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Anti-SOD2 Picoband Antibody

Catalog # ABO12132

Specification

Anti-SOD2 Picoband Antibody - Product Information

Application	**WB, IHC-P, ICC**
Primary Accession	P04179
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Superoxide dismutase [Mn], mitochondrial(SOD2) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-SOD2 Picoband Antibody - Additional Information

Gene ID 6648

Other Names
Superoxide dismutase [Mn], mitochondrial, 1.15.1.1, SOD2

Calculated MW
24722 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, By Heat
Immunocytochemistry, 0.5-1 µg/ml
Western blot, 0.1-0.5 µg/ml

Subcellular Localization
Mitochondrion matrix.

Protein Name
Superoxide dismutase [Mn], mitochondrial

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human SOD2 (192-222aa QYKNVRPDYLKAIWNVINWENVTERYMACKK), different from the related mouse sequence by one amino acid, and from the related rat sequence by four amino acids.

Purification
Immunogen affinity purified.

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Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Belongs to the iron/manganese superoxide dismutase family.

Anti-SOD2 Picoband Antibody - Protein Information

Name SOD2

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

Cellular Location
Mitochondrion matrix.

Anti-SOD2 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-SOD2 Picoband Antibody - Images

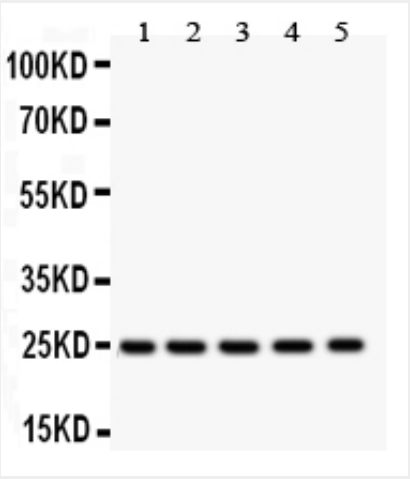

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Figure 1. Western blot analysis of SOD2 using anti-SOD2 antibody (ABO12132). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: Mouse Testis Tissue LysateLane 2: Mouse Lung Tissue LysateLane 3: Mouse Cardiac Muscle Tissue LysateLane 4: Mouse Liver Tissue LysateLane 5: HEPG2 Whole Cell Lysate 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 antigen affinity purified polyclonal antibody (Catalog # ABO12132) at 0.5 Î¼g/mL overnight at 4Â°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 with Tanon 5200 system. A specific band was detected for SOD2 at approximately 25KD. The expected band size for SOD2 is at 74KD.

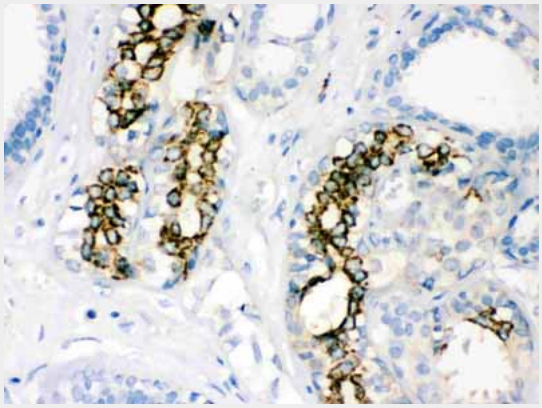

Figure 2. IHC analysis of SOD2 using anti-SOD2 antibody (ABO12132).SOD2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-SOD2 Antibody (ABO12132) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

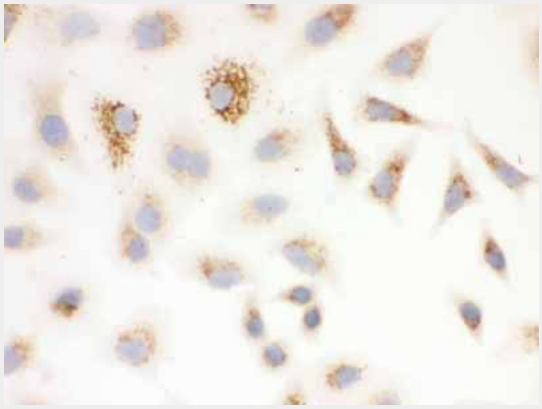

Figure 3. IHC analysis of SOD2 using anti-SOD2 antibody (ABO12132).SOD2 was detected in immunocytochemical section of A549 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-SOD2 Antibody (ABO12132) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

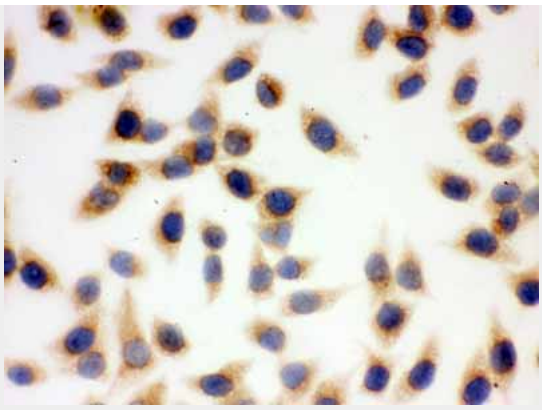

Figure 4. IHC analysis of SOD2 using anti-SOD2 antibody (ABO12132).SOD2 was detected in immunocytochemical section of SMMC-7721 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-SOD2 Antibody (ABO12132) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Anti-SOD2 Picoband Antibody - 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.