

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 activity 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