### DESCRIPTION

**Species Reactivity** Human

**Specificity** Detects endogenous human Peroxiredoxin 1 in Western blots.

**Source** Monoclonal Mouse IgG1, Clone # 477609

**Purification** Protein A or G purified from hybridoma culture supernatant

**Immunogen** E. coli-derived recombinant human Peroxiredoxin 1 Met1-Lys199 Accession # Q06830

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

*Small pack size (SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>0.1 μg/mL</td>
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**DATA**

**Western Blot**

Detection of Human Peroxiredoxin 1 by Western Blot. Western blot shows lysates of Raji human Burkitt's lymphoma cell line, A431 human epithelial carcinoma cell line, and MCF-7 human breast cancer cell line. PVDF membrane was probed with 0.1 μg/mL of Human Peroxiredoxin 1 Monoclonal Antibody (Catalog # MAB3488) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Peroxiredoxin 1 at approximately 22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 0.5 mg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

*Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

### BACKGROUND

Human Peroxiredoxin1 (Prx-1, also known as Thioredoxin peroxidase 2) is a 22 kDa antioxidant enzyme that belongs to the typical 2-Cys class of the THP/ahpC family of proteins. The molecule is 199 amino acids (aa) in length and has two catalytic cysteines, one at Cys52 and a second at Cys173. Prx-1 is an obligate homodimer. In its inactive state, Prx-1 is apparently noncovalently associated. Upon peroxide binding to Cys52 of subunit 1, the Cys173 of subunit 2 interacts with Cys52 of subunit 1 to complete the antioxidation, generating a disulfide bond between Cys52 and Cys173. Subsequent reduction restores the subunits to the basal state. There are apparently two additional isoforms; one shows a premature truncation after aa 171, while the second shows a deletion of aa 21-121. Human Prx-1 is 96% aa identical to mouse Prx-1.