

Anti-Superoxide Dismutase 1/SOD1 Antibody

Catalog Number: PA1345

About SOD1

Superoxide dismutases (SOD) are a class of enzymes that catalyze the dismutation of superoxide into oxygen and hydrogen peroxide. As such, they are an important antioxidant defense in nearly all cells exposed to oxygen. One of the exceedingly rare exceptions is *Lactobacillus plantarum* and related lactobacilli, which use a different mechanism. Cu,Zn-SOD was found widely distributed in the cell cytosol and in the cell nucleus, consistent with it being a soluble cytosolic protein. Mitochondria and secretory compartments did not label for this protein. In human cells, peroxisomes showed a labeling density slightly less than that of cytoplasm.

Overview

Product Name	Anti-Superoxide Dismutase 1/SOD1 Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Superoxide Dismutase 1/SOD1 Antibody catalog # PA1345. Tested in IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P00441

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of Human SOD1, different from the mouse sequence by two amino acids.
Predicted Reactive Species	Monkey
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat Immunocytochemistry , 0.5-1ug/ml, Human, Mouse, Rat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse, Rat, Human Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat

Anti-Superoxide Dismutase 1/SOD1 Antibody (PA1345) Images

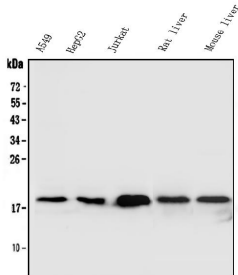


Figure 1. Western blot analysis of SOD1 using anti-SOD1 antibody (PA1345).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: human A549 whole cell lysates,
Lane 2: human HepG2 whole cell lysates,
Lane 3: human Jurkat whole cell lysates,
Lane 4: rat liver tissue lysates,
Lane 5: mouse liver tissue lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SOD1 antigen affinity purified polyclonal antibody (Catalog # PA1345) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for SOD1 at approximately 18KD. The expected band size for SOD1 is at 18KD.

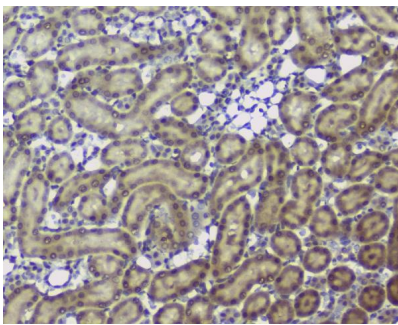


Figure 2. IHC analysis of SOD1 using anti-SOD1 antibody (PA1345).

SOD1 was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SOD1 Antibody (PA1345) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

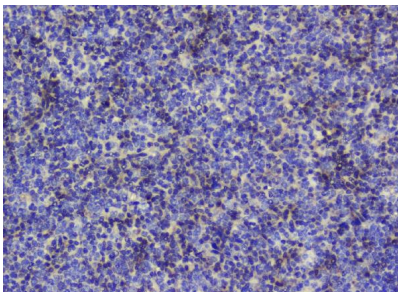
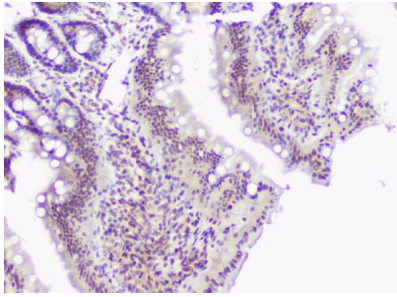


Figure 3. IHC analysis of SOD1 using anti-SOD1 antibody (PA1345).

SOD1 was detected in paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SOD1 Antibody (PA1345) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of SOD1 using anti-SOD1 antibody



(PA1345). SOD1 was detected in paraffin-embedded section of rat small intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SOD1 Antibody (PA1345) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

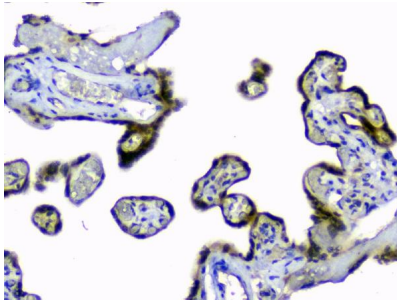


Figure 5. IHC analysis of SOD1 using anti-SOD1 antibody (PA1345). SOD1 was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SOD1 Antibody (PA1345) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

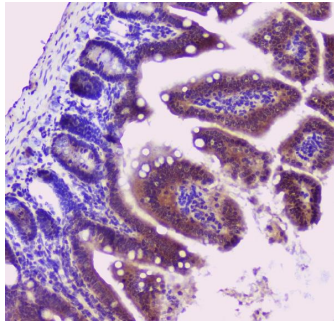


Figure 6. IHC analysis of SOD1 using anti-SOD1 antibody (PA1345). SOD1 was detected in paraffin-embedded section of mouse small intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SOD1 Antibody (PA1345) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

8 Publications Citing This Product

1. PubMed ID: 27443826, Maternal inflammation activated ROS-p38 MAPK predisposes offspring to heart damages caused by isoproterenol via augmenting ROS generation
2. PubMed ID: 25162824, Hou S, Zheng F, Li Y, Gao L, Zhang J. Int J Mol Sci. 2014 Aug 26;15(9):15026-43. Doi: 10.3390/Ijms150915026. The Protective Effect Of Glycyrrhizic Acid On Renal Tubular Epithelial Cell Injury Induced By High Glucose.
3. PubMed ID: 24576329, Guo Z, Qi W, Yu Y, Du S, Wu J, Liu J. Diabetol Metab Syndr. 2014 Feb 28;6(1):29. Doi: 10.1186/1758-5996-6-29. Effect Of Exenatide On The Cardiac Expression Of Adiponectin Receptor 1 And NADPH Oxidase Subunits And Heart Function In Streptozotocin-I...

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