

## Trx-2 (H-75): sc-50336

### 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 anti-tumor 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.

### CHROMOSOMAL LOCATION

Genetic locus: TXN2 (human) mapping to 22q12.3; Txn2 (mouse) mapping to 15 E1.

### SOURCE

Trx-2 (H-75) is a rabbit polyclonal antibody raised against amino acids 92-166 mapping at the C-terminus of Trx-2 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

Trx-2 (H-75) is recommended for detection of Trx-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Trx-2 (H-75) is also recommended for detection of Trx-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Trx-2 siRNA (h): sc-44173, Trx-2 siRNA (m): sc-60084, Trx-2 shRNA Plasmid (h): sc-44173-SH, Trx-2 shRNA Plasmid (m): sc-60084-SH, Trx-2 shRNA (h) Lentiviral Particles: sc-44173-V and Trx-2 shRNA (m) Lentiviral Particles: sc-60084-V.

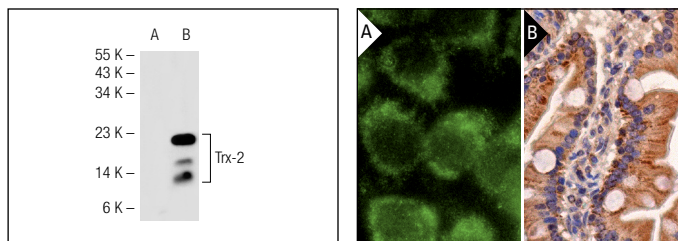
Molecular Weight of Trx-2: 18 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Trx-2 (h): 293T Lysate: sc-113517.

### STORAGE

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

### DATA



Trx-2 (H-75): sc-50336. Western blot analysis of Trx-2 expression in non-transfected: sc-117752 (A) and human Trx-2 transfected: sc-113517 (B) 293T whole cell lysates.

Trx-2 (H-75): sc-50336. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

### SELECT PRODUCT CITATIONS

- McCommis, K.S., et al. 2011. Hypercholesterolemia increases mitochondrial oxidative stress and enhances the MPT response in the porcine myocardium: beneficial effects of chronic exercise. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 301: R1250-R1258.
- Myers, J.M., et al. 2011. The intracellular redox stress caused by hexavalent chromium is selective for proteins that have key roles in cell survival and thiol redox control. *Toxicology* 281: 37-47.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **Trx-2 (F-10): sc-133201** or **Trx-2 (B-3): sc-137028**, our highly recommended monoclonal alternatives to Trx-2 (H-75).