SANTA CRUZ BIOTECHNOLOGY, INC.

TXNL6 (3-RE25): sc-135593

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 NFκB to protect cone photoreceptor cells from photooxidative stress-induced apoptosis. Mutations in the gene encoding TNXL6 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. TNXL6 is considered a potential target in developing therapeutic treatments for human retinal neurodegenerative diseases. TNXL6 is encoded by a gene located on human chromosome 19.

REFERENCES

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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 NFκB 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. 17: 1199-1210.
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.

SOURCE

TXNL6 (3-RE25) is a mouse monoclonal antibody raised against recombinant TXNL6 protein of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TXNL6 (3-RE25) is recommended for detection of TXNL6 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

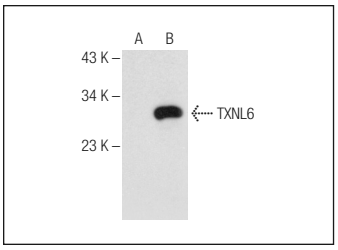
Molecular Weight of TXNL6: 24 kDa.

Positive Controls: TXNL6 (h2): 293T Lysate: sc-371847.

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).

DATA



TXNL6 (3-RE25): sc-135593. Western blot analysis of TXNL6 expression in non-transfected: sc-117752 (**A**) and human TXNL6 transfected: sc-371847 (**B**) 293T whole cell lysates.

STORAGE

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

PROTOCOLS

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