DESCRIPTION
Species Reactivity  Human/Mouse
Specificity  Detects endogenous human and mouse Peroxiredoxin 5 in Western blots. In Western blots, this antibody shows no cross-reactivity with recombinant human Peroxiredoxin 1, 2, 3, or 6.
Source  Polyclonal Goat IgG
Purification  Antigen Affinity-purified
Immunogen  E. coli-derived recombinant human Peroxiredoxin 5
Met1-Leu214
Accession # P30044
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.

Recommended Concentration  Sample
Western Blot  0.5 μg/mL  See Below

DATA
Western Blot
Detection of Human/Mouse Peroxiredoxin 5 by Western Blot. Western blot shows lysates of MCF-7 human breast cancer cell line, HepG2 human hepatocellular carcinoma cell line, K562 human chronic myelogenous leukemia cell line, A431 human epithelial carcinoma cell line, and NIH-3T3 mouse embryonic fibroblast cell line. PVDF membrane was probed with 0.5 μg/mL of Human/Mouse Peroxiredoxin 5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3774) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Peroxiredoxin 5 at approximately 17 kDa (as indicated). This experiment was conducted using Immunoblot Buffer Group 2.

PREPARATION AND STORAGE
Reconstitution  Reconstitute at 0.2 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
Peroxiredoxin-5 (Prx-5 or PRDX5; also AOE166 and thioredoxin reductase) is a 22 kDa, widely expressed mitochondrial antioxidant enzyme that belongs to the atypical 2-Cys class of the TSA/ahpC family of peroxiredoxins. The precursor molecule is 214 amino acids (aa) in length. It contains an N-terminal 52 aa mitochondrial targeting (signal) sequence and a 162 aa (17 kDa) mature enzyme that shows a nuclear export signal between aa 58-67, and a peroxisome targeting motif at aa 212-214. There are two catalytic cysteines, one at Cys100 and a second at Cys204 of the precursor. Prx-5 is a monomer that is found in mitochondria, cytosol, nucleus and peroxisomes. It is known to reduce H$_2$O$_2$ and alkyl hydroperoxides. Prx5 can undergo cleavage after Ala52, generating two splice forms. One shows a deletion of aa 59-147, while a second shows a deletion of aa 103-146. Mature human Prx-5 is 78% aa identical to mouse Prx-5, with most differences noted over the first 52 amino acids.