

# PSR siRNA (h): sc-36324

## BACKGROUND

Cells undergoing apoptosis lose the asymmetry of plasma membrane phospholipids, and phosphatidylserine is exposed on the outer surface of the membrane. The phosphatidylserine receptor (PSR) specifically recognizes phosphatidylserine and this binding triggers the phagocytosis of apoptotic cells by either macrophages or dendritic cells. PSR is expressed on the surface of macrophages, fibroblasts, and epithelial cells, and it has been detected in high levels in heart, skeletal muscle, and kidney tissues and is extensively glycosylated. The mammalian phosphatidylserine receptor displays significant homology to *Caenorhabditis elegans* and *Drosophila melanogaster* proteins, which suggests that PSR has been conserved throughout phylogeny.

## REFERENCES

1. Fadok, V.A., et al. 1992. Exposure of phosphatidylserine on the surface of apoptotic lymphocytes triggers specific recognition and removal by macrophages. *J. Immunol.* 148: 2207-2216.
2. Fadok, V.A., et al. 1998. The role of phosphatidylserine in recognition of apoptotic cells by phagocytes. *Cell Death Differ.* 5: 551-562.
3. Liu, Q.A. and Hengartner, M.O. 1998. Candidate adaptor protein CED-6 promotes the engulfment of apoptotic cells in *C. elegans*. *Cell* 93: 961-972.
4. Franc, N.C., et al. 1999. Requirement for croquemort in phagocytosis of apoptotic cells in *Drosophila*. *Science* 284: 1991-1994.
5. Krahling, S., et al. 1999. Exposure of phosphatidylserine is a general feature in the phagocytosis of apoptotic lymphocytes by macrophages. *Cell Death Differ.* 6: 183-189.

## CHROMOSOMAL LOCATION

Genetic locus: JMJD6 (human) mapping to 17q25.1.

## PRODUCT

PSR 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PSR shRNA Plasmid (h): sc-36324-SH and PSR shRNA (h) Lentiviral Particles: sc-36324-V as alternate gene silencing products.

For independent verification of PSR (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-36324A, sc-36324B and sc-36324C.

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

## APPLICATIONS

PSR siRNA (h) is recommended for the inhibition of PSR 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  $\mu$ M in 66  $\mu$ 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

PSR (H-7): sc-28348 is recommended as a control antibody for monitoring of PSR 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PSR gene expression knockdown using RT-PCR Primer: PSR (h)-PR: sc-36324-PR (20  $\mu$ l, 512 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Wei, X., et al. 2016. Surface phosphatidylserine is responsible for the internalization of microvesicles derived from hypoxia-induced human bone marrow mesenchymal stem cells into human endothelial cells. *PLoS ONE* 11: e0147360.
2. Lee, C.R., et al. 2016. Elevated expression of JMJD6 is associated with oral carcinogenesis and maintains cancer stemness properties. *Carcinogenesis* 37: 119-128.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.