Datasheet for ABIN3044165

anti-SOD2 antibody (N-Term)

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Overview

Quantity:	100 µg
Target:	SOD2
Binding Specificity:	AA 45-62, N-Term
Reactivity:	Human, Rat, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This SOD2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunocytochemistry (ICC)

Product Details

Purpose:	Anti-SOD2 Antibody Picoband®
Immunogen:	A synthetic peptide corresponding to a sequence at the N-terminus of human SOD2, identical to the related mouse sequence and different from the related rat sequence by one amino acid.
Sequence:	QIMQLHHSKH HAAYVNNL
Isotype:	IgG
Cross-Reactivity (Details):	No cross-reactivity with other proteins
Characteristics:	Anti-SOD2 Antibody (ABIN3044165). Tested in IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.

Product Details

Purification:	Immunogen affinity purified.

Target Details

Target:	SOD2
Alternative Name:	SOD2 (SOD2 Products)
Background:	Synonyms: Superoxide dismutase [Mn], mitochondrial,1.15.1.1,SOD2, Tissue Specificity: Expressed in brain and lymphoblasts. . Background: SOD2 (Superoxide Dismutase 2), also called IPO-B or MNSOD, is a mitochondrial matrix enzyme that scavenges oxygen radicals produced by the extensive oxidation-reduction and electron transport reactions occurring in mitochondria. This gene is a member of the iron/manganese superoxide dismutase family. Using a somatic cell hybrid panel containing different segments of chromosome 6, they demonstrated that SOD2 is located in the region 6q25.3-qter which, together with the FISH analysis, indicated that SOD2 is in the distal portion of 6q25. The SOD2 gene encodes an intramitochondrial free radical scavenging enzyme that is the first line of defense against superoxide produced as a byproduct of oxidative phosphorylation. Adeno-associated viral delivery of the human SOD2 gene resulted in suppression of optic nerve degeneration and rescue of retinal ganglion cells. The findings suggested that reactive oxygen species contributed to retinal cell death and optic nerve damage in mice with complex I deficiency, and that expression of SOD2 attenuated the disease process. Sequence Similarities: Belongs to the iron/manganese superoxide dismutase family.
Molecular Weight:	24 kDa
UniProt:	P04179
Pathways:	Sensory Perception of Sound, Transition Metal Ion Homeostasis, Negative Regulation of intrinsic apoptotic Signaling

Application Details

Application Notes:	Immunocytochemistry , 0.5-1 µg/mL, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/mL, Human, Rat, Mouse Western blot, 0.1-0.5 µg/mL, Human, Mouse, Rat 1. Bastaki, M., Huen, K., Manzanillo, P., Chande, N., Chen, C., Balmes, J. R., Tager, I. B., Holland, N. Genotype-activity relationship for Mn-superoxide dismutase, glutathione peroxidase 1 and catalase in humans. Pharmacogenet. Genomics 16: 279-286, 2006. 2. Creagan, R., Tischfield, J.,

Application Details

	Ricciuti, F., Ruddle, F. H. Chromosome assignments of genes in man using mouse-human somatic cell hybrids: mitochondrial superoxide dismutase (indophenol oxidase-B, tetrameric) to chromosome 6. Humangenetik 20: 203-209, 1973. 3. Hiroi, S., Harada, H., Nishi, H., Satoh, M., Nagai, R., Kimura, A. Polymorphisms in the SOD2 and HLA-DRB1 genes are associated with nonfamilial idiopathic dilated cardiomyopathy in Japanese. Biochem. Biophys. Res. Commun. 261: 332-339, 1999.
Comment:	Antibody can be supported by chemiluminescence kit ABIN921124 in WB, supported by ABIN921231 in IHC(P) and ICC.
Restrictions:	For Research Use only

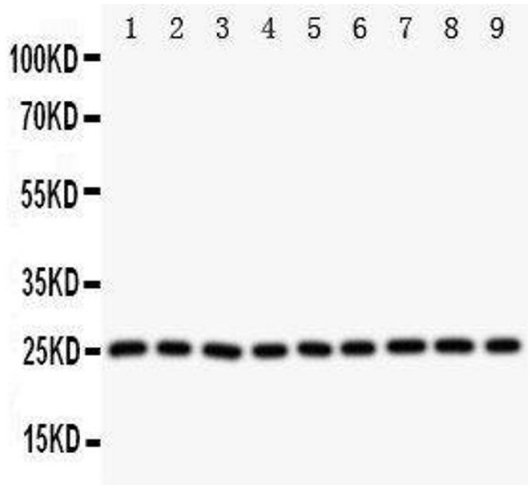
Handling

Format:	Lyophilized
Reconstitution:	Add 0.2 mL of distilled water will yield a concentration of 500 µg/mL.
Concentration:	500 µg/mL
Buffer:	Each vial contains 5 mg BSA, 0.9 mg NaCl, 0.2 mg Na2HPO4, 0.05 mg Thimerosal, 0.05 mg Sodium azide.
Preservative:	Thimerosal (Merthiolate), Sodium azide
Precaution of Use:	This product contains Thimerosal (Merthiolate) and Sodium azide: POISONOUS AND HAZARDOUS SUBSTANCES which should be handled by trained staff only.
Handling Advice:	Avoid repeated freezing and thawing.
Storage:	4 °C,-20 °C
Storage Comment:	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.
Expiry Date:	12 months

Publications

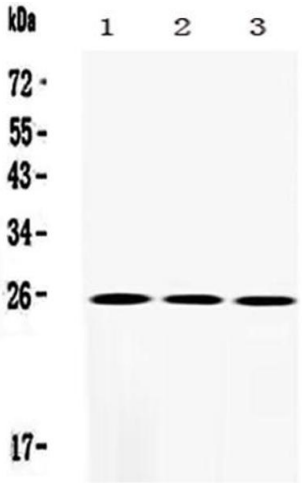
Product cited in:	Zhang, Deng, Lai, Guan, Sun, Han, Wang, Pan, Ji, Luo, Huang, Tang, Gu, Dan, Yu, Namaka, Zhang, Deng, Li: "Maternal inflammation activated ROS-p38 MAPK predisposes offspring to heart damages caused by isoproterenol via augmenting ROS generation." in: **Scientific reports**, Vol. 6, pp. 30146, (2018) (PubMed).

Images



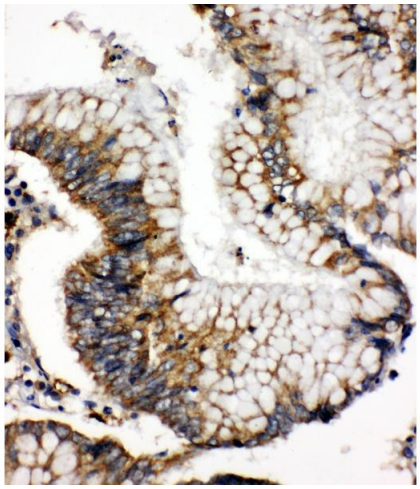
Western Blotting

Image 1.



Western Blotting

Image 2. Western blot analysis of SOD2/Mnsod using anti-SOD2/Mnsod antibody . 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: mouse liver tissue lysates, Lane 2: mouse small intestine tissue lysates, Lane 3: mouse lung 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-SOD2/Mnsod antigen affinity purified polyclonal antibody (Catalog #) at 0.5 µg/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 1:10000 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 SOD2/Mnsod at approximately 25KD. The expected band size for SOD2/Mnsod is at 25KD.



Immunohistochemistry

Image 3. Anti-SOD2 antibody, IHC(P) IHC(P): Human Intestinal Cancer Tissue

Please check the product details page for more images. Overall 4 images are available for ABIN3044165.