

**Anti-SOD2 Picoband Antibody**  
Catalog # ABO12132**Specification**

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**Anti-SOD2 Picoband Antibody - Product Information**

|                   |                          |
|-------------------|--------------------------|
| Application       | <b>WB, IHC</b>           |
| Primary Accession | <a href="#">P04179</a>   |
| Host              | <b>Rabbit</b>            |
| Reactivity        | <b>Human, Mouse, Rat</b> |
| Clonality         | <b>Polyclonal</b>        |
| Format            | <b>Lyophilized</b>       |

**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<br>Immunocytochemistry, 0.5-1 µg/ml<br>Western blot, 0.1-0.5 µg/ml<br>

**Subcellular Localization**

Mitochondrion matrix.

**Protein Name**

Superoxide dismutase [Mn], mitochondrial

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>N.

**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.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

At -20°C for one year. After reconstitution, 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 Cytometry](#)
- [Cell Culture](#)

## Anti-SOD2 Picoband Antibody - Images

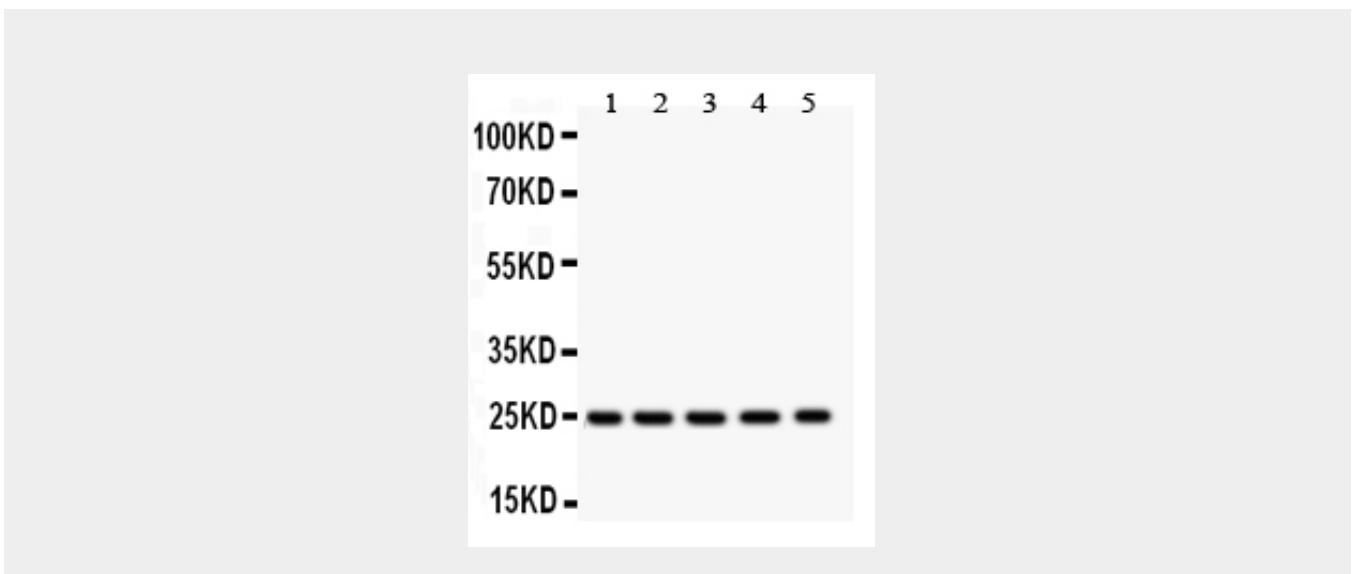


Figure 1. Western blot analysis of SOD2 using anti-SOD2 antibody (ABO12132). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: Mouse Testis Tissue Lysate Lane 2: Mouse Lung Tissue Lysate Lane 3: Mouse Cardiac Muscle Tissue Lysate Lane 4: Mouse Liver Tissue Lysate Lane 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  $\mu$ g/mL overnight at 4 $^{\circ}$ 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 1  $\mu$ g/ml rabbit anti-SOD2 Antibody (ABO12132) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

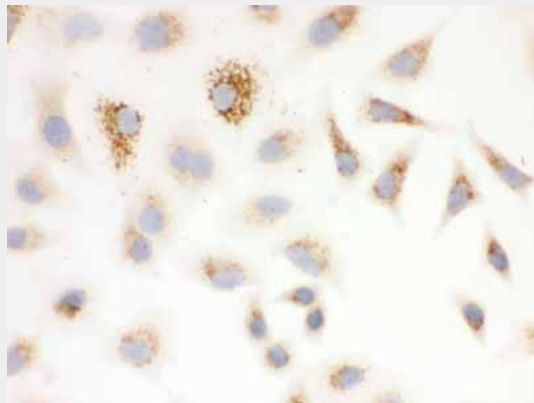


Figure 3. IHC analysis of SOD2 using anti-SOD2 antibody (ABO12132). SOD2 was detected in immunocytochemical section of A549 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue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

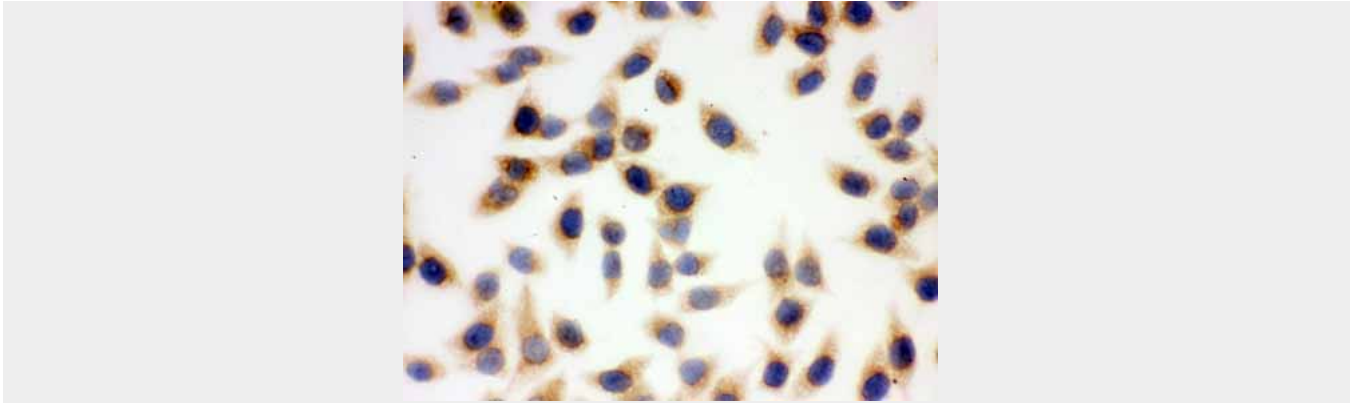


Figure 4. IHC analysis of SOD2 using anti-SOD2 antibody (ABO12132). SOD2 was detected in immunocytochemical section of SMMC-7721 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/ml rabbit anti-SOD2 Antibody (ABO12132) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-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.