

Corporation Ltd AB

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PRODUCT SPECIFICATION

Product No.	TRX-04
Product description:	Human Mutant C62S/C73S Thioredoxin 1
Lot No.	03
Specifications:	Recombinant mutant human C62S/C73S Trx1, 250 µg, in 47 µl was lyophilized from 50 mM Tris-HCl, pH 7.5 – 1 mM EDTA buffer. This is a mutant form of human thioredoxin, which lacks the structural cysteine residues C612 and C73, which are responsible for oxidative inactivation by formation of a second disulfide or dimer formation. The active site is Cys32 and Cys35. Use: Reconstitute with 200 µl of buffer or H ₂ O. This gives a solution of 100 µM thioredoxin. The protein is mainly oxidized and can be reduced by addition of a 5-fold molar excess of DTT or by using NADPH and mammalian thioredoxin reductase (TR-03 or TR-03B)
Reference:	Ren, X. et al. (1998) Biochemistry 32, 9701-9708. ; Hashemy, S.I and Holmgren A.: Regulation of the catalytic activity and structure of human thioredoxin via oxidation and S-nitrosylation of cysteine residues. J. Biol. Chem. 283, 21890- 21898, 2008.
Storage:	Keep at - 20 °C
Examples of use:	Activity can be measured with the thioredoxin-dependent reduction of insulin using recombinant rat thioredoxin reductase (Product No TR-03). The test mixture should contain 160 µM insulin and 0.2 mM NADPH in 0.1 M potassium phosphate, 2mM EDTA, pH 7.0. In the presence of 5 µM human Trx1 mutant C62S/C73S and 7 nM of mammalian thioredoxin reductase (TR-03) will give a decrease of absorbance at 340 nm of 0.100 min ⁻¹ .
Note :	Make sure to reconstitute all of the lyophilized protein in the ampoule. After adding buffer, close the screw-cap again, shake vigorously and be sure to recover all liquid from tube and walls.