abcam

Product datasheet

Anti-SOD2/MnSOD antibody [9E2BD2] ab110300

KO VALIDATED

7 References 4 Images

Overview

Product name	Anti-SOD2/MnSOD antibody [9E2BD2]
Description	Mouse monoclonal [9E2BD2] to SOD2/MnSOD
Host species	Mouse
Tested applications	**Suitable for:** ICC/IF, IHC-P, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Full length native protein (purified). This information is considered to be commercially sensitive.
Positive control	Human HDFn and HL-60 cells and Human cerebellum. ICC-IF: HAP1 cells (HAP1-SOD2 knockout cells used as negative cell line)
General notes	This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. 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. 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 Product was previously marketed under the MitoSciences sub-brand.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituent: HEPES buffered saline
Purity	Protein G purified
Purification notes	Near homogeneity as judged by SDS-PAGE. ab110300 was produced in vitro using hybridomas

	grown in serum-free medium, and then purified by affinity purification.
Clonality	Monoclonal
Clone number	9E2BD2
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab110300 in the following tested applications.

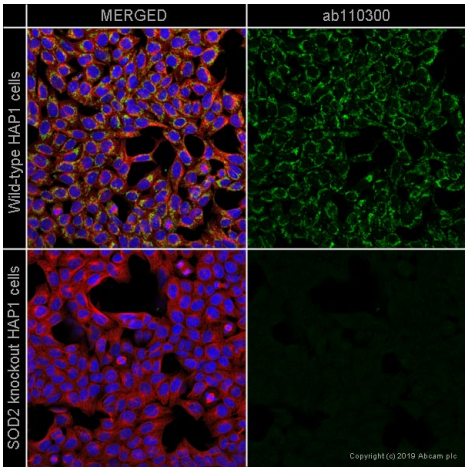
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use a concentration of 1 - 5 µg/ml.
IHC-P		1/100. Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol. use 1mmol EDTA pH8
Flow Cyt		Use a concentration of 1 µg/ml. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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.

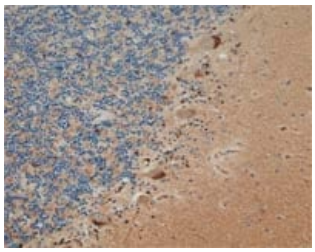
Images



Immunocytochemistry/ Immunofluorescence - Anti-SOD2/MnSOD antibody [9E2BD2] (ab110300)

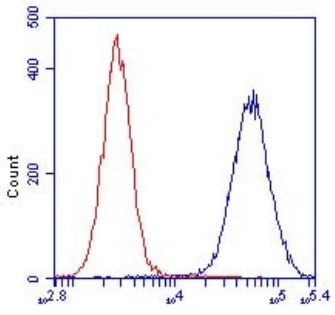
ab110300 staining SOD2 in wild-type HAP1 cells (top panel) and SOD2 knockout HAP1 cells (bottom panel). The cells were fixed with 4% paraformaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab110300 at 5ug/ml and **ab6046** (Tubulin) at 1/1000 dilution overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to mouse IgG (Alexa Fluor® 488) (**ab150117**) at 2 µg/ml (shown in green) and a goat secondary antibody to rabbit IgG (Alexa Fluor® 594) (**ab150080**) at 2 µg/ml (shown in pseudo color red). Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



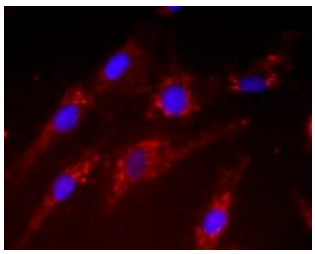
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOD2/MnSOD antibody [9E2BD2] (ab110300)

Immunohistochemistry of Superoxide Dismutase 2 in Human cerebellum visualized with ab110300. Superoxide Dismutase 2 immunoactivity is most intense in neuronal cell bodies, most notably in the large Purkinje cells. Note the distinctive subcellular localization of Superoxide Dismutase 2 immunoreactivity in the Purkinje cell bodies.



Flow Cytometry - Anti-SOD2/MnSOD antibody [9E2BD2] (ab110300)

HL-60 cells were stained with 1 µg/mL ab110300 in blue or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Immunocytochemistry/ Immunofluorescence - Anti-SOD2/MnSOD antibody [9E2BD2] (ab110300)

Immunocytochemistry image of Superoxide Dismutase 2 stained Human HDFn cells. The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15min). The cells were incubated with ab110300 at 5 µg/ml for 2h at room temperature or over night at 4°C. The secondary antibody was (red) Alexa Fluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. 10% Goat serum was used as the blocking agent for all blocking steps. DAPI was used to stain the cell nuclei (blue). Target protein locates mainly in mitochondria.

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