

DESCRIPTION	
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat Thioredoxin-2 in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 543317
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Thioredoxin-2 Thr60-Gly166 Accession # Q99757
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	0.5 µg/mL	See Below
Simple Western	5 µg/mL	See Below

DATA

Western Blot

Detection of Human/Mouse/Rat Thioredoxin-2 by Western Blot.
Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line, Jurkat human acute T cell leukemia cell line, CH-1 mouse B cell lymphoma cell line, and L6 rat myoblast cell line. PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human/Mouse/Rat Thioredoxin-2 Monoclonal Antibody (Catalog # MAB5765) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Thioredoxin-2 at approximately 14 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western

Detection of Human and Rat Thioredoxin-2 by Simple Western™.
Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line and L6 rat myoblast cell line, loaded at 0.2 mg/mL. A specific band was detected for Thioredoxin-2 at approximately 11 kDa (as indicated) using 5 µg/mL of Mouse Anti-Human/Mouse/Rat Thioredoxin-2 Monoclonal Antibody (Catalog # MAB5765). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.
Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.

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

Thioredoxin-2 (Trx-2; also known as mitochondrial Thioredoxin) belongs to the evolutionarily conserved Thioredoxin family of proteins. Thioredoxins share the Thioredoxin fold containing the active site-CGPC motif. In their reduced form, the active site cysteine residues reduce protein disulfides. The resulting active site disulfide is subsequently reduced in a reaction catalyzed by a NADPH-dependent Thioredoxin reductase. Thioredoxin-2 contains an N-terminal 59 amino acid (aa) transit sequence that is cleaved upon translocation to mitochondria. The amino acid sequence of mature human Thioredoxin-2 is 98% identical to mouse and rat Thioredoxin-2. Thioredoxin-2 interacts with specific components of the mitochondrial respiratory chain and helps regulate the membrane potential. Thioredoxin-2 is ubiquitously but variably expressed and high expression confers resistance to oxidant-induced apoptosis.