



## TXNL6 (L-13): sc-162365

### BACKGROUND

Thioredoxins are small redox active proteins that play a variety of roles throughout the cell. TXNL6 (thioredoxin-like 6), also known as NXNL1 (nucleoredoxin-like 1) or RDCVF (rod-derived cone viability factor), is a 212 amino acid nuclear outer membrane protein belonging to the nucleoredoxin family. Containing one thioredoxin domain, TXNL6 may work with NF $\kappa$ B to protect cone photoreceptor cells from photooxidative stress-induced apoptosis. Mutations in the gene encoding TXNL6 may be associated with age-related reduction of cone and rod function, which leads to rod-cone dystrophies such as retinitis pigmentosa (RP), an untreatable, inherited retinal disease that commonly results in blindness. TXNL6 is considered a potential target in developing therapeutic treatments for human retinal neurodegenerative diseases. TXNL6 is encoded by a gene located on human chromosome 19.

### REFERENCES

1. Leveillard, T., et al. 2004. Identification and characterization of rod-derived cone viability factor. *Nat. Genet.* 36: 755-759.
2. Sahel, J.A., et al. 2005. Neuroprotection of photoreceptor cells in rod-cone dystrophies: from cell therapy to cell signalling. *C. R. Biol.* 328: 163-168.
3. Hanein, S., et al. 2006. Disease-associated variants of the Rod-derived cone viability factor (RdCVF) in Leber congenital amaurosis. Rod-derived cone viability variants in LCA. *Adv. Exp. Med. Biol.* 572: 9-14.
4. Chalmel, F., et al. 2007. Rod-derived Cone Viability Factor-2 is a novel bifunctional-thioredoxin-like protein with therapeutic potential. *BMC Mol. Biol.* 8: 74.
5. Wang, X.W., et al. 2008. Thioredoxin-like 6 protects retinal cell line from photooxidative damage by upregulating NF $\kappa$ B activity. *Free Radic. Biol. Med.* 45: 336-344.
6. Fridlich, R., et al. 2009. The thioredoxin-like protein Rod-derived cone viability factor (RdCVFL) interacts with TAU and inhibits its phosphorylation in the retina. *Mol. Cell Proteomics* 8: 1206-1218.
7. Yang, Y., et al. 2009. Functional cone rescue by RdCVF protein in a dominant model of retinitis pigmentosa. *Mol. Ther.* 17: 787-795.
8. Cronin, T., et al. 2010. The disruption of the Rod-derived cone viability gene leads to photoreceptor dysfunction and susceptibility to oxidative stress. *Cell Death Differ.* E-published.
9. Reichman, S., et al. 2010. The homeobox gene CHX10/VSX2 regulates RdCVF promoter activity in the inner retina. *Hum. Mol. Genet.* 19: 250-261.

### CHROMOSOMAL LOCATION

Genetic locus: NXNL1 (human) mapping to 19p13.11; Nxn1 (mouse) mapping to 8 B3.3.

### SOURCE

TXNL6 (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TXNL6 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162365 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

TXNL6 (L-13) is recommended for detection of TXNL6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with TXNL1.

Suitable for use as control antibody for TXNL6 siRNA (h): sc-97771, TXNL6 siRNA (m): sc-154825, TXNL6 shRNA Plasmid (h): sc-97771-SH, TXNL6 shRNA Plasmid (m): sc-154825-SH, TXNL6 shRNA (h) Lentiviral Particles: sc-97771-V and TXNL6 shRNA (m) Lentiviral Particles: sc-154825-V.

Molecular Weight of TXNL6: 24 kDa.

### 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) 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.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.