

CERKL (K-16): sc-167458

BACKGROUND

Ceramide metabolism plays a critical role in the viability of neuronal cells, and ceramide kinases convert ceramide into ceramide-1-phosphate, a protein involved in cellular apoptosis and survival. CERKL (ceramide kinase-like), also known as RP26, is a 558 amino acid protein that lacks observable ceramide-kinase activity. Existing as seven alternatively spliced isoforms, CERKL localizes to cytoplasm and nucleus, and is enriched in nucleoli. CERKL is expressed moderately in kidney, retina, lung, trachea, pancreas and testis, with lower levels found in brain, placenta and liver. Defects in the gene encoding CERKL may lead to retinitis pigmentosa type 26 (RP26), an autosomal recessive disorder characterized by retinal photoreceptor cell degeneration. Symptoms of RP26 include night vision blindness and loss of midperipheral visual field.

REFERENCES

1. Bayes, M., et al. 1998. A new autosomal recessive retinitis pigmentosa locus maps on chromosome 2q31-q33. *J. Med. Genet.* 35: 141-145.
2. Sugiura, M., et al. 2002. Ceramide kinase, a novel lipid kinase. Molecular cloning and functional characterization. *J. Biol. Chem.* 277: 23294-23300.
3. Tuson, M., et al. 2004. Mutation of CERKL, a novel human ceramide kinase gene, causes autosomal recessive retinitis pigmentosa (RP26). *Am. J. Hum. Genet.* 74: 128-138.
4. Inagaki, Y., et al. 2006. Identification of a nuclear localization signal in the retinitis pigmentosa-mutated RP26 protein, ceramide kinase-like protein. *Biochem. Biophys. Res. Commun.* 343: 982-987.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608381. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Tang, Z., et al. 2009. Novel compound heterozygous mutations in CERKL cause autosomal recessive retinitis pigmentosa in a nonconsanguineous Chinese family. *Arch. Ophthalmol.* 127: 1077-1078.
7. Tuson, M., et al. 2009. Over-expression of CERKL, a gene responsible for retinitis pigmentosa in humans, protects cells from apoptosis induced by oxidative stress. *Mol. Vis.* 15: 168-180.

CHROMOSOMAL LOCATION

Genetic locus: CERKL (human) mapping to 2q31.3; Cerkl (mouse) mapping to 2 C3.

SOURCE

CERKL (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CERKL 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-167458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CERKL (K-16) is recommended for detection of CERKL 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).

CERKL (K-16) is also recommended for detection of CERKL in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CERKL siRNA (h): sc-94466, CERKL siRNA (m): sc-142298, CERKL shRNA Plasmid (h): sc-94466-SH, CERKL shRNA Plasmid (m): sc-142298-SH, CERKL shRNA (h) Lentiviral Particles: sc-94466-V and CERKL shRNA (m) Lentiviral Particles: sc-142298-V.

Molecular Weight of CERKL: 62 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 or our catalog for detailed protocols and support products.