SANTA CRUZ BIOTECHNOLOGY, INC.

twisted gastrulation siRNA (h): sc-106651

BACKGROUND

Twisted gastrulation, also referred to as Tsg, is a secreted, cysteine rich glycoprotein that was originally identified in *Drosophila melanogaster* where it is necessary for the establishment of the dorso-ventral axis. Twisted gastrulation regulates BMP signaling in the extracellular space, plays a role in BMP-mediated endochondral bone formation and is involved in the regulation of cartilage differentiation. It binds to BMP-2, BMP-4 and chordin displaying both BMP agonist and BMP antagonist functions. As an antagonist, twisted gastrulation directly binds to BMP-2 or -4. It can also more efficiently inhibit BMP activity by binding to a BMP-chordin complex and blocking BMP binding to its receptor. As an agonist, twisted gastrulation promotes the deactivation or cleavage of chordin, a BMP antagonist, by BMP-1.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: TWSG1 (human) mapping to 18p11.22.

PROTOCOLS

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

PRODUCT

twisted gastrulation 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 twisted gastrulation shRNA Plasmid (h): sc-106651-SH and twisted gastrulation shRNA (h) Lentiviral Particles: sc-106651-V as alternate gene silencing products.

For independent verification of twisted gastrulation (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-106651A, sc-106651B and sc-106651C.

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

twisted gastrulation siRNA (h) is recommended for the inhibition of twisted gastrulation 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 twisted gastrulation gene expression knockdown using RT-PCR Primer: twisted gastrulation (h)-PR: sc-106651-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.