Creative Enzymes®

Native Escherichia coli Thioredoxin Reductase

Cat. No. NATE-0718

Lot. No. (See product label)

Introduction

Description	Thioredoxin reductase (TrxR) is an NADPH-dependent oxidoreductase containing one FAD per subunit that reduces the active site disulfide in oxidised thioredoxin (Trx). The molecular weight of the isozymes from mammalian sources vary between 55-67 kDa as compared with 35 kDa in prokaryotes, plants or yeast. The substrate specificity of the mammalian enzyme is much broader than the prokaryotic enzyme reducing both mammalian and E. coli thioredoxins as well as well as non-disulfide substrates such selenite, lipoic acids, lipid hydroperoxides and hydrogen peroxide.
Applications	Thioredoxin Reductase from Escherichia coli can be used in peroxidase-coupled thioredoxin system assay for assessing the peroxidase activitiy of Cys-based thiol peroxidases. The product was used for determining the enzymatic activity of His6-Ahp1p.
Synonyms	NADP-thioredoxin reductase; NADPH-thioredoxin reductase; thioredoxin reductase (NADPH); NADPH2:oxidized thioredoxin oxidoreductase; thioredoxin-disulfide reductase; EC 1.8.1.9; TrxR

Product Information

Source	Escherichia coli
Form	ammonium sulfate suspension; Suspension in 3.6 M (NH4)2SO4 containing 30 mM potassium phosphate buffer, pH 7.5, and 2 mM EDTA.
EC Number	EC 1.8.1.9
CAS No.	9074-14-0
Activity	>25 units/mg protein (Bradford)
Unit Definition	One unit will cause an increase in absorbance of 1.0 at 412 nm (when measured in a coupled assay with E. coli thioredoxin and DTNB) per min per mL at pH 7.0 at 25°C.

Storage and Shipping Information

Storage	2-8°C