SANTA CRUZ BIOTECHNOLOGY, INC.

EMMPRIN siRNA (h): sc-35298

BACKGROUND

Extracellular matrix metalloproteinase inducer (EMMPRIN), also designated basigin or CD147, is involved in the regulation of matrix remodeling at the epidermal-dermal interface. EMMPRIN stimulates the production of interstitial collagenase, gelatinase A, stromelysin-1 and various metalloproteinases (MMPs) by fibroblasts. These enzymes, which are typically increased during tissue degradation and wound healing, are important factors in cancer invasion and metastasis.

CHROMOSOMAL LOCATION

Genetic locus: BSG (human) mapping to 19p13.3.

PRODUCT

EMMPRIN 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 EMMPRIN shRNA Plasmid (h): sc-35298-SH and EMMPRIN shRNA (h) Lentiviral Particles: sc-35298-V as alternate gene silencing products.

For independent verification of EMMPRIN (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-35298A and sc-35298B.

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

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

PROTOCOLS

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

GENE EXPRESSION MONITORING

EMMPRIN (B-5): sc-46700 is recommended as a control antibody for monitoring of EMMPRIN 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 EMMPRIN gene expression knockdown using RT-PCR Primer: EMMPRIN (h)-PR: sc-35298-PR (20 µl, 521 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Millimaggi, D., et al. 2007. Tumor vesicle-associated CD147 modulates the angiogenic capability of endothelial cells. Neoplasia 9: 349-357.
2. Dang, D., et al. 2008. EMMPRIN modulates migration and deposition of TN-C in oral squamous carcinoma. Anticancer Res. 28: 2049-2054.
3. Gallagher, S.M., et al. 2009. Interaction of monocarboxylate transporter 4 with β1-Integrin and its role in cell migration. Am. J. Physiol., Cell Physiol. 296: C414-C421.
4. Millimaggi, D., et al. 2009. Vasculogenic mimicry of human ovarian cancer cells: role of CD147. Int. J. Oncol. 35: 1423-1428.
5. Rucci, N., et al. 2010. Receptor activator of NFκB ligand enhances breast cancer-induced osteolytic lesions through upregulation of extracellular matrix metalloproteinase inducer/CD147. Cancer Res. 70: 6150-6160.
6. Zeng, H.Z., et al. 2011. Expression of CD147 in advanced non-small cell lung cancer correlated with cisplatin-based chemotherapy resistance. Neoplasma 58: 449-454.
7. Nakamura, K., et al. 2012. Role of EMMPRIN in endometrial cancer. BMC Cancer 12: 191.
8. Hibino, T., et al. 2013. S100A9 is a novel ligand of EMMPRIN that promotes melanoma metastasis. Cancer Res. 73: 172-183.
9. Huang, Z., et al. 2013. Overexpression of CD147 contributes to the chemoresistance of head and neck squamous cell carcinoma cells. J. Oral Pathol. Med. 42: 541-546.
10. Mahmoud, A.M., et al. 2021. High glucose and advanced glycation end products induce CD147-mediated MMP activity in human adipocytes. Cells 10: 2098.
11. Bae, W.J., et al. 2022. Estrogen-responsive cancer-associated fibroblasts promote invasive property of gastric cancer in a paracrine manner via CD147 production. FASEB J. 36: e22597.

RESEARCH USE

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