SANTA CRUZ BIOTECHNOLOGY, INC.

Cripto siRNA (h): sc-39404

BACKGROUND

Teratocarcinoma-derived growth factor (TDGF)-1 gene encodes a protein known as cripto-1 (Cripto). Cripto is first expressed in the forming mesoderm during gastrulation but later in development the expression is restricted to the truncus arteriosus of the developing heart. This suggests that Cripto mediates the progression of epiblastic cells that give rise to the mesoderm. In the adult animal it is expressed at low levels in the spleen, heart, lung and brain. Cripto overexpression is characteristic of human gastric and colorectal carcinomas.

REFERENCES

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2. Brandt, R., et al. 1994. Identification and biological characterization of an epidermal growth factor-related protein: Cripto-1. J. Biol. Chem. 269: 17320-17328.
3. Baldassarre, G., et al. 2001. A truncated form of teratocarcinoma-derived growth factor-1 (Cripto-1) mRNA expressed in human colon carcinoma cell lines and tumors. Tumour Biol. 22: 286-293.
4. Adamson, E.D., et al. 2002. Cripto: a tumor growth factor and more. J. Cell. Physiol. 190: 267-278.
5. Parisi, S., et al. 2003. Nodal-dependent Cripto signaling promotes cardiomyogenesis and redirects the neural fate of embryonic stem cells. J. Cell Biol. 163: 303-314.
6. Shen, M.M. 2003. Decrypting the role of Cripto in tumorigenesis. J. Clin. Invest. 112: 500-502.
7. Gray, P.C., et al. 2003. Cripto forms a complex with activin and type II activin receptors and can block activin signaling. Proc. Natl. Acad. Sci. USA 100: 5193-5198.
8. Xing, P.X., et al. 2004. Cripto: a novel target for antibody-based cancer immunotherapy. Cancer Res. 64: 4018-4023.
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CHROMOSOMAL LOCATION

Genetic locus: TDGF1 (human) mapping to 3p21.31.

PRODUCT

Cripto 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 Cripto shRNA Plasmid (h): sc-39404-SH and Cripto shRNA (h) Lentiviral Particles: sc-39404-V as alternate gene silencing products.

For independent verification of Cripto (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-39404A, sc-39404B and sc-39404C.

RESEARCH USE

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

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

Cripto siRNA (h) is recommended for the inhibition of Cripto 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.

GENE EXPRESSION MONITORING

Cripto (H-10): sc-376448 is recommended as a control antibody for monitoring of Cripto 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Cripto gene expression knockdown using RT-PCR Primer: Cripto (h)-PR: sc-39404-PR (20 µl, 548 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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