



# SZABO SCANDIC

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## Produktinformation



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# PRODUCT INFORMATION

**Thioredoxin 1 Truncated (human) Monoclonal Antibody (Clone 7D11)**  
*Item No. 11543*



## Overview and Properties

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<b>Contents:</b>	This vial contains 100 µg of purified monoclonal antibody.
<b>Synonyms:</b>	Trx1, Trx80
<b>Immunogen:</b>	N-terminal 84 amino acids of human Trx1
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS with 0.09% sodium azide
<b>Concentration:</b>	0.5 mg/ml
<b>Clone:</b>	7D11
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG1
<b>Applications:</b>	Direct ELISA, Sandwich ELISA, Flow cytometry (FC), Immunofluorescence (IF), Immunoprecipitation (IP), and Western blot (WB) applications; the recommended starting dilution for ELISA, WB, and IF is 1:500, and 5 µg/ml for IP. Other applications were not tested, therefore optimal working concentrations/dilutions should be determined empirically.

**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

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> Trx1 can be truncated to form Trx80 or Trx84, which contain 80 or 84 amino acids from the N-terminus of full-length Trx1, respectively.<sup>7,8</sup> Full-length Trx1 contains a KKGQK amino acid sequence between positions 79 and 84, and cleavage at the KK motif leads to the generation of Trx80, whereas cleavage at lysine 84 generates Trx84.<sup>8</sup> Trx80 is secreted from a variety of cell types, including U937 monocytes, cytotrophoblasts, and CD4<sup>+</sup> T cells, and has been found in human plasma.<sup>5</sup> Unlike full-length Trx1, Trx80 is catalytically inactive and has pro-inflammatory, rather than anti-inflammatory, activity.<sup>6</sup> Cayman's Thioredoxin 1 Truncated (human) Monoclonal Antibody (Clone 7D11) can be used for direct ELISA, sandwich ELISA, flow cytometry (FC), immunofluorescence (IF), immunoprecipitation (IP), and Western blot (WB) applications. The antibody recognizes Trx80 and Trx84, but not full-length Trx1, by ELISA. However, under denaturing conditions of SDS-PAGE, the antibody recognizes Trx80 and Trx84 at approximately 9 to 10 kDa but also detects full-length Trx1 at approximately 12 kDa.

## References

1. Haendeler, J. Thioredoxin-1 and posttranslational modifications. *Antioxid. Redox Signal.* **8(9-10)**, 1723-1728 (2006).
2. Watanabe, R., Nakamura, H., Masutani, H., *et al.* Anti-oxidative, anti-cancer and anti-inflammatory actions by thioredoxin 1 and thioredoxin-binding protein-2. *Pharmacol. Ther.* **127(3)**, 261-270 (2010).
3. Berndt, C., Lillig, C.H., and Holmgren, A. Thiol-based mechanisms of the thioredoxin and glutaredoxin systems: Implications for diseases in the cardiovascular system. *Am. J. Physiol. Heart Circ. Physiol.* **292(3)**, H1227-H1236 (2007).
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. Pekkari, K., Avila-Cariño, J., Bengtsson, A., *et al.* Truncated thioredoxin (Trx80) induces production of interleukin-12 and enhances CD14 expression in human monocytes. *Blood* **97(10)**, 3184-3190 (2001).
6. Mahmmod, D.F.D., Abderrazak, A., Couchie, D., *et al.* Truncated thioredoxin (Trx-80) promotes pro-inflammatory macrophages of the M1 phenotype and enhances atherosclerosis. *J. Cell Physiol.* **228(7)**, 1577-83 (2013).
7. Pekkari, K. and Homgren, A. Truncated thioredoxin: Physiological functions and mechanism. *Antioxid. Redox Signal.* **6(1)**, 53-61 (2004).
8. Sahaf, B., Söderberg, A., Spyrou, G., *et al.* Thioredoxin expression and localization in human cell lines: Detection of full-length and truncated species. *Exp. Cell Res.* **236(1)**, 181-192 (1997).

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