SANTA CRUZ BIOTECHNOLOGY, INC.

Akp-3 siRNA (m): sc-140982

BACKGROUND

Alkaline phosphatases (AP) are glycosyl-phosphatidylinositol (GPI)-anchored, dimeric, Zn^{2+}-metallated glycoproteins that catalyze the hydrolysis of phosphomonoesters into an inorganic phosphate and an alcohol. Placental alkaline phosphatase (also known as PLAP, ALPP, PALP, placental ALP-1 or Regan isozyme) is a 530 amino acid, tissue-specific AP that is expressed in the placenta, the serum of pregnant women and ectopically expressed in various cancers, including those of the ovary and testis. PLAP may assist in guiding migratory cells and transporting specific molecules, such as fatty acids and immunoglobulins, across the plasma membrane. The three tissue-specific APs identified in human, PLAP, germ cell AP (GCAP) and intestinal AP, are 90-98% homologous and their genes are clustered on chromosome 2q.

REFERENCES

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4. Epentos, A.A., et al. 1985. Monoclonal antibody assay of serum placental alkaline phosphatase in the monitoring of testicular tumours. Br. J. Cancer 51: 641-644.
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6. Griffin, C.A., et al. 1987. Human placental and intestinal alkaline phosphatase genes map to 2q34-q37. Am. J. Hum. Genet. 41: 1025-1034.
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8. Fisken, J., et al. 1989. Serum placental-like alkaline phosphatase (PLAP): a novel combined enzyme liked immunassay for monitoring ovarian cancer. J. Clin. Pathol. 42: 40-45.
9. Kang, J.O., et al. 1990. Placental-type alkaline phosphatase in peritoneal fluid of women with endometriosis. Clin. Chim. Acta 186: 285-294.

CHROMOSOMAL LOCATION

Genetic locus: Akp3 (mouse) mapping to 1 D.

PRODUCT

Akp-3 siRNA (m) is a target-specific 19-25 nt siRNA 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 Akp-3 shRNA Plasmid (m): sc-140982-SH and Akp-3 shRNA (m) Lentiviral Particles: sc-140982-V as alternate gene silencing 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

Akp-3 siRNA (m) is recommended for the inhibition of Akp-3 expression in mouse 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

Alkaline Phosphatase (A-10): sc-271431 is recommended as a control antibody for monitoring of Akp-3 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 Akp-3 gene expression knockdown using RT-PCR Primer: Akp-3 (m)-PR: sc-140982-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.

PROTOCOLS

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