

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Peroxiredoxin 4 in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 566401
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Peroxiredoxin 4 Met1-Asn271 Accession # Q13162
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 as a 0.2 µm filtered solution in PBS.

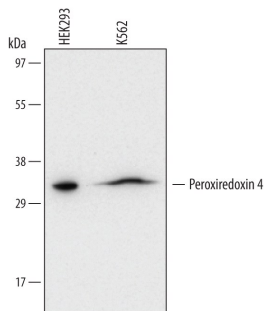
APPLICATIONS

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.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	5-25 µg/mL	See Below

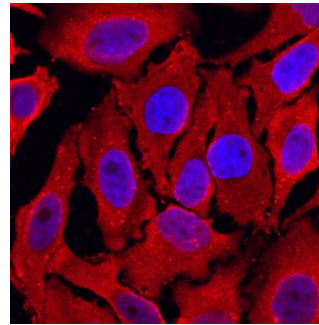
DATA

Western Blot



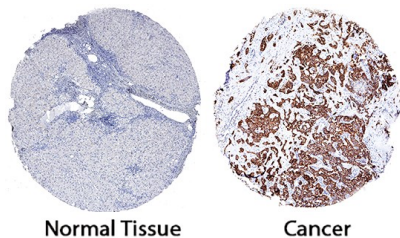
Detection of Human Peroxiredoxin 4 by Western Blot. Western blot shows lysates of HEK293 human embryonic kidney cell line and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Peroxiredoxin 4 Monoclonal Antibody (Catalog # MAB5460) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Peroxiredoxin 4 at approximately 32 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 2](#).

Immunocytochemistry



Peroxiredoxin 4 in HeLa Human Cell Line. Peroxiredoxin 4 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human Peroxiredoxin 4 Monoclonal Antibody (Catalog # MAB5460) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Immunohistochemistry



Peroxiredoxin 4 in Human Liver Cancer Tissue. Peroxiredoxin 4 was detected in immersion fixed paraffin-embedded sections of human liver cancer tissue using Mouse Anti-Human Peroxiredoxin 4 Monoclonal Antibody (Catalog # MAB5460) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cancer cells. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

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. <ul style="list-style-type: none"> ● 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

Peroxiredoxin 4 (Prx-IV; also known as PRDX4 and thioredoxin peroxidase AOE372) is a 30-32 kDa, widely expressed cytoplasmic antioxidant enzyme that belongs to the *typical* 2-Cys class of the TSA/ahpC family of peroxiredoxins. It exists as either a homodimer, or heterodimer with PRDX1. PRDX4 reportedly counteracts p53-mediated generation of ROS, and regulates NFκB via IκB-α. Human PRDX4 is 271 amino acids (aa) in length and contains an N-terminal poly-Leu region (aa 20-30) and a 159 thioredoxin domain (aa 79-237). There is one catalytic cysteine at Cys124. Over amino acids 1-271, human PRDX4 shares 89% aa identity with mouse and rat PRDX4.