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# GSC shRNA (h) Lentiviral Particles: sc-43822-V

## BACKGROUND

Goosecoid (GSC) is a homeodomain transcription factor with DNA binding specificity identical to that of the anterior morphogen "bicoid" in *Drosophila*. During mouse embryogenesis, GSC influences development of the lower mandible and its associated musculature, including the tongue, the nasal cavity and the nasal pits, as well as components of the inner ear and the external auditory meatus. The GSC gene encodes a member of the bicoid subfamily of the paired (PRD) homeobox family of proteins.

## REFERENCES

1. Yao, J., et al. 2001. Goosecoid promotes head organizer activity by direct repression of Xwnt8 in Spemann's organizer. *Development* 128: 2975-2987.
2. Lartillot, N., et al. 2002. Expression patterns of fork head and goosecoid homologues in the mollusc *Patella vulgata* supports the ancestry of the anterior mesendoderm across Bilateria. *Dev. Genes Evol.* 212: 551-561.
3. Asbreuk, C.H., et al. 2002. Survey for paired-like homeodomain gene expression in the hypothalamus: restricted expression patterns of Rx, Alx4 and goosecoid. *Neuroscience* 114: 883-889.
4. Borges, A.C., et al. 2002. Goosecoid and cerberus-like do not interact during mouse embryogenesis. *Int. J. Dev. Biol.* 46: 259-262.
5. Adhikary, S., et al. 2003. Miz-1 is required for early embryonic development during gastrulation. *Mol. Cell. Biol.* 23: 7648-57.
6. Namciu, S.J., et al. 2004. Sequence organization and matrix attachment regions of the human serine protease inhibitor gene cluster at 14q32.1. *Mamm. Genome* 15: 162-178.
7. Patwardhan, V., et al. 2004. Acceleration of early chick embryo morphogenesis by Insulin is associated with altered expression of embryonic genes. *Int. J. Dev. Biol.* 48: 319-26.

## CHROMOSOMAL LOCATION

Genetic locus: GSC (human) mapping to 14q32.13.

## PRODUCT

GSC shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see GSC siRNA (h): sc-43822 and GSC shRNA Plasmid (h): sc-43822-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ$  C for up to one week. Avoid repeated freeze thaw cycles.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

GSC shRNA (h) Lentiviral Particles is recommended for the inhibition of GSC expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  lentiviral transducing particles per milliliter; contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

GSC (N-12): sc-22234 is recommended as a control antibody for monitoring of GSC 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GSC gene expression knockdown using RT-PCR Primer: GSC (h)-PR: sc-43822-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.