

## Product datasheet

# Recombinant human Thioredoxin / TRX protein (Active) ab51064

[6 References](#) [2 Images](#)

### Description

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<b>Product name</b>	Recombinant human Thioredoxin / TRX protein (Active)
<b>Biological activity</b>	Specific activity is >150 A650/cm/min/mg, obtained by measuring the increase of insulin precipitation in absorbance at 650 nm resulting from the reduction of insulin.
<b>Purity</b>	> 95 % SDS-PAGE. Recombinant human Thioredoxin / TRX was overexpressed in <i>E. coli</i> and purified by using conventional chromatography techniques.
<b>Expression system</b>	Escherichia coli
<b>Accession</b>	<b><u>P10599</u></b>
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	MVKQIESKTA FQEALDAAGD KLVVVDIFSAT WCGPCKMIKP FFHSLSEKYS NVIFLEVDVD DCQDVASECE VKCMPTFQFF KKGQKVGFEFS GANKEKLEAT INELV
<b>Predicted molecular weight</b>	12 kDa
<b>Amino acids</b>	1 to 105
<b>Additional sequence information</b>	(NP_003320)

### Specifications

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Our **Abpromise guarantee** covers the use of **ab51064** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	Western blot Functional Studies SDS-PAGE
<b>Form</b>	Liquid
<b>Additional notes</b>	MW confirmed by MALDI-TOF.

Concentration determined by BCA assay.

## Preparation and Storage

### Stability and Storage

Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

pH: 7.40

Constituent: PBS

This product is an active protein and may elicit a biological response in vivo, handle with caution.

## General Info

### Function

Participates in various redox reactions through the reversible oxidation of its active center dithiol to a disulfide and catalyzes dithiol-disulfide exchange reactions. 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. 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.

ADF augments the expression of the interleukin-2 receptor TAC (IL2R/P55).

### Sequence similarities

Belongs to the thioredoxin family.

Contains 1 thioredoxin domain.

### Post-translational modifications

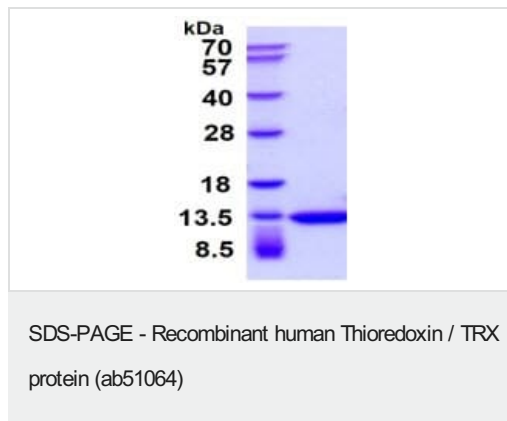
In the fully reduced protein, both Cys-69 and Cys-73 are nitrosylated in response to nitric oxide (NO). When two disulfide bonds are present in the protein, only Cys-73 is nitrosylated. Cys-73 can serve as donor for nitrosylation of target proteins.

In case of infection, ubiquitinated by *S.typhimurium* protein slrP, leading to its degradation.

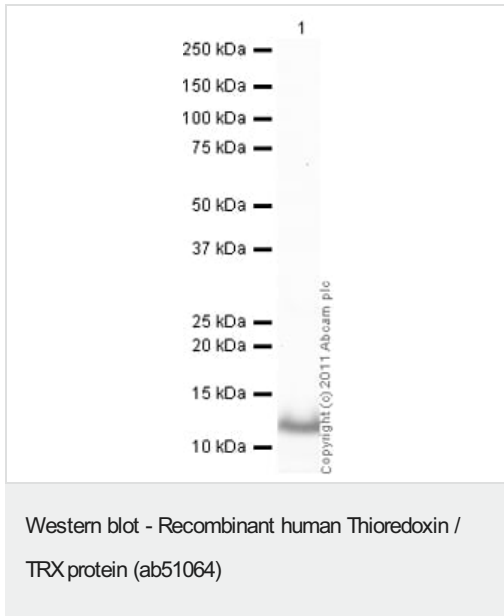
### Cellular localization

Nucleus. Cytoplasm. Secreted. Secreted by a leaderless secretory pathway. Predominantly in the cytoplasm in non irradiated cells. Radiation induces translocation of TRX from the cytoplasm to the nucleus.

## Images



3 ug of reduced ab51064, on 15% SDS-PAGE, stained with Coomassie Blue.



Anti-Thioredoxin / TRX antibody (**ab26320**) at 1 µg/ml +  
 Recombinant human Thioredoxin / TRX protein (Active) (ab51064)  
 at 0.01 µg

**Secondary**

Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at  
 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Exposure time:** 30 seconds

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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