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# Galanin siRNA (h): sc-43797

## BACKGROUND

Though originally implicated in the regulation of feeding behavior, the neuropeptide Galanin is involved in several physiological functions, including reproduction, and 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, 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: iuteinizing 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.

## CHROMOSOMAL LOCATION

Genetic locus: GAL (human) mapping to 11q13.3.

## PRODUCT

Galanin 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Galanin shRNA Plasmid (h): sc-43797-SH and Galanin shRNA (h) Lentiviral Particles: sc-43797-V as alternate gene silencing products.

For independent verification of Galanin (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-43797A, sc-43797B and sc-43797C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Galanin siRNA (h) is recommended for the inhibition of Galanin 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  $\mu$ M in 66  $\mu$ l. 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.

## GENE EXPRESSION MONITORING

Galanin (H-11): sc-166431 is recommended as a control antibody for monitoring of Galanin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Galanin gene expression knockdown using RT-PCR Primer: Galanin (h)-PR: sc-43797-PR (20  $\mu$ l). 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.