SANTA CRUZ BIOTECHNOLOGY, INC.

Epiregulin siRNA (h): sc-39418

BACKGROUND

Epiregulin (EPR, EREG), is an epidermal growth factor (EGF)-related growth regulating peptide which exhibits bifunctional properties in the regulation of cell growth. Epiregulin activates two members of the ErbB family of receptor tyrosine kinases, epidermal growth factor receptor (EGFR) and ErbB-4. Epiregulin is a potent vascular smooth muscle cell-derived mitogen induced by Angiotensin II, Endothelin-1 and Thrombin. Epiregulin acts as an autocrine growth factor in human epidermal keratinocytes and is part of auto- and cross-induction mechanisms involving HB-EGF, Amphiregulin and TGFα. Epiregulin is up-regulated in pancreatic cancer and stimulates pancreatic cancer cell growth.

REFERENCES

1. Toyoda, H., et al. 1995. Epiregulin, a novel epidermal growth factor with mitogenic activity for rat primary hepatocytes. J. Biol. Chem. 270: 7495-7500.
2. Riese, D.J., et al. 1998. Activation of ErbB-4 by the bifunctional epidermal growth factor family hormone Epiregulin is regulated by ErbB-2. J. Biol. Chem. 273: 11288-11294.
3. Taylor, D.S., et al. 1999. Epiregulin is a potent vascular smooth muscle cell-derived mitogen induced by Angiotensin II, Endothelin-1 and Thrombin. Proc. Natl. Acad. Sci. USA 96: 1633-1638.
4. Shirakata, Y., et al. 2000. Epiregulin, a novel member of the epidermal growth factor family, is an autocrine growth factor in normal human keratinocytes. J. Biol. Chem. 275: 5748-5753.
5. Zhu, Z., et al. 2000. Epiregulin is upregulated in pancreatic cancer and stimulates pancreatic cancer cell growth. Biochem. Biophys. Res. Commun. 273: 1019-1024.

CHROMOSOMAL LOCATION

Genetic locus: EREG (human) mapping to 4q13.3.

PRODUCT

Epiregulin 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 Epiregulin shRNA Plasmid (h): sc-39418-SH and Epiregulin shRNA (h) Lentiviral Particles: sc-39418-V as alternate gene silencing products.

For independent verification of Epiregulin (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-39418A, sc-39418B and sc-39418C.

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.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Epiregulin gene expression knockdown using RT-PCR Primer: Epiregulin (h)-PR: sc-39418-PR (20 µl, 553 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.