

TrxR2 (N-12): sc-46278

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 Trx is involved in a variety of human diseases, including cancer. Thioredoxin 2 (Trx-2) is a small redox protein that is localized to the mitochondria and is essential for cell viability, playing a crucial role in the scavenging of ROS in mitochondria and regulating the mitochondrial apoptosis signaling pathway. Trx reductases (TrxR1 and TrxR2) are ubiquitously expressed flavoproteins that catalyze the NADPH-dependent reduction of Trx as well as several other oxidized cellular components. Mammalian Trx reductases are a part of a selenium-containing pyridine nucleotide-disulphide oxidoreductase family, which has a conserved catalytic site of Cys-Val-Asn-Val-Gly-Cys. 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.

SOURCE

TrxR2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TrxR2 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.

Blocking peptide available for competition studies, sc-46278 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TrxR2 (N-12) is recommended for detection of TrxR2 isoforms 1, 2, 3 and 4 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with TrxR1 and TrxR3.

TrxR2 (N-12) is also recommended for detection of TrxR2 isoforms 1, 2, 3, and 4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TrxR2 siRNA (h): sc-45819, TrxR2 siRNA (m): sc-45820, TrxR2 shRNA Plasmid (h): sc-45819-SH, TrxR2 shRNA Plasmid (m): sc-45820-SH, TrxR2 shRNA (h) Lentiviral Particles: sc-45819-V and TrxR2 shRNA (m) Lentiviral Particles: sc-45820-V.

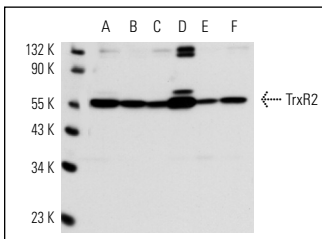
Molecular Weight of TrxR2: 56-57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 and TrxR2 (m2): 293T Lysate: sc-124315.

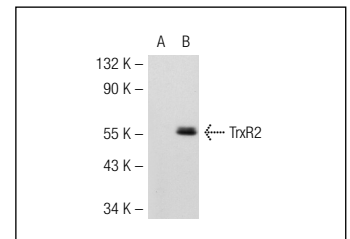
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TrxR2 (N-12): sc-46278. Western blot analysis of TrxR2 expression in HeLa (A), K-562 (B), Hep G2 (C), Caki-1 (D), SW480 (E) and A-431 (F) whole cell lysates.



TrxR2 (N-12): sc-46278. Western blot analysis of TrxR2 expression in non-transfected: sc-117752 (A) and mouse TrxR2 transfected: sc-124315 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- De Marco, F., et al. 2012. Oxidative stress in HPV-driven viral carcinogenesis: redox proteomics analysis of HPV-16 dysplastic and neoplastic tissues. *PLoS ONE* 7: e34366.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
Satisfaction
Guaranteed

Try **TrxR2 (F-5): sc-376868** or **TrxR2 (B-10): sc-365714**, our highly recommended monoclonal alternatives to TrxR2 (N-12).