

PRODUCT INFORMATION



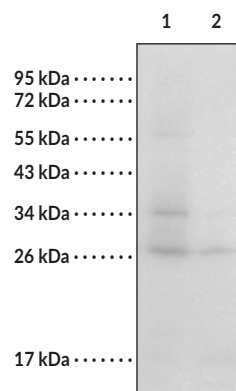
Thioredoxin 1 Rabbit Monoclonal Antibody (Clone 002)

Item No. 37072

Overview and Properties

Contents:	This vial contains 50 or 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Trx1, Txn1
Immunogen:	Recombinant mouse Trx1
Species Reactivity:	(+) Mouse; other species not tested
Uniprot No.:	P10639
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	002
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA and Western blot (WB); the recommended starting dilution is 1:25,000-1:50,000 for ELISA and 1:500-1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: HeLa whole cell lysate (30 µg)
Lane 2: A431 whole cell lysate (30 µg)

WB of Thioredoxin 1 Rabbit Monoclonal Antibody (Clone 002) at a dilution of 1:500.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Thioredoxin 1 (Trx1) is a thiol-disulfide oxidoreductase and part of the antioxidant thioredoxin system that is involved in the maintenance of cellular thiol redox homeostasis.¹⁻³ It is ubiquitously expressed, localizes primarily to the cytoplasm with some nuclear localization, and is upregulated in and released from cells under conditions of oxidative stress.^{1,2,4} Trx1 contains two active site cysteine residues at positions 32 and 35, with additional cysteines at positions 62, 69, and 73.² During the catalytic cycle, the active site cysteines are oxidized to a disulfide upon reduction of oxidized protein disulfide substrates and are subsequently restored to their reduced state by thioredoxin reductase (TrxR) and NADPH.^{1,2} It regulates redox-sensitive transcription factors including NF- κ B, p53, and the glucocorticoid receptor, as well as inhibits apoptosis through redox-sensitive binding and regulation of apoptosis signal-regulating kinase 1 (ASK1).^{2,4} Homozygous disruption of the gene encoding Trx1, *Txn1*, is embryonic lethal in mice.^{1,5} Cayman's Thioredoxin 1 Rabbit Monoclonal Antibody (Clone 002) can be used for ELISA and Western blot (WB) applications.

References

1. Haendeler, J. Thioredoxin-1 and posttranslational modifications. *Antioxid. Redox Signal.* **8(9-10)**, 1723-1728 (2006).
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4. Raffel, J., Bhattacharyya, A.K., Gallegos, A., *et al.* Increased expression of thioredoxin-1 in human colorectal cancer is associated with decreased patient survival. *J. Lab. Clin. Med.* **142(1)**, 46-51 (2003).
5. Matsui, M., Oshima, M., Oshima, H., *et al.* Early embryonic lethality caused by targeted disruption of the mouse thioredoxin gene. *Dev. Biol.* **178(1)**, 179-185 (1996).

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