, soluble; ALS, ALS1, amyotrophic lateral sclerosis 1 (adult); superoxide dismutase [Cu-Zn]; IPOA; SOD, soluble; indophenoloxidase A; Cu/Zn superoxide dismutase; superoxide dismutase, cystolic; ALS; SOD; ALS1; hSod1; homodimer;
Gene ID	6647
mRNA Refseq	NM_000454
Protein Refseq	NP_000445
MIM	147450
UniProt ID	P00441
Chromosome Location	21q22.11
Pathway	Amyotrophic lateral sclerosis (ALS), organism-specific biosystem; Amyotrophic lateral sclerosis (ALS), conserved biosystem; FOXA1 transcription factor network, organism-specific biosystem; Folate Metabolism, organism-specific biosystem; Hemostasis, organism-specific biosystem; Huntingtons disease, organism-specific biosystem; Huntingtons disease, conserved biosystem;
Function	chaperone binding; copper ion binding; metal ion binding; oxidoreductase activity; protein binding; protein homodimerization activity; protein phosphatase 2B binding; superoxide dismutase activity; zinc ion binding;