SANTA CRUZ BIOTECHNOLOGY, INC.

EGFL11 siRNA (h): sc-95498

BACKGROUND

Epidermal growth factor (EGF) repeat-containing proteins constitute an expanding family of proteins that are involved in several cellular activities, such as blood coagulation, fibrinolysis, cell adhesion, and neural and vertebrate development. In addition, this family encodes proteins that govern cellular proliferative responses. EGFL11 (epidermal growth factor-like protein 11), also known as EGF-like protein 11, EYS (eyes shut homolog *(Drosophila)*) or protein spacemaker homolog, is a 3,165 amino acid secreted protein belonging to the EYS family. Containing 27 EGF-like domains and five laminin G-like domains, EGFL11 is required to maintain photoreceptor cell integrity. EGFL11 localizes to the photoreceptor cell layer and is expressed in retina. Defects to EGFL11 have been linked to retinitis pigmentosa type 25 (RP25), a disorder characterized by night blindness and deteriorated visual acuity. EGFL11 exists as three alternatively spliced isoforms and is encoded by a gene mapping to human chromosome 6q12.

REFERENCES

1. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. Genome Res. 13: 2265-2270.
2. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
3. Collin, R.W., et al. 2008. Identification of a 2 Mb human ortholog of *Drosophila* eyes shut/spacemaker that is mutated in patients with retinitis pigmentosa. Am. J. Hum. Genet. 83: 594-603.
4. Abd El-Aziz, M.M., et al. 2008. EYS, encoding an ortholog of *Drosophila* spacemaker, is mutated in autosomal recessive retinitis pigmentosa. Nat. Genet. 40: 1285-1287.
5. Huang, Y., et al. 2010. Identification of a novel homozygous nonsense mutation in EYS in a Chinese family with autosomal recessive retinitis pigmentosa. BMC Med. Genet. 11: 121.
6. Audo, I., et al. 2010. EYS is a major gene for rod-cone dystrophies in France. Hum. Mutat. 31: E1406-E1435.
7. Barragán, I., et al. 2010. Mutation spectrum of EYS in Spanish patients with autosomal recessive retinitis pigmentosa. Hum. Mutat. 31: E1772-E1800.
8. Rose, J.E., et al. 2010. Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Mol. Med. 16: 247-253.
9. Khan, M.I., et al. 2010. Missense mutations at homologous positions in the fourth and fifth laminin A G-like domains of eyes shut homolog cause autosomal recessive retinitis pigmentosa. Mol. Vis. 16: 2753-2759.

CHROMOSOMAL LOCATION

Genetic locus: EYS (human) mapping to 6q12.

PROTOCOLS

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

PRODUCT

EGFL11 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EGFL11 shRNA Plasmid (h): sc-95498-SH and EGFL11 shRNA (h) Lentiviral Particles: sc-95498-V as alternate gene silencing products.

For independent verification of EGFL11 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95498A, sc-95498B and sc-95498C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EGFL11 siRNA (h) is recommended for the inhibition of EGFL11 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EGFL11 gene expression knockdown using RT-PCR Primer: EGFL11 (h)-PR: sc-95498-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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