SANTA CRUZ BIOTECHNOLOGY, INC.

PSG1 siRNA (h): sc-63362

BACKGROUND

Pregnancy specific glycoprotein 1 (PSG1), also designated CD66f, is a member of the PSG family, a group of closely related secreted glycoproteins that are highly expressed in fetal placental syncytiotrophoblast cells. The members of the PSG protein family all have a characteristic N-terminal domain that is homologous to the immunoglobulin variable region. PSGs become detectable in serum during the first two to three weeks of pregnancy and increase as the pregnancy progresses, eventually representing the most abundant fetal protein in the maternal blood at term. PSGs function to stimulate secretion of TH2-type cytokines from monocytes, and they may also modulate the maternal immune system during pregnancy, thereby protecting the semi-allotypic fetus from rejection. PSGs are commonly expressed in trophoblast tumors. 11 human PSG proteins (PSG1-PSG11) have been described.

REFERENCES

1. Bartels, I. and Lindemann, A. 1988. Maternal levels of pregnancy-specific β1-glycoprotein (SP-1) are elevated in pregnancies affected by Down's syndrome. Hum. Genet. 80: 46-48.
2. Barnett, T.R., et al. 1989. Human pregnancy-specific β1-glycoproteins are coded within chromosome 19. Am. J. Hum. Genet. 44: 890-893.
3. Niemann, S.C., et al. 1989. Pregnancy-specific β species specificity of one member of the PS β G family. Hum. Genet. 82: 239-243.
4. Lei, K.J., et al. 1992. Cloning and expression of genes encoding human pregnancy-specific glycoproteins. J. Biol. Chem. 267: 16371-16378.
5. Pan, C.J., et al. 1994. Pregnancy-specific glycoprotein gene expression and the induction by 5-bromo-2'-deoxyuridine. Biochemistry 33: 7260-7266.
6. Teglund, S., et al. 1995. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. Genomics 23: 669-684.
7. Snyder, S.K., et al. 2001. Pregnancy-specific glycoproteins function as immunomodulators by inducing secretion of IL-10, IL-6 and TGFβ1 by human monocytes. Am. J. Reprod. Immunol. 45: 205-216.

CHROMOSOMAL LOCATION

Genetic locus: PSG1 (human) mapping to 19q13.2.

PRODUCT

PSG1 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 PSG1 shRNA Plasmid (h): sc-63362-SH and PSG1 shRNA (h) Lentiviral Particles: sc-63362-V as alternate gene silencing products.

For independent verification of PSG1 (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-63362A, sc-63362B and sc-63362C.

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

PSG1 siRNA (h) is recommended for the inhibition of PSG1 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

PSG1 (BAP3): sc-59348 is recommended as a control antibody for monitoring of PSG1 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PSG1 gene expression knockdown using RT-PCR Primer: PSG1 (h)-PR: sc-63362-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.