

Rabbit SOD1 Polyclonal Antibody | anti-SOD1 antibody

SOD1 Antibody

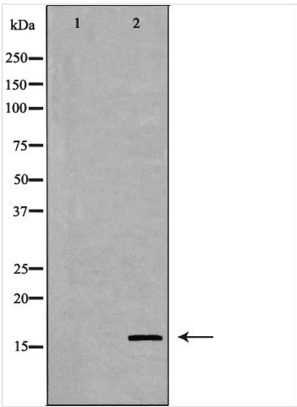
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA325873	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

SOD1; Polyclonal Antibody; SOD1 Antibody; ALS; ALS1; Amyotrophic lateral sclerosis 1 adult; Cu/Zn SOD; Cu/Zn superoxide dismutase; Epididymis secretory protein Li 44; HEL S 44; Homodimer; hSod1; Indophenoloxidase A; IPOA; Mn superoxide dismutase; SOD; SOD soluble; SOD2; SODC; SODC_HUMAN; Superoxide dismutase [Cu-Zn]; Superoxide dismutase 1; Superoxide dismutase 1 soluble; Superoxide dismutase Cu Zn; Superoxide dismutase cystolic; anti-SOD1 antibody

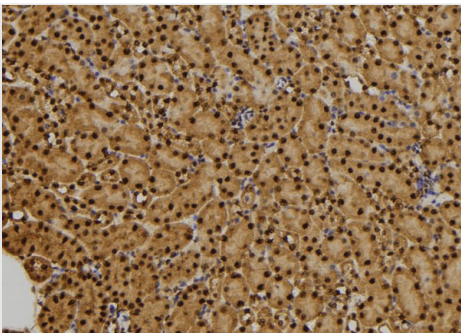
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	SOD1 antibody detects endogenous levels of total SOD1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	154
Applicable Applications for anti-SOD1 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human SOD1
Subcellular Location	Cytoplasm. The pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of extracts of HeLa using SOD1 antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA325873 at 1/100 staining Mouse kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-SOD1 antibody

Description: SOD1, Cu/Zn superoxide dismutase, is a major antioxidant enzyme that catalyzes the conversion of superoxide anion to hydrogen peroxide and molecular oxygen (1). SOD1 is ubiquitously expressed and is localized in the cytosol, nucleus and mitochondrial intermembrane space. The SOD1 gene locus is on chromosome 21 in a region affected in Down Syndrome (2). In addition, over 100 distinct SOD1 inherited mutations have been identified in the familial form of amyotrophic lateral sclerosis (ALS), a progressive degenerative disease of motor neurons (3-5). Despite the fact that SOD1 helps to eliminate toxic reactive species, its mutations in ALS have been described as gain-of-function (5). The mechanism by which mutant SOD1 induces the neurodegeneration observed in ALS is still unclear. Mutant SOD1 proteins become misfolded and consequently oligomerize into high molecular weight species that aggregate and end up in proteinaceous inclusions (5).

Function: Destroys radicals which are normally produced within the cells and which are toxic to biological systems.

Subunit Structure: Homodimer; non-disulfide linked. Homodimerization may take place via the ditryptophan cross-link at Trp-33. The pathogenic variants ALS1 Arg-38, Arg-47, Arg-86 and Ala-94 interact with RNF19A, whereas wild-type protein does not. The pathogenic variants ALS1 Arg-86 and Ala-94 interact with MARCH5, whereas wild-type protein does not.

Post-translational Modifications: Unlike wild-type protein, the pathogenic variants ALS1 Arg-38, Arg-47, Arg-86 and Ala-94 are polyubiquitinated by RNF19A leading to their proteasomal degradation. The pathogenic variants ALS1 Arg-86 and Ala-94 are ubiquitinated by MARCH5 leading to their proteasomal degradation. The ditryptophan cross-link at Trp-33 is responsible for the non-disulfide-linked homodimerization. Such modification might only occur in extreme conditions and additional experimental evidence is required. Palmitoylation helps nuclear targeting and decreases catalytic activity. Succinylation, adjacent to copper catalytic site, probably inhibits activity. Desuccinylation by SIRT5 enhances activity.

Similarity: Belongs to the Cu-Zn superoxide dismutase family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4507149
NCBI GeneID	6647
NCBI Accession #	NP_000445.1
NCBI GenBank Nucleotide #	NM_000454.4
UniProt Accession #	P00441; Q16669; Q16711; Q16838; Q16839; Q16840; Q6NR85; A6NHJ0; D3DSE4
Molecular Weight	Observed: 16 kDa Predicted: 16 kDa
NCBI Official Full Name	superoxide dismutase
NCBI Official Synonym Full Names	superoxide dismutase 1

NCBI Official Symbol	SOD1
NCBI Official Synonym Symbols	ALS; SOD; ALS1; IPOA; hSod1; HEL-S-44; homodimer
NCBI Protein Information	superoxide dismutase [Cu-Zn]
UniProt Protein Name	Superoxide dismutase [Cu-Zn]
UniProt Gene Name	SOD1
UniProt Synonym Gene Names	hSod1

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.

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Online datasheet: <https://www.aaabiotech.com/polyclonal/sod1-antibody-immunohistochemistry-western-blot-elisa/325873>