

# Thioredoxin 1 Antibody



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<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 12	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P10599	<b>Entrez-Gene Id:</b> 7295
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## Product Usage Information

### Application

Western Blotting

### Dilution

1:1000

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

Thioredoxin 1 Antibody detects endogenous levels of total human thioredoxin 1 protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human thioredoxin 1. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Thioredoxin is a small redox protein found in many eukaryotes and prokaryotes. A pair of cysteines within a highly conserved, active site sequence can be oxidized to form a disulfide bond that is then reduced by thioredoxin reductase (1). Multiple forms of thioredoxin have been identified, including cytosolic thioredoxin 1 (TRX1) and mitochondrial thioredoxin 2 (TRX2). Thioredoxin participates in many cellular processes including redox signaling, response to oxidative stress, and protein reduction (1). A potential role of thioredoxin in human disorders such as cancer, aging, and heart disease is currently under investigation (2). Thioredoxin can play a key role in cancer progression, because it acts as a negative regulator of the proapoptotic kinase ASK1 (3). Changes in thioredoxin expression have been associated with meningococcal septic shock and acute lung injury (4,5).

## Background References

1. Watson, W.H. et al. (2004) *Toxicol Sci* 78, 3-14.
2. Burke-Gaffney, A. et al. (2005) *Trends Pharmacol Sci* 26, 398-404.
3. Saitoh, M. et al. (1998) *EMBO J* 17, 2596-606.
4. Callister, M.E. et al. (2007) *Intensive Care Med* 33, 364-7.
5. Callister, M.E. et al. (2006) *Thorax* 61, 521-7.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human

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