Product datasheet

Anti-Superoxide Dismutase 1 antibody ab13498

⭐⭐⭐⭐⭐ 21 Abreviews  54 References  7 Images

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.

### Application

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<tr>
<td>IHC-Fr</td>
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<td>1/1000.</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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</tr>
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### Target

#### Function
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#### Cellular localization
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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

**All lanes:** Anti-IL-18 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

*why is the actual band size different from the predicted?*
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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