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# GSC siRNA (h): sc-43822

## BACKGROUND

Gooseoid (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. Gooseoid 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 gooseoid 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 gooseoid. *Neuroscience* 114: 883-889.
4. Borges, A.C., et al. 2002. Gooseoid 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 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 GSC shRNA Plasmid (h): sc-43822-SH and GSC shRNA (h) Lentiviral Particles: sc-43822-V as alternate gene silencing products.

For independent verification of GSC (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-43822A, sc-43822B and sc-43822C.

## 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

GSC siRNA (h) is recommended for the inhibition of GSC 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

GSC (L-36): sc-81964 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 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 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° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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