SANTA CRUZ BIOTECHNOLOGY, INC.

EMMPRIN siRNA (r): sc-156103

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.

REFERENCES

1. Paterson, D.J., et al. 1987. Antigens of activated rat T lymphocytes including a molecule of 50,000 M_r detected only on CD4 positive T blasts. Mol. Immunol. 24: 1281-1290.
2. Miyauchi, T., et al. 1990. Basigin, a new, broadly distributed member of the immunoglobulin superfamily, has strong homology with both the immunoglobulin V domain and the β-chain of major histocompatibility complex class II antigen. J. Biochem. 107: 316-323.
3. Biswas, C., et al. 1995. The human tumor cell-derived collagenase stimulatory factor (renamed EMMPRIN) is a member of the immunoglobulin superfamily. Cancer Res. 55: 434-439.
4. DeCastro, R., et al. 1996. Human keratinocytes express EMMPRIN, an extracellular matrix metalloproteinase inducer. J. Invest. Dermatol. 106: 1260-1265.
5. Guo, H., et al. 1997. Stimulation of matrix metalloproteinase production by recombinant extracellular matrix metalloproteinase inducer from transfected Chinese hamster ovary cells. J. Biol. Chem. 272: 24-27.
6. Guo, H., et al. 1998. Characterization of the gene for human EMMPRIN, a tumor cell surface inducer of matrixmetalloproteinases. Gene 220: 99-108.
7. Lim, M., et al. 1998. Tumor-derived EMMPRIN (extracellular matrix metalloproteinase inducer) stimulates collagenase transcription through MAPK p38. FEBS Lett. 441: 88-92.
8. Koch, C., et al. 1999. T cell activation-associated epitopes of CD147 in regulation of the T cell response, and their definition by antibody affinity and antigen density. Int. Immunol. 11: 777-786.

CHROMOSOMAL LOCATION

Genetic locus: Bsg (rat) mapping to 7q11.

PRODUCT

EMMPRIN siRNA (r) 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 EMMPRIN shRNA Plasmid (r): sc-156103-SH and EMMPRIN shRNA (r) Lentiviral Particles: sc-156103-V as alternate gene silencing products.

For independent verification of EMMPRIN (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-156103A, sc-156103B and sc-156103C.

APPLICATIONS

EMMPRIN siRNA (r) is recommended for the inhibition of EMMPRIN expression in rat 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

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).

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 EMMPRIN gene expression knockdown using RT-PCR Primer: EMMPRIN (r)-PR: sc-156103-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.

RESEARCH USE

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

PROTOCOLS