



# Recombinant Yeast Thioredoxin 1 (DAG4448)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

|                          |                                      |
|--------------------------|--------------------------------------|
| <b>Product Overview</b>  | Yeast Thioredoxin 1                  |
| <b>Nature</b>            | Recombinant                          |
| <b>Expression System</b> | E. coli                              |
| <b>Species</b>           | Yeast                                |
| <b>Conjugate</b>         | Unconjugated                         |
| <b>Applications</b>      | immunogen                            |
| <b>Procedure</b>         | 1mM EDTA                             |
| <b>Concentration</b>     | 1.0 mg/ml                            |
| <b>Buffer</b>            | 20mM Tris, pH 7.5/10mM NaCl/1mM EDTA |
| <b>Preservative</b>      | None                                 |
| <b>Storage</b>           | 2-8°C short term, -20°C long term    |

## BACKGROUND

### Introduction

Thioredoxins (Trx) are small, multi-functional proteins with oxidoreductase activity and are ubiquitous in essentially all living cells. Trx contains a redox-active disulfide/dithiol group within the conserved Cys-Gly-Pro-Cys active site. The two cysteine residues in the conserved active centers can be oxidized to form intramolecular disulfide bonds. Reduction of the active site disulfide in oxidized Trx is catalyzed by Trx reductase with NADPH as the electron donor. The reduced Trx is a hydrogen donor for ribonucleotide reductase, the essential enzyme for DNA synthesis, and a potent general protein disulfide reductase with numerous functions in growth and redox regulations. Specific protein disulfide targets for reduction by Trx include protein disulfide isomerase (PDI) and a number of transcription factors such as p53, NFκB and AP-1 (T1-151). Trx is also capable of removing H<sub>2</sub>O<sub>2</sub>, particularly when it is coupled with either methionine sulfoxide reductase or several isoforms of peroxiredoxins.

### Keywords

TXN; thioredoxin; TRX; ADF; Surface associated sulphhydryl protein; TXN protein; ATL derived

factor; ATL-derived factor; DKFZp686B1993; MGC61975; SASP; Surface-associated sulphhydryl protein; THIO\_HUMAN; Thioredoxin; TRDX;

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