



# SZABO SCANDIC

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## Produktinformation



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# PRODUCT INFORMATION



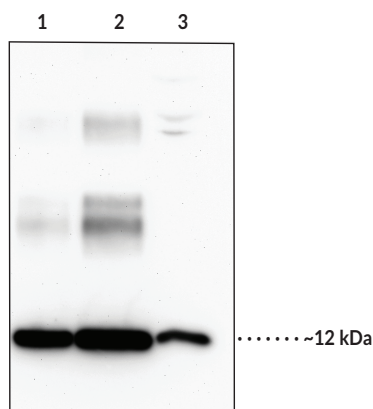
## Thioredoxin 1 (mouse) Polyclonal Antibody

Item No. 11540

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of affinity-purified polyclonal antibody.
<b>Synonyms:</b>	Trx1, Txn1
<b>Immunogen:</b>	Mouse Trx1
<b>Species Reactivity:</b>	(+) Mouse, rat; other species not tested
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS, pH 7.0, with 50% glycerol and 0.02% sodium azide
<b>Host:</b>	Rabbit
<b>Applications:</b>	Western blot (WB); the recommended starting dilution is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Lane 1: Thioredoxin 1 (Item No. 11540) (50 ng)  
Lane 2: Thioredoxin 1 (Item No. 11540) (200 ng)  
Lane 3: MCF-7 (50 µg)

**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**  
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# PRODUCT INFORMATION



## Description

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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.<sup>1-3</sup> 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.<sup>1,2,4</sup> Trx1 contains two active site cysteine residues at positions 32 and 35, with additional cysteines at positions 62, 69, and 73.<sup>2</sup> 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.<sup>1,2</sup> It regulates redox-sensitive transcription factors including NF- $\kappa$ B, p53, and the glucocorticoid receptor, as well as inhibits apoptosis through redox-sensitive binding and regulation of apoptosis signal-regulating kinase 1 (ASK1).<sup>2,4</sup> Homozygous disruption of the gene encoding Trx1, *Txn1*, is embryonic lethal in mice.<sup>1,5</sup> Cayman's Thioredoxin 1 (mouse) Polyclonal Antibody can be used for Western blot (WB) applications.

## References

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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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