

**Thioredoxin (TRX) Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1101a****Specification**

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**Thioredoxin (TRX) Antibody - Product Information**

Application	<b>WB, IHC</b>
Primary Accession	<a href="#">P10599</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>12kDa KDa</b>

**Description**

Thioredoxin (TRX) is a small ubiquitous protein (MW12kDa) which is exist in a wide variety of prokaryotic and eukaryotic cells. Trx contains a redox active disulfide/dithiol group within the conserved Cys-Gly-Pro-Cys active site. This antibody is suitable for detecting fusion proteins which encode a Trx-Tag by immunoblotting and immunoprecipitation. The Monoclonal Antibody can detect a little Trx-Tag fusion proteins with negligible cross-reactivity with bacterial, insect, or mammalian lysates.

**Immunogen**

Purified recombinant fusion protein with Thioredoxin (TRX) tag.

**Formulation**

Ascitic fluid containing 0.03% sodium azide.

**Thioredoxin (TRX) Antibody - Additional Information**

**Gene ID** 7295

**Dilution**

WB~~1/500 - 1/2000

IHC~~1:200~~1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Thioredoxin (TRX) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Thioredoxin (TRX) Antibody - Protein Information**

**Name** TXN

## Synonyms TRDX, TRX, TRX1

### Function

Participates in various redox reactions through the reversible oxidation of its active center dithiol to a disulfide and catalyzes dithiol-disulfide exchange reactions (PubMed:<a href="http://www.uniprot.org/citations/17182577" target="\_blank">17182577</a>, PubMed:<a href="http://www.uniprot.org/citations/19032234" target="\_blank">19032234</a>, PubMed:<a href="http://www.uniprot.org/citations/2176490" target="\_blank">2176490</a>). Plays a role in the reversible S- nitrosylation of cysteine residues in target proteins, and thereby contributes to the response to intracellular nitric oxide. Nitrosylates the active site Cys of CASP3 in response to nitric oxide (NO), and thereby inhibits caspase-3 activity (PubMed:<a href="http://www.uniprot.org/citations/16408020" target="\_blank">16408020</a>, PubMed:<a href="http://www.uniprot.org/citations/17606900" target="\_blank">17606900</a>). Induces the FOS/JUN AP-1 DNA-binding activity in ionizing radiation (IR) cells through its oxidation/reduction status and stimulates AP-1 transcriptional activity (PubMed:<a href="http://www.uniprot.org/citations/11118054" target="\_blank">11118054</a>, PubMed:<a href="http://www.uniprot.org/citations/9108029" target="\_blank">9108029</a>).

### Cellular Location

Nucleus. Cytoplasm. Secreted Note=Translocates from the cytoplasm into the nucleus after phorbol 12- myristate 13-acetate induction (PMA) (PubMed:9108029). Predominantly in the cytoplasm in non irradiated cells (PubMed:11118054). Radiation induces translocation of TRX from the cytoplasm to the nucleus (PubMed:11118054). Secreted by a leaderless secretory pathway (PubMed:1332947).

## Thioredoxin (TRX) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## Thioredoxin (TRX) Antibody - Images

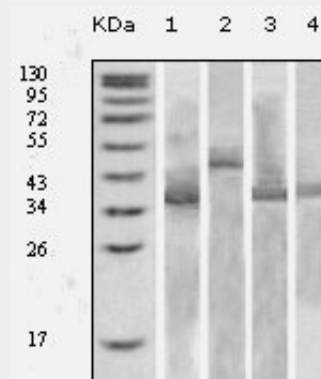


Figure 1: Western blot analysis using Trx mouse mAb against various fusion protein with Trx tag.

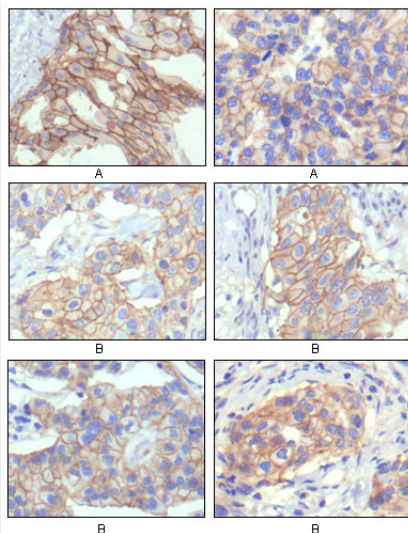


Figure 2: Immunohistochemical analysis of paraffin-embedded human breast intraductal carcinoma tissue(A) and breast infiltrating ductal carcinoma tissue(B) showing membrane localization using HER-2 mouse mAb with DAB staining.

#### **Thioredoxin (TRX) Antibody - References**

1. Holmgren, A. et al., *Annu. Rev. Biochem.* 54, 237-271 (1985).
2. Wollman, E. E. et al., *J. Biol. Chem.* 263, 15506-15512 (1988).
3. Sasada, T. et al., *J. Toxicol. Sci.* 21, 285-287 (1996).