


Product datasheet

Anti-SOD2/MnSOD antibody [mAbcam 74231] ab74231

KO VALIDATED

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Overview

Product name	Anti-SOD2/MnSOD antibody [mAbcam 74231]
Description	Mouse monoclonal [mAbcam 74231] to SOD2/MnSOD
Host species	Mouse
Tested applications	Suitable for: WB Unsuitable for: Flow Cyt (Intra)
Species reactivity	Reacts with: Rat, Human Predicted to work with: Mouse, Rabbit, Horse, Guinea pig, Cow, Pig, Chimpanzee, Zebrafish, Cynomolgus monkey, Macaque monkey, Orangutan 
Immunogen	Synthetic peptide within Human SOD2/MnSOD aa 50-150 conjugated to keyhole limpet haemocyanin. The exact sequence is proprietary. Database link: P04179
Positive control	WB: Recombinant human SOD2/MnSOD protein (ab93946), human liver; human brain; human heart; rat brain tissue lysates and Wild-type HEK-293T cell lysate.
General notes	<p>This monoclonal antibody to SOD2 has been knockout validated in Western blot. The expected band for SOD2 was observed in wild type cells and the band was not seen in knockout cells.</p> <p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -

	80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Purity	Protein G purified
Clonality	Monoclonal
Clone number	mAbcam 74231
Myeloma	Sp2/0-Ag14
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab74231 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

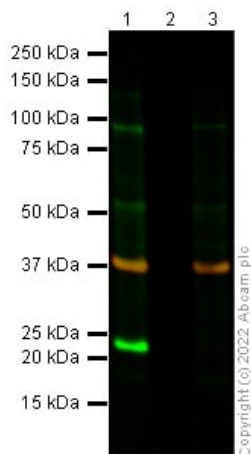
Application	Abreviews	Notes
WB	★ ★ ★ ★ ★ (1)	Use a concentration of 1 µg/ml. Detects a band of approximately 23 kDa (predicted molecular weight: 25 kDa). We recommend using 3% milk as the blocking agent in Western Blot.

Application notes Is unsuitable for Flow Cyt (Intra).

Target

Function	Destroys superoxide anion radicals which are normally produced within the cells and which are toxic to biological systems.
Involvement in disease	Genetic variation in SOD2 is associated with susceptibility to microvascular complications of diabetes type 6 (MVCD6) [MIM:612634]. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis.
Sequence similarities	Belongs to the iron/manganese superoxide dismutase family.
Post-translational modifications	Nitrated under oxidative stress. Nitration coupled with oxidation inhibits the catalytic activity.
Cellular localization	Mitochondrion matrix.

Images



Western blot - Anti-SOD2/MnSOD antibody
[mAbcam 74231] (ab74231)

Lane 1: Wild-type HEK-293T cell lysate (40 ug)

Lane 2: Empty Lane

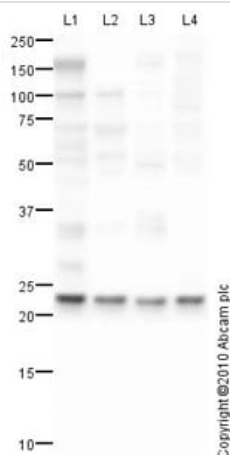
Lane 3: SOD2 knockout HEK-293T cell lysate (40 ug)

Lanes 1 - 3: Merged signal (red and green). Green - ab74231 observed at 25 kDa. Orange - loading control, **ab181602**, observed at 37 kDa.

Gel type: MES

Blocking buffer: 3% Milk

ab74231 was shown to specifically react with SOD2. Wild-type and SOD2 knockout samples were subjected to SDS-PAGE. ab74231 and **ab181602** GAPDH (loading control) were diluted 1 µg/mL and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-SOD2/MnSOD antibody
[mAbcam 74231] (ab74231)

All lanes : Anti-SOD2/MnSOD antibody [mAbcam 74231] (ab74231) at 5 µg/ml

Lane 1 : Human liver tissue lysate - total protein (**ab29889**)

Lane 2 : Human heart tissue lysate - total protein (**ab29431**)

Lane 3 : Human brain tissue lysate - total protein (**ab29466**)

Lane 4 : Brain (Rat) Tissue Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

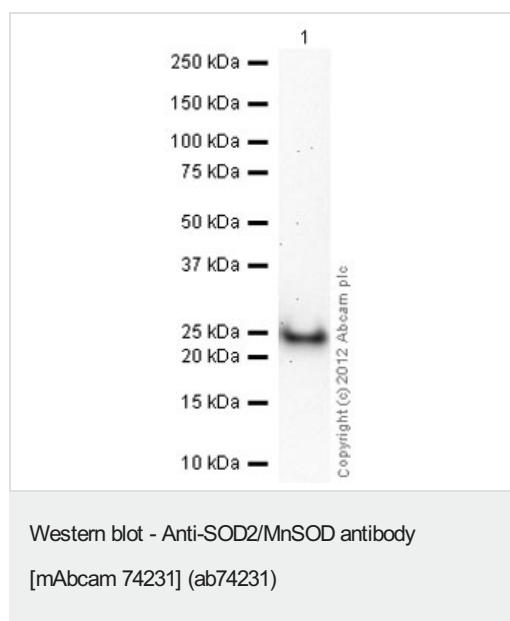
Predicted band size: 25 kDa

Observed band size: 23 kDa

Exposure time: 5 minutes

The Superoxide dismutase 2 protein has a predicted molecular weight of 25-kDa. However, the sequence contains a 24 residue transit peptide at the N-terminus and, when cleaved, the protein has an expected molecular weight of approximately 23-kDa.

We recommend using 3% milk as the blocking agent in Western Blot.



Anti-SOD2/MnSOD antibody [mAbcam 74231] (ab74231) at 1 µg/ml + Recombinant Human SOD2/MnSOD protein ([ab82656](#)) at 0.01 µg

Secondary

Goat Anti-Mouse IgG H&L (HRP) preadsorbed ([ab97040](#)) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 25 kDa

Exposure time: 12 minutes

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