



ZPR1 siRNA (h): sc-35282

BACKGROUND

Epidermal growth factor (EGF) mediates its growth-promoting effects through its interaction with a cell surface glycoprotein designated the epidermal growth factor receptor (EGFR). Binding of epidermal growth factor to its cognate receptor activates a tyrosine kinase activity, intrinsic to the EGF receptor. ZPR1 is a zinc finger-containing protein that is capable of binding to the intracellular tyrosine kinase domain of the epidermal growth factor receptor. Stimulation of mammalian cells with epidermal growth factor reduces ZPR1 affinity for the EGFR and leads to an accumulation of the protein in the nucleus. The ZPR1 zinc finger is necessary for its association with the EGFR.

REFERENCES

1. Savage, C.R., Jr., et al. 1972. The primary structure of epidermal growth factor. *J. Biol. Chem.* 247: 7612-7621.
2. Reynolds, F.H., Jr., et al. 1981. Human transforming growth factors induces tyrosine phosphorylation of EGF receptors. *Nature* 292: 259-262.
3. Hunter, T. 1984. The epidermal growth factor receptor gene and its product. *Nature* 311: 414-416.
4. Gregory, H. 1985. *In vivo* aspects of urogastrone-epidermal growth factor. *J. Cell Sci. Suppl.* 3: 11-17.
5. Carpenter, G., et al. 1986. Epidermal growth factor, its receptor and related proteins. *Exp. Cell Res.* 164: 1-10.
6. Carpenter, G. 1987. Receptors for epidermal growth factor and other polypeptide mitogens. *Annu. Rev. Biochem.* 56: 881-914.

CHROMOSOMAL LOCATION

Genetic locus: ZPR1 (human) mapping to 11q23.3.

PRODUCT

ZPR1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZPR1 shRNA Plasmid (h): sc-35282-SH and ZPR1 shRNA (h) Lentiviral Particles: sc-35282-V as alternate gene silencing products.

For independent verification of ZPR1 (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-35282A, sc-35282B and sc-35282C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ZPR1 siRNA (h) is recommended for the inhibition of ZPR1 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 μ M in 66 μ l. 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

ZPR1 (C-1): sc-398241 is recommended as a control antibody for monitoring of ZPR1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ZPR1 gene expression knockdown using RT-PCR Primer: ZPR1 (h)-PR: sc-35282-PR (20 μ l, 569 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, W., et al. 2015. Withaferin A suppresses the up-regulation of acetyl-coA carboxylase 1 and skin tumor formation in a skin carcinogenesis mouse model. *Mol. Carcinog.* 55: 1739-1746.
2. Shan, Y., et al. 2017. ZNF259 inhibits non-small cell lung cancer cells proliferation and invasion by FAK-AKT signaling. *Cancer Manag. Res.* 9: 879-889.

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.