SANTA CRUZ BIOTECHNOLOGY, INC.

TMEFF2 siRNA (h): sc-61695

BACKGROUND

Transmembrane protein containing epidermal growth factor and two follistatin domains proteins (TMEFF1 and TMEFF2) are single-pass type 1 membrane proteins comprised of one epidermal growth factor (EGF)-like domain and two follistatin-like domains. TMEFF2, which also is designated hyperplastic polyposis protein 1 (HPP1) or tomoregulin (TR), may act as a survival factor for mesencephalic and hippocampal neurons. It is highly expressed in brain, prostate and spinal cord, but can also be detected in colon and stromal cells of normal colonic mucosa. TMEFF2, which is highly glycosylated, is down-regulated in tumor cell lines as a result of methylations in its 5' region.

REFERENCES

1. Horie, M., et al. 2000. Identification and characterization of TMEFF2, a novel survival factor for hippocampal and mesencephalic neurons. Genomics 67: 146-152.
2. Liang, G., et al. 2000. The gene for a novel transmembrane protein containing epidermal growth factor and follistatin domains is frequently hypermethylated in human tumor cells. Cancer Res. 60: 4907-4912.
3. Uchida, T., et al. 2000. A novel epide stimulates tyrosine phosphorylation of ErbB-4 in MKN28 gastric cancer cells. Biochem. Biophys. Res. Commun. 266: 593-602.
4. Young, J., et al. 2001. HPP1: a transmembrane protein-encoding gene commonly methyl polyps and cancers. Proc. Natl. Acad. Sci. USA 98: 265-270.
5. Glynne-Jones, E., et al. 2001. TENB2, a proteoglycan identified in prostate cancer that is associated with disease progression and androgen independence. Int. J. Cancer 94: 178-184.
6. Afar, D.E., et al. 2004. Preclinical validation of anti-TMEFF2-auristatin E-conjugated antibodies in the treatment of prostate cancer. Mol. Cancer Ther. 3: 921-932.

CHROMOSOMAL LOCATION

Genetic locus: TMEFF2 (human) mapping to 2q32.3.

PRODUCT

TMEFF2 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 TMEFF2 shRNA Plasmid (h): sc-61695-SH and TMEFF2 shRNA (h) Lentiviral Particles: sc-61695-V as alternate gene silencing products.

For independent verification of TMEFF2 (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-61695A, sc-61695B and sc-61695C.

PROTOCOLS

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

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

TMEFF2 siRNA (h) is recommended for the inhibition of TMEFF2 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

TMEFF2 (E-12): sc-376175 is recommended as a control antibody for monitoring of TMEFF2 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 TMEFF2 gene expression knockdown using RT-PCR Primer: TMEFF2 (h)-PR: sc-61695-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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