10320 Camino Santa Fe, Suite A
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1)

Catalog # ABO16272

Specification

Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1) - Product Information

Application	**WB, IHC**
Primary Accession	P04179
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Human, Mouse**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse.

Reconstitution
Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1) - Additional Information

Gene ID 6648

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

Calculated MW
25 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Mouse
 Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human

Contents
Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.

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

Purification
Immunogen affinity purified.

Storage	**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 freezing and thawing.**

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Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1) - 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 Antibody Picoband™ (monoclonal, 2B12B1) - 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 Antibody Picoband™ (monoclonal, 2B12B1) - Images

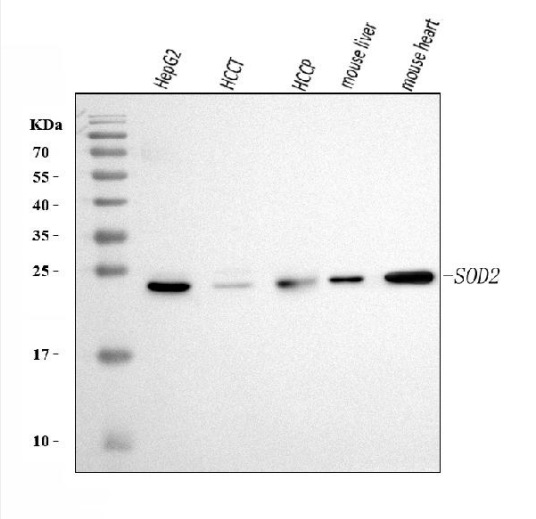

Figure 1. Western blot analysis of SOD2 using anti-SOD2 antibody (M00349-3).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human HCCT tissue lysates,
Lane 3: human HCCP tissue lysates,
Lane 4: mouse liver tissue lysates,
Lane 5: mouse heart tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-SOD2 antigen affinity purified monoclonal antibody (Catalog # M00349-3) 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-mouse 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 # EK1001) with Tanon 5200 system. A specific band was detected for SOD2 at approximately 25 kDa. The expected band size for SOD2 is at 25 kDa.

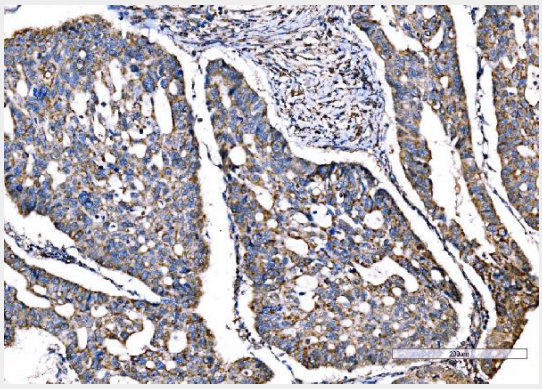

Figure 2. IHC analysis of SOD2 using anti-SOD2 antibody (M00349-3).
SOD2 was detected in a paraffin-embedded section of human adenocarcinoma of the right colon tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-SOD2 Antibody (M00349-3) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

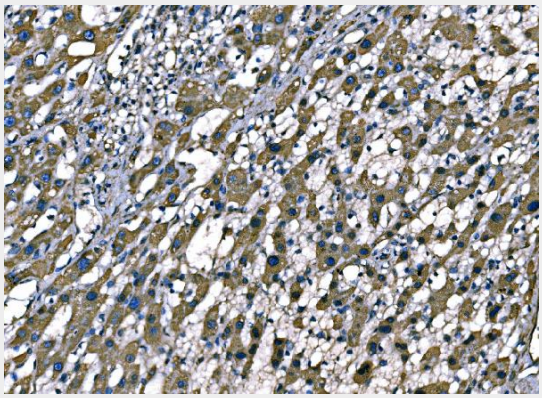

Figure 3. IHC analysis of SOD2 using anti-SOD2 antibody (M00349-3).
SOD2 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-SOD2 Antibody (M00349-3) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

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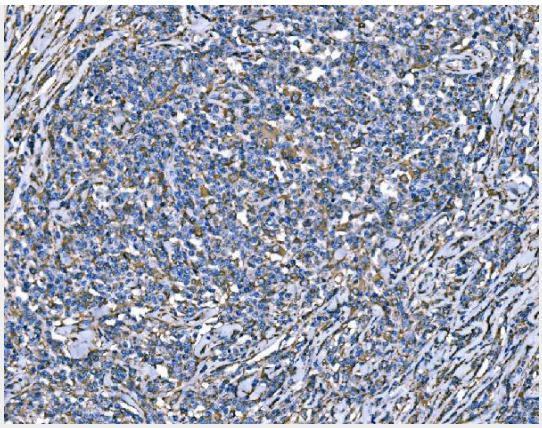

Figure 4. IHC analysis of SOD2 using anti-SOD2 antibody (M00349-3).
SOD2 was detected in a paraffin-embedded section of human lymphoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-SOD2 Antibody (M00349-3) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

Anti-SOD2 Antibody Picoband™ (monoclonal, 2B12B1) - 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.