SunLong Biotech Co.,LTD
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Rabbit Anti-SOD1 antibody

SL10216R

Product Name	SOD1
Chinese Name	超氧化物歧化酶 1（铜/锌过氧化物歧化酶 SOD 抗体
Alias	Superoxide Dismutase 1; ALS 1; ALS; ALS1; Amyotrophic lateral sclerosis 1 adult; Amyotrophic lateral sclerosis 1; Cu/Zn SOD; Cu/Zn superoxide dismutase; Homodimer; Indophenoloxidase A; IPOA; Mn superoxide dismutase; SOD 1; SOD; SOD soluble; SOD2; SODC; Soluble indophenoloxidase A; Superoxide dismutase 1; Superoxide dismutase 1 soluble; Superoxide dismutase Cu Zn; Superoxide dismutase cystolic; SODC_HUMAN; Superoxide dismutase [Cu-Zn]; hSod1; Ipo1; SODC; Ipo-1; Sod-1; CuZnSOD; Cu/Zn-SOD; MGC107553; B430204E11Rik; superoxide-dimuta se-1.
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Pig, Cow, Horse,)
Applications	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/test （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	17kDa
Cellular localization	cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human SOD1: 6-100/154
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed PubMed

The protein encoded by this gene binds copper and zinc ions and is one of two isozymes responsible for destroying free superoxide radicals in the body. The encoded isozyme is a soluble cytoplasmic protein, acting as a homodimer to convert naturally-occuring but harmful superoxide radicals to molecular oxygen and hydrogen peroxide. The other isozyme is a mitochondrial protein. Mutations in this gene have been implicated as causes of familial amyotrophic lateral sclerosis. Rare transcript variants have been reported for this gene. [provided by RefSeq, Jul 2008]

Product Detail

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

Subunit:
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.

Subcellular Location:
Cytoplasm. Note=The pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.

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.

DISEASE:
Defects in SOD1 are the cause of amyotrophic lateral sclerosis type 1 (ALS1) [MIM:105400]. ALS1 is a familial form of amyotrophic lateral sclerosis, a neurodegenerative disorder affecting upper and lower motor neurons and resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology of amyotrophic lateral sclerosis is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10% of cases leading to familial forms.

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

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SWISS:
P00441

Gene ID:
6647

Database links:

Entrez Gene: 6647 Human

Entrez Gene: 20655 Mouse

Entrez Gene: 24786 Rat

Omim: 147450 Human

SwissProt: P00441 Human

SwissProt: P08228 Mouse

SwissProt: P07632 Rat

Unigene: 443914 Human

Unigene: 276325 Mouse

Unigene: 466779 Mouse

Unigene: 6059 Rat

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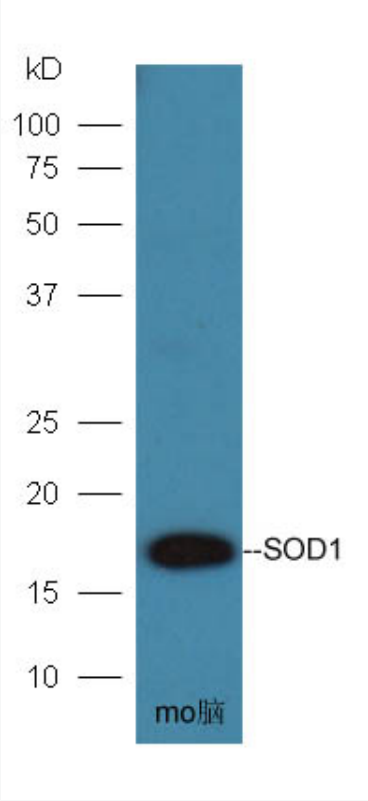
Product Picture



Protein: brain(mouse) lysates at 30ug;

Primary: Anti-SOD1 (SL10216R) at 1:300;

Secondary: HRP conjugated Goat-Anti-Rabbit IgG(bse-0295G-HRP) at 1: 5000;

ECL excitated the fluorescence;

Predicted band size : 17 kD

Observed band size : 17 kD

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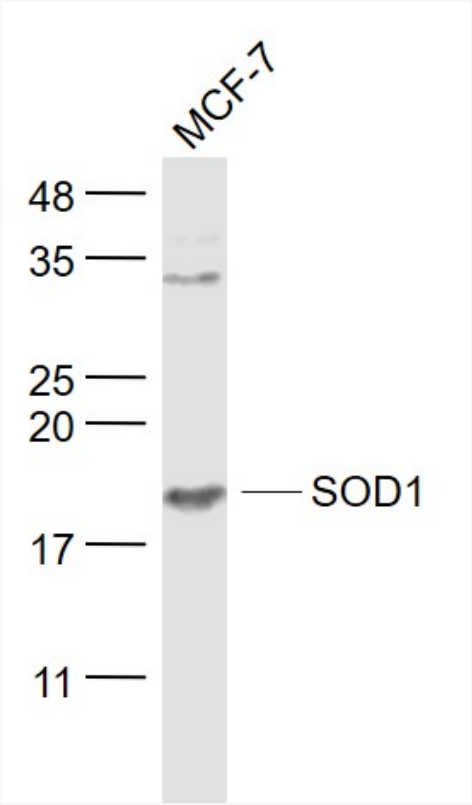

Sample:

MCF-7(Human) Cell Lysate at 30 ug

Primary: Anti- SOD1 (SL10216R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 17 kD

Observed band size: 19 kD

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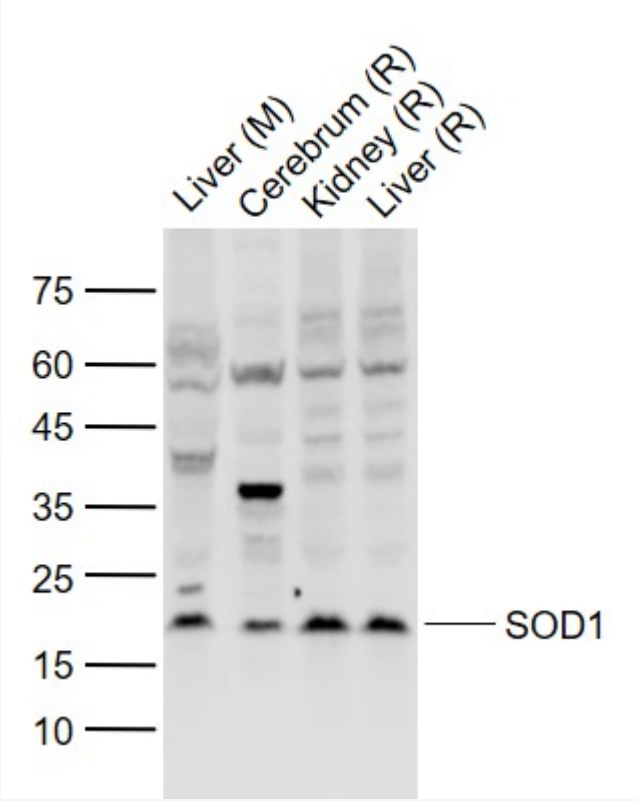

Sample:

Lane 1: Liver (Mouse) Lysate at 40 ug

Lane 2: Cerebrum (Rat) Lysate at 40 ug

Lane 3: Kidney (Rat) Lysate at 40 ug

Lane 4: Liver (Rat) Lysate at 40 ug

Primary: Anti-SOD1 (SL10216R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 17 kD

Observed band size: 19 kD

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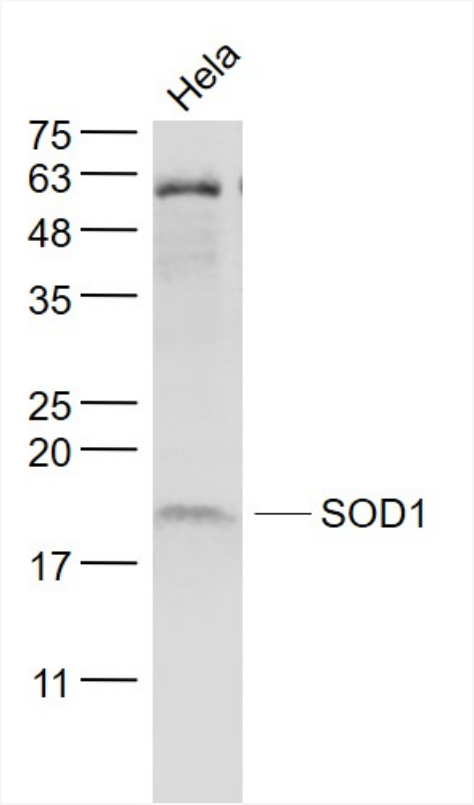

Sample:

Hela(Human) Cell Lysate at 30 ug

Primary: Anti- SOD1 (SL10216R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 17 kD

Observed band size: 19 kD

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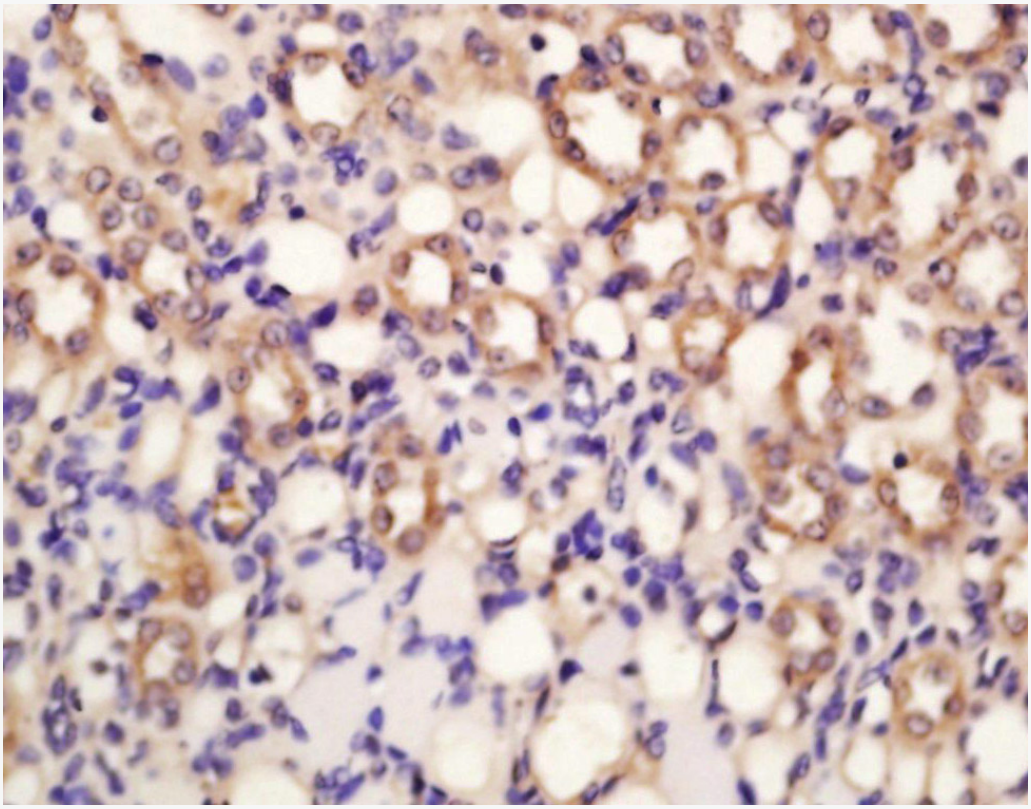

Tissue/cell: rat kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-SOD1 Polyclonal Antibody, Unconjugated(SL10216R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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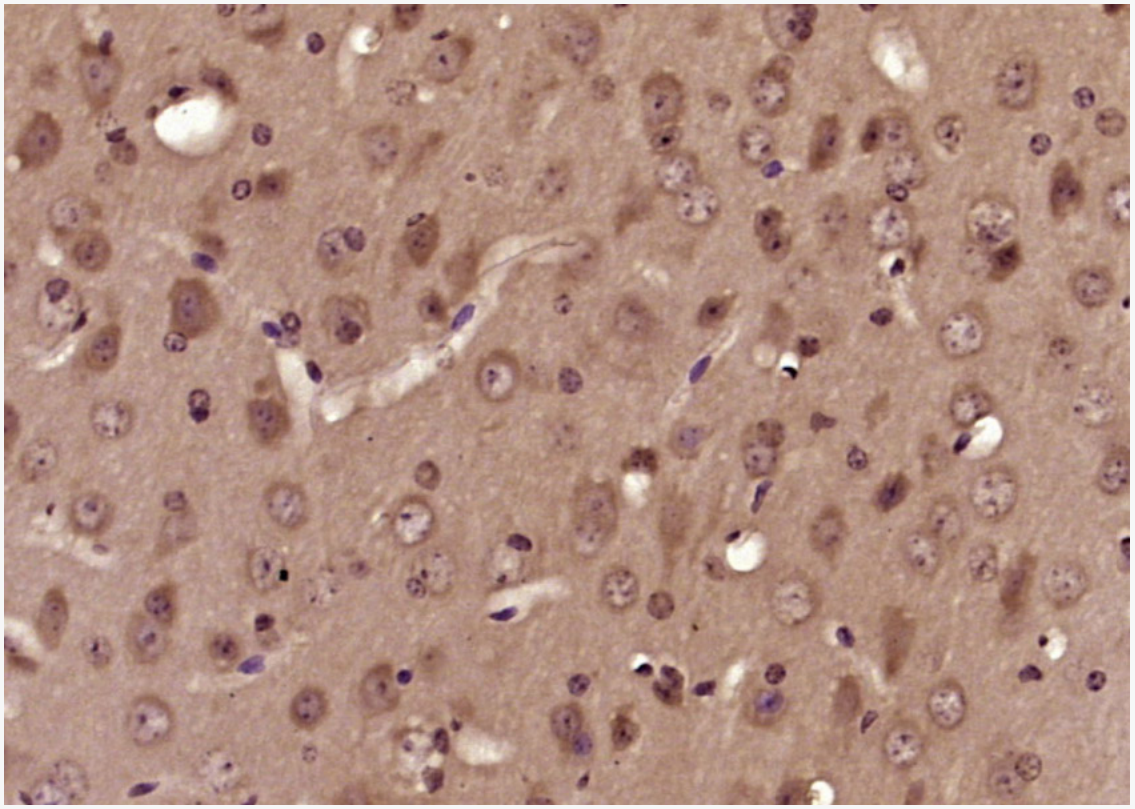
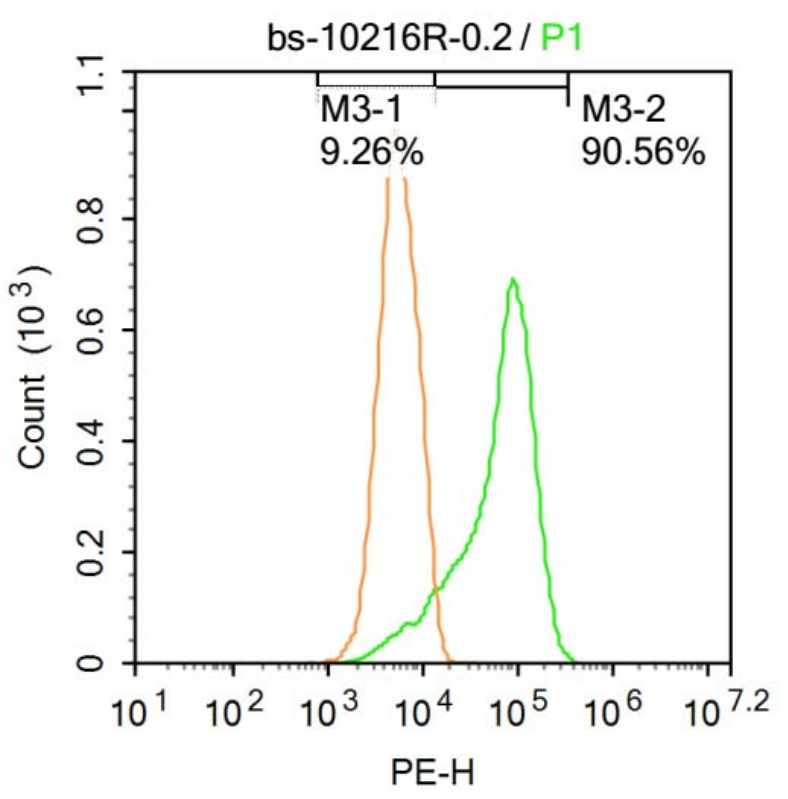


Paraformaldehyde-fixed, paraffin embedded (mouse brain tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (SOD1) Polyclonal Antibody, Unconjugated (SL10216R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Blank control: Raji.

Primary Antibody (green line): Rabbit Anti-SOD1 antibody (SL10216R)

Dilution: 1µg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

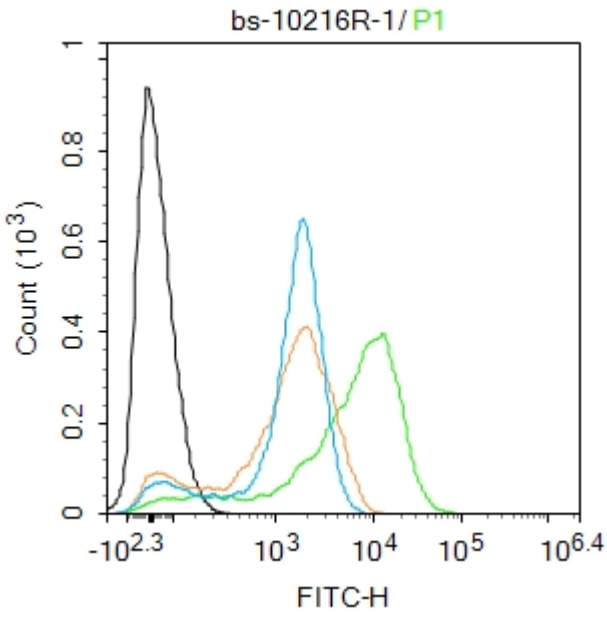
Secondary Antibody : Goat anti-rabbit IgG-PE

Dilution: 1µg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at at room temperature .Cells

stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Blank control: Jurkat.

Primary Antibody (green line): Rabbit Anti-SOD1 antibody (SL10216R)

Dilution: 1ug/Test;

Secondary Antibody : Goat anti-rabbit IgG-FITC

Dilution: 0.5ug/Test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at room temperature.The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room

temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.