

## ▶ Trx (1-105): sc-4658 WB

### BACKGROUND

Thioredoxin (Trx) is a redox protein that is found in several species, such as bacteria, plants and mammals, and contains a conserved active site consisting of Trp-Cys-Gly-Pro-Cys. Trx has several biological functions. It acts as a hydrogen donor for ribonucleotide reductase, which is critical for DNA synthesis, and modulates the DNA-binding activity of several transcription factors, including NFκB, AP-1, p53, TFIIIC and glucocorticoid receptor. Trx also stimulates cell growth, is an inhibitor of apoptosis and plays a role in the protection against oxidative stress. Drugs that inhibit Trx have antitumor activity, suggesting that thioredoxin is involved in a variety of human diseases, including cancer. TrxR is an ubiquitously expressed flavoprotein that catalyzes the NADPH-dependent reduction of thioredoxin as well as several other oxidized cellular components. Mammalian TrxR is a part of a selenium-containing pyridine nucleotide-disulphide oxidoreductase family, which has a conserved catalytic site of Cys-Val-Asn-Val-Gly-Cys. The two known forms of TrxR, TrxR1 and TrxR2, are also involved in the prevention of oxidative stress. Inhibition of TrxR activity may provide for potential treatments of cancer, AIDS and other autoimmune diseases as well as bacterial infections and parasitic diseases.

### REFERENCES

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### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### SOURCE

Trx (1-105) is expressed in *E. coli* as a 34 kDa tagged fusion protein corresponding to amino acids 1-105 of Trx of human origin.

### PRODUCT

Trx (1-105) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

### APPLICATIONS

Trx (1-105) is suitable as a Western blotting control for sc-18215, sc-18220 and sc-20146.

### STORAGE

Store at -20° C; stable for one year from the date of shipment.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.