SANTA CRUZ BIOTECHNOLOGY, INC.

Galanin siRNA (m): sc-72349

BACKGROUND

Though originally implicated in the regulation of feeding behavior, the neuropeptide Galanin is now known to be is involved in several physiological functions, including reproduction, and that it also inhibits various aspects of neurotransmission and memory. Galanin influences gonadotrophin-releasing hormone secretion in the hypothalamo-pituitary axis. Galanin is localized in brain pathways involved in both cognition and affect, and may inhibit learning and memory by inhibiting neurotransmitter release and neuronal firing rate. Galanin is upregulated in primary afferent and sympathetic neurones and may be involved in the development of sympathetic perineuronal baskets ("rings") following nerve injury.

REFERENCES

1. Key, S. and Wray, S. 2000. Two olfactory placode derived Galanin subpopulations: luteinizing hormone-releasing hormone neurones and vomeronasal cells. J. Neuroendocrinol. 12: 535-545.
2. Steiner, R.A., Hohmann, J.G., Holmes, A., Wrenn, C.C., Cadd, G., Jureus, A., Clifton, D.K., Luo, M., Gutshall, M., Ma, S.Y., Mufson, E.J. and Crawley, J.N. 2001. Galanin transgenic mice display cognitive and neurochemical deficits characteristic of Alzheimer's disease. Proc. Natl. Acad. Sci. USA 98: 4184-4189.
3. Kleine, B., Wolfahrt, S., Lotsch, M., Gantner, T. and Rossmanith, W.G. 2001. Expression of Galanin in human placenta. Mol. Hum. Reprod. 7: 379-385.
4. Wrenn, C.C. and Crawley, J.N. 2001. Pharmacological evidence supporting a role for Galanin in cognition and affect. Prog. Neuropsychopharmacol. Biol. Psychiatry 25: 283-299.
5. Hu, P. and McLachlan, E.M. 2001. Long-term changes in the distribution of Galanin in dorsal root ganglia after sciatic or spinal nerve transection in rats. Neuroscience 103: 1059-1071.
6. Sachs, H.H., Wynick, D. and Zigmond, R.E. 2007. Galanin plays a role in the conditioning lesion effect in sensory neurons. Neuroreport 18: 1729-1733.

CHROMOSOMAL LOCATION

Genetic locus: Gal (mouse) mapping to 19 A.

PRODUCT

Galanin siRNA (m) 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 Galanin shRNA Plasmid (m): sc-72349-SH and Galanin shRNA (m) Lentiviral Particles: sc-72349-V as alternate gene silencing products.

For independent verification of Galanin (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72349A, sc-72349B and sc-72349C.

PROTOCOLS

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

Galanin siRNA (m) is recommended for the inhibition of Galanin 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 Galanin gene expression knockdown using RT-PCR Primer: Galanin (m)-PR: sc-72349-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.