Overview

Product name: Anti-Peroxiredoxin-SO3 antibody
Description: Rabbit polyclonal to Peroxiredoxin-SO3
Host species: Rabbit
Tested applications: Suitable for: WB, IHC-P, ICC/IF
Species reactivity: Reacts with: Mouse, Rat, Human
Immunogen: Synthetic sulfonylated peptide (Human) conjugated to KLH, corresponding to Prx I-IV active site.
Positive control: H₂O₂ treated HeLa whole cell lysate.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer: Preservative: 0.03% Sodium azide
Constituents: 50% Glycerol, 0.01% BSA, HEPES, 0.09% Sodium chloride
Purity: Ammonium Sulphate Precipitation
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab16830 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>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>ICC/IF</td>
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<td>Use at an assay dependent concentration. PubMed: 18826942</td>
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</table>
Peroxiredoxin (Prx) is an antioxidant enzyme detoxifying reactive oxygen species and has a cysteine at the active site. Prx enzymes modulate various receptor signaling pathways and protect cells from oxidatively induced death. Peroxiredoxin 1 to 4 have two conserved Cys residues corresponding to Cys51 and Cys172 of mammalian Peroxiredoxin 1. The active site cysteine (Cys51) is oxidized to cysteine sulfenic acid (Cys51-SOH) when a peroxide is reduced. Because Cys51-SOH is unstable, it forms a disulfide with Cys172-SH which comes from the other subunit of the homodimer. The disulfide is then reduced back to the Prx active thiol form by the thioredoxin-thioredoxin reductase system. However, the formation of the disulfide is a slow process. Thus under oxidative stress conditions, the sulfenic intermediate (Cys51-SOH) can be easily over oxidized to cysteine sulfinic acid (Cys-SO2H) or cysteine sulfonic acid (Cys-SO3H) before it is able to form a disulfide. Recent studies suggest that over oxidized Prx can be reduced back to the active form during recovery after oxidative stress.

Cellular localization

Cytoplasmic

Images

Upper blot - Prx-SO3 antibody (ab16830) at 1/2000
Lower blot - Prx1 antibody as a loading control
Lane 1: H2O2 untreated HeLa cell lysate
Lane 2: H2O2 treated HeLa cell lysate
Lane 3: Reduced recombinant Prx1
Lane 4: Oxidized recombinant Prx1
IHC image of ab16830 staining in human hippocampus formalin fixed paraffin embedded tissue section, performed on a Leica Bond system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab16830, 1/1000 dilution, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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