SANTA CRUZ BIOTECHNOLOGY, INC.

KiSS-1 siRNA (h): sc-37443

BACKGROUND

KiSS-1 is a 145 amino acid human protein that suppresses metastases of melanomas and breast carcinomas without affecting tumorigenicity. The human KiSS-1 gene maps to chromosome 1q32.1 and consists of four exons. Transcripts for human KiSS-1 are predominantly expressed in the brain and placenta. KiSS-1 protein contains a polyproline-rich domain (SH3 ligand) and a putative protein kinase C-α phosphorylation site. KiSS-1 may regulate events downstream of cell-matrix adhesion in mechanisms involving cytoskeletal reorganization. Expression of KiSS-1 reduces the level of NFκB p50/p65 binding to the MMP-9 promoter and correlates with diminished expression of MMP-9 (also designated 92 kDa type IV collagenase or gelatinase B). KiSS-1 displays agonist activity on the orphan G protein-coupled receptor GPR54.

REFERENCES

1. Lee, J.H., et al. 1996. KiSS-1, a novel human malignant melanoma metastasis-suppressor gene. J. Natl. Cancer Inst. 88: 1731-1737.
2. Lee, J.H. and Welch, D.R. 1997. Suppression of metastasis in human breast carcinoma MDA-MB-435 cells after transfection with the metastasis suppressor gene, KiSS-1. Cancer Res. 57: 2384-2387.
3. West, A., et al. 1998. Chromosome localization and genomic structure of the KiSS-1 metastasis suppressor gene (KISS1). Genomics 54: 145-148.
4. Yan, C., et al. 2001. KiSS-1 represses 92 kDa type IV collagenase expression by downregulating NFκB binding to the promoter as a consequence of IκBα induced block of p65/p50 nuclear translocation. J. Biol. Chem. 276: 1164-1172.

CHROMOSOMAL LOCATION

Genetic locus: KISS1 (human) mapping to 1q32.1.

PRODUCT

KiSS-1 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 KiSS-1 shRNA Plasmid (h): sc-37443-SH and KiSS-1 shRNA (h) Lentiviral Particles: sc-37443-V as alternate gene silencing products.

For independent verification of KiSS-1 (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-37443A, sc-37443B and sc-37443C.

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

KiSS-1 siRNA (h) is recommended for the inhibition of KiSS-1 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

KiSS-1 (24-Q): sc-101246 is recommended as a control antibody for monitoring of KiSS-1 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 KiSS-1 gene expression knockdown using RT-PCR Primer: KiSS-1 (h)-PR: sc-37443-PR (20 µl, 437 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2014. Upregulated UHRF1 promotes bladder cancer cell invasion by epigenetic silencing of KiSS-1. PLoS ONE 9: e104252.

RESEARCH USE

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

PROTOCOLS

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