

TXNL1 (D-5): sc-365711

BACKGROUND

Thioredoxins are small redox active proteins that play a variety of roles throughout the cell. TXNL1 (thioredoxin-like protein 1), also known as TRP32, TXL or TXL-1, is a 289 amino acid cytoplasmic protein that is thought to participate in endocytotic signaling pathways and may act as a redox sensor. Expressed throughout the body, TXNL1 functions to couple oxidative stress to endocytosis, thereby regulating the GDI:Rad5-mediated endocytic response. Additionally, overexpression of TXNL1 inhibits cell proliferation by predisposing the cell to G₀/G₁ arrest, suggesting that TXNL1 also functions as a transcriptional repressor. TXNL1 shares 99% homology with its mouse homolog and contains one thioredoxin domain.

REFERENCES

- Miranda-Vizuete, A., et al. 1998. Molecular cloning and expression of a cDNA encoding a human thioredoxin-like protein. *Biochem. Biophys. Res. Commun.* 243: 284-288.
- Lee, K.K., et al. 1998. Purification, molecular cloning, and characterization of TRP32, a novel thioredoxin-related mammalian protein of 32 kDa. *J. Biol. Chem.* 273: 19160-19166.
- Jin, J., et al. 2002. Crystal structure of the catalytic domain of a human thioredoxin-like protein. *Eur. J. Biochem.* 269: 2060-2068.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603049. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Kim, K.Y., et al. 2006. Expression of a thioredoxin-related protein-1 is induced by prostaglandin E₂. *Int. J. Cancer* 118: 1670-1679.
- Jiménez, A., et al. 2006. Characterization of human thioredoxin-like-1: potential involvement in the cellular response against glucose deprivation. *FEBS Lett.* 580: 960-967.
- Miranda-Vizuete, A. 2006. Thioredoxin-related protein-1 induced by prostaglandin E₂. *Int. J. Cancer* 119: 2499-2501.

CHROMOSOMAL LOCATION

Genetic locus: TXNL1 (human) mapping to 18q21.31; Txnl1 (mouse) mapping to 18 E1.

SOURCE

TXNL1 (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 129-164 within an internal region of TXNL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365711 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TXNL1 (D-5) is recommended for detection of TXNL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

TXNL1 (D-5) is also recommended for detection of TXNL1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TXNL1 siRNA (h): sc-63179, TXNL1 siRNA (m): sc-63180, TXNL1 shRNA Plasmid (h): sc-63179-SH, TXNL1 shRNA Plasmid (m): sc-63180-SH, TXNL1 shRNA (h) Lentiviral Particles: sc-63179-V and TXNL1 shRNA (m) Lentiviral Particles: sc-63180-V.

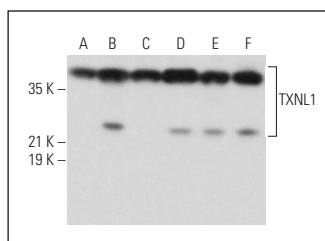
Molecular Weight of TXNL1: 32 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175, HL-60 whole cell lysate: sc-2209 or K-562 whole cell lysate: sc-2203.

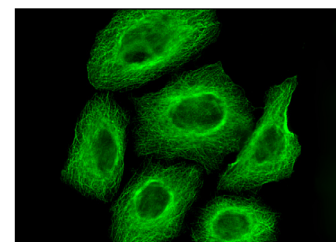
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TXNL1 (D-5): sc-365711. Western blot analysis of TXNL1 expression in HL-60 (A), HCT-116 (B), K-562 (C), c4 (D), NIH/3T3 (E) and A-10 (F) whole cell lysates.



TXNL1 (D-5): sc-365711. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.