SANTA CRUZ BIOTECHNOLOGY, INC.

Prokineticin-2 siRNA (h): sc-61409

BACKGROUND

Prokineticin-2 (PK2) is a cysteine-rich secreted protein that is expressed in the suprachiasmatic nucleus (SCN) with receptors located in the critical autonomic control centers of the brain. It has a depolarizing effect on neurons expressing the receptor. PK2 is predominantly controlled by the endogenous circadian clock, but light also plays a modulatory role. PK2 functions as a critical SCN output molecule responsible for circadian locomotor rhythms. PK2 expression is high during the day, and responsive to nocturnal light pulses. PK2 also functions as a chemoattractant for subventricular zone-derived neuronal progenitors.

REFERENCES

1. Cheng, M.Y., et al. 2002. Prokineticin-2 transmits the behavioural circadian rhythm of the suprachiasmatic nucleus. Nature 417: 405-410.
2. Cottrell, G.T., et al. 2004. Prokineticin-2 modulates the excitability of subfornical organ neurons. J. Neurosci. 24: 2375-2379.
3. Cheng, M.Y., et al. 2005. Regulation of Prokineticin-2 expression by light and the circadian clock. BMC Neurosci. 6: 17.
4. Lambert, C.M., et al. 2005. Analysis of the Prokineticin-2 system in a diurnal rodent, the unstriped Nile grass rat *(Arvicanthis niloticus)*. J. Biol. Rhythms 20: 206-218.
5. Morton, A.J., et al. 2005. Disintegration of the sleep-wake cycle and circadian timing in Huntington's disease. J. Neurosci. 25: 157-163.
6. Ng, K.L., et al. 2005. Dependence of olfactory bulb neurogenesis on Prokineticin-2 signaling. Science 308: 1923-1927.
7. Zhou, Q.Y. and Cheng, M.Y. 2005. Prokineticin-2 and circadian clock output. FEBS J. 272: 5703-5709.
8. Masumoto, K.H., et al. 2006. Distinct localization of Prokineticin-2 and prokineticin receptor 2 mRNAs in the rat suprachiasmatic nucleus. Eur. J. Neurosci. 23: 2959-2970.

CHROMOSOMAL LOCATION

Genetic locus: PROK2 (human) mapping to 3p13.

PRODUCT

Prokineticin-2 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 Prokineticin-2 shRNA Plasmid (h): sc-61409-SH and Prokineticin-2 shRNA (h) Lentiviral Particles: sc-61409-V as alternate gene silencing products.

For independent verification of Prokineticin-2 (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-61409A, sc-61409B and sc-61409C.

RESEARCH USE

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

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

Prokineticin-2 siRNA (h) is recommended for the inhibition of Prokineticin-2 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 Prokineticin-2 gene expression knockdown using RT-PCR Primer: Prokineticin-2 (h)-PR: sc-61409-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kurebayashi, H., et al. 2015. Prokineticin 2 (PROK2) is an important factor for angiogenesis in colorectal cancer. Oncotarget 6: 26242-26251.

PROTOCOLS

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