SANTA CRUZ BIOTECHNOLOGY, INC.

E-cadherin siRNA (h): sc-35242

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cadherins comprise a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of tissue structure and morphogenesis. Members of this family of adhesion proteins include rat cadherin K (and its human homolog, cadherin-6), R-cadherin, B-cadherin, E/P cadherin and cadherin-5. The classical cadherins, E-, N- and P-cadherin, consist of large extracellular domains characterized by a series of five homologous NH_2 terminal repeats. The most distal of these cadherins is thought to be responsible for binding specificity, transmembrane domains and carboxy terminal intracellular domains. The relatively short intracellular domains interact with a variety of cytoplasmic proteins, such as β-catenin, to regulate cadherin function.

CHROMOSOMAL LOCATION

Genetic locus: CDH1 (human) mapping to 16q22.1.

PRODUCT

E-cadherin siRNA (h) is a pool of 2 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 E-cadherin shRNA Plasmid (h): sc-35242-SH and E-cadherin shRNA (h) Lentiviral Particles: sc-35242-V as alternate gene silencing products.

For independent verification of E-cadherin (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-35242A and sc-35242B.

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

E-cadherin siRNA (h) is recommended for the inhibition of E-cadherin 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

E-cadherin (G-10): sc-8426 is recommended as a control antibody for monitoring of E-cadherin 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor E-cadherin gene expression knockdown using RT-PCR Primer: E-cadherin (h)-PR: sc-35242-PR (20 µl, 530 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Guerini, V., et al. 2005. The androgen derivative 5α-androstane-3β,17β-diol inhibits prostate cancer cell migration through activation of the estrogen receptor β subtype. Cancer Res. 65: 5445-5453.
2. Zhao, Y., et al. 2007. Lysophosphatidic acid modulates c-Met redistribution and hepatocyte growth factor/c-Met signaling in human bronchial epithelial cells through PKC δ and E-cadherin. Cell. Signal. 19: 2329-2338.
3. He, D., et al. 2009. Lysophosphatidic acid enhances pulmonary epithelial barrier integrity and protects endotoxin-induced epithelial barrier disruption and lung injury. J. Biol. Chem. 284: 24123-24132.
4. Liu, P., et al. 2010. Regulation of MT1-MMP activity by β-catenin in MDCK non-cancer and HT1080 cancer cells. J. Cell. Physiol. 225: 810-821.
5. Wang, X., et al. 2011. Short interfering RNA directed against SLUG blocks tumor growth, metastasis formation, and vascular leakage in bladder cancer. Med. Oncol. 28: S413-S422.
6. Feng, D., et al. 2012. Combination of valproic acid and ATRA restores RARβ2 expression and induces differentiation in cervical cancer through the PI3K/Akt pathway. Curr. Mol. Med. 12: 342-354.
7. Zhao, H., et al. 2012. Triptolide inhibits ovarian cancer cell invasion by repression of matrix metalloproteinase 7 and 19 and upregulation of E-cadherin. Exp. Mol. Med. 44: 633-641.
8. Zhu, W., et al. 2012. EGFR and HER2 receptor kinase signaling mediate epithelial cell invasion by *Candida albicans* during oropharyngeal infection. Proc. Natl. Acad. Sci. USA 109: 14194-14199.
9. Clementz, A.G., et al. 2013. Collagen XV inhibits epithelial to mesenchymal transition in pancreatic adenocarcinoma cells. PLoS ONE 8: e72250.
10. Manuel Iglesias, J., et al. 2013. Mammosphere formation in breast carcinoma cell lines depends upon expression of E-cadherin. PLoS ONE 8: e77281.
11. Miao, Y., et al. 2014. Promoter methylation-mediated silencing of β-catenin enhances invasiveness of non-small cell lung cancer and predicts adverse prognosis. PLoS ONE 9: e112258.

RESEARCH USE

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