Product datasheet

Anti-Superoxide Dismutase 1 antibody ab13498

Overview

Product name
Anti-Superoxide Dismutase 1 antibody

Description
Rabbit polyclonal to Superoxide Dismutase 1

Host species
Rabbit

Tested applications
Suitable for: ICC/IF, IHC-Fr, WB, IP, ELISA, IHC-P

Species reactivity
Reacts with: Mouse, Rat, Sheep, Rabbit, Hamster, Cow, Dog, Human, Pig, Xenopus laevis, Drosophila melanogaster, Monkey, African green monkey

Immunogen
Full length protein corresponding to Human Superoxide Dismutase 1.

Positive control
IHC-P: Human placenta tissue.

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: 7.00
Preservative: 0.1% Sodium azide
Constituents: PBS, 50% Glycerol

Purity
Immunogen affinity purified

Purification notes
This antibody was purified on an antigen coupled sepharose column.

Clonality
Polyclonal

Isotype
IgG

Applications

Our Abpromise guarantee covers the use of ab13498 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>1/1000. See Abreview.</td>
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Function
Destroys radicals which are normally produced within the cells and which are toxic to biological systems.

Involvement in disease
Defects in SOD1 are the cause of amyotrophic lateral sclerosis type 1 (ALS1) [MIM:105400]. ALS1 is a familial form of amyotrophic lateral sclerosis, a neurodegenerative disorder affecting upper and lower motor neurons and resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology of amyotrophic lateral sclerosis is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10% of cases leading to familial forms.

Sequence similarities
Belongs to the Cu-Zn superoxide dismutase family.

Post-translational modifications
Unlike wild-type protein, the pathogenic variants ALS1 Arg-38, Arg-47, Arg-86 and Ala-94 are polyubiquitinated by RNF19A leading to their proteasomal degradation. The pathogenic variants ALS1 Arg-86 and Ala-94 are ubiquitinated by MARCH5 leading to their proteasomal degradation.
The ditryptophan cross-link at Trp-33 is responsible for the non-disulfide-linked homodimerization. Such modification might only occur in extreme conditions and additional experimental evidence is required.

Cellular localization
Cytoplasm. The pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.

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<td>IHC-Fr</td>
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<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration. See Downs et al 2002.</td>
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<tr>
<td>IHC-P</td>
<td></td>
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Images
Anti-Superoxide Dismutase 1 antibody (ab13498) at 1/5000 dilution + Whole rat tissue lysate at 20 µg

**Secondary**
HRP-conjugated donkey anti-rabbit polyclonal at 1/2000 dilution
Developed using the ECL technique.
Performed under reducing conditions.

**Predicted band size:** 18 kDa

**Exposure time:** 60 seconds

Blocking: 5% BSA for 1 hour at 20°C
Western blot - Anti-Superoxide Dismutase 1 antibody (ab13498)
This image is courtesy of an anonymous Abreview.

All lanes : Anti-IL18 antibody (ab71495) at 1/1000 dilution

All lanes : Mouse skeletal muscle tissue lysate
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : HRP-conjugated goat anti-rabbit IgG at 1/1000 dilution
Developed using the ECL technique.
Performed under reducing conditions.

Predicted band size: 18 kDa
Observed band size: 15 kDa

Exposure time: 140 seconds

Blocked with 3% milk for 2 hours at 25°C.
Incubated with the primary antibody for 16 hours at 4°C in 3% milk in TBS-Tween (0.005%).

ab71495 staining Superoxide Dismutase 1 in cow aorta endothelial cells by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with 4% PFA, permeabilized with 0.1% saponin and blocked with PBS + 0.1% saponin + 1% BSA for 1 hour at 24°C. Samples were incubated with the primary antibody (1/200 in PBS + 0.1% saponin + 1% BSA) for 24 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (H+L) monoclonal was used as the secondary antibody at a dilution of 1/300.
ab13498 at 1µg/ml staining Superoxide dismutase 1 in human placenta tissue section by Immunohistochemistry (Bouin's fixative fixed paraffin-embedded tissue section). Antigen retrieval was done by microwave in citrate buffer. A HRP conjugated goat anti-rabbit secondary was used at 1/10 dilution.

ab13498 staining Superoxide Dismutase 1 in rat brain tissue sections by Immunohistochemistry (frozen sections). Tissue was fixed with formaldehyde and then blocked with 2% BSA for 2 hours at 25°C followed by incubation with the primary antibody, at a 1/1000 dilution, for 9 hours at 4°C. The secondary antibody used was a goat anti-rabbit IgG conjugated to Alexa Fluor® 488 (green) used at a 1/500 dilution.

ab13498 (1/200) staining Human cell line 293FT by ICC/IF. The 293 FT cells were cultured for 3 days, fixed in 3.7% formaldehyde and blocked with 5% BSA in PBS for 1 hr. The secondary antibody was goat anti-Rabbit IgG conjugated to Alexa Fluor® 488 (green) and the nucleus (blue) were stained with DAPI.
ab13498 staining Superoxide Dismutase 1 in mouse bone marrow white blood cells by Immunocytochemistry/Immunofluorescence. Cells were fixed in formaldehyde and permeabilized in 0.1% Triton X-100 prior to blocking in 5% serum for 2 hours at 25°C. The primary antibody was diluted 1/500 in PBS and incubated with the sample for 12 hours at 4°C. The secondary antibody used was an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (polyclonal), diluted to 1/500. Nuclei were counterstained blue with DAPI.

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