SANTA CRUZ BIOTECHNOLOGY, INC.

CrxOS siRNA (m): sc-142589

BACKGROUND

The cone-rod homeobox-containing gene (CRX) encodes a transcription factor that coordinates the expression of several photoreceptor genes in the developing retina, including opsin and rhodopsin. Specifically, CRX binds the OTX motif (TAATCC/A) upstream from photoreceptor genes. The CRX gene is also expressed in the pinealocytes of the pineal gland and may regulate pineal circadian activity by controling the expression of melatonin synthesis genes. CRX^{-} mice exhibit disruption of circadian rhythms. CrxOS (cone-rod homeobox, opposite strand), also known as Egam1 or Crxos1, is a 246 amino acid nuclear protein that contains a homeobox domain. CrxOS plays a role as positive or negative regulator of differentiation and cell growth in mouse embryonic stem cells, therefore acting as a transcriptional regulator. CrxOS exists as multiple alternatively spliced isoforms.

REFERENCES

1. Furukawa, T., et al. 1997. CRX, a novel OTX-like homeobox gene, shows photoreceptor-specific expression and regulates photoreceptor differentiation. Cell 91: 531-541.
2. Furukawa, T., et al. 1999. Retinopathy and attenuated circadian entrainment in CRX-deficient mice. Nat. Genet. 23: 466-470.
3. Bernard, M., et al. 2001. Transcriptional regulation of the chicken hydroxyindole-O-methyltransferase gene by the cone-rod homeobox-containing protein. J. Neurochem. 79: 248-257.
4. Rivolta, C., et al. 2001. Dominant Leber congenital amaurosis, cone-rod degeneration, and retinitis pigmentosa caused by mutant versions of the transcription factor CRX. Hum. Mutat. 18: 488-498.
5. Rivolta, C., et al. 2001. Novel frameshift mutations in CRX associated with Leber congenital amaurosis. Hum. Mutat. 18: 550-551.
6. Furukawa, A., et al. 2002. The mouse Crx 5'-upstream transgene sequence directs cell-specific and developmentally regulated expression in retinal photoreceptor cells. J. Neurosci. 22: 1640-1647.
7. Saito, K., et al. 2011. Relationships between homeoprotein EGAM1C and the expression of the placental prolactin gene family in mouse placentae and trophoblast stem cells. Reproduction 141: 259-268.
8. Soma, M., et al. 2012. Preferential emergence of cell types expressing markers for primitive endoderm lineages in mouse embryonic stem cells expressing exogenous EGAM1 homeoprotein. J. Biosci. Bioeng. 114: 342-346.

CHROMOSOMAL LOCATION

Genetic locus: Crxos (mouse) mapping to 7 A2.

PRODUCT

CrxOS siRNA (m) is a target-specific 19-25 nt siRNA 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 CrxOS shRNA Plasmid (m): sc-142589-SH and CrxOS shRNA (m) Lentiviral Particles: sc-142589-V as alternate gene silencing products.

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

CrxOS siRNA (m) is recommended for the inhibition of CrxOS expression in mouse 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 CrxOS gene expression knockdown using RT-PCR Primer: CrxOS (m)-PR: sc-142589-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.

PROTOCOLS

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