

# Pim-1 siRNA (r): sc-270539

## BACKGROUND

Pim-1 is a serine/threonine kinase that cooperates with c-Myc in lymphoid cell transformation. The expression of Pim-1 increases during the progression from early to late G<sub>1</sub>, remaining high at the G<sub>1</sub>/S boundary and G<sub>2</sub> phases of the cell cycle. Pim-1 is regulated at both the transcriptional and translational level, and it has been shown to be induced by IL-2 stimulation. Pim-1 also plays a role in T cell differentiation, and it has been shown to stimulate c-Myc-mediated apoptosis upstream of caspase-3-like proteases.

## REFERENCES

1. Liang, H., et al. 1996. Ubiquitous expression and cell cycle regulation of the protein kinase Pim-1. *Arch. Biochem. Biophys.* 330: 259-265.
2. Rohwer, F., et al. 1996. The effect of IL-2 treatment on transcriptional attenuation in proto-oncogenes Pim-1 and c-Myb in human thymic blast cells. *J. Immunol.* 157: 643-649.
3. Hoover, D.S., et al. 1997. Pim-1 protein expression is regulated by its 5'-untranslated region and translation initiation factor eIF-4E. *Cell Growth Differ.* 8: 1371-1380.
4. Mochizuki, T., et al. 1997. Pim-1 kinase stimulates c-Myc-mediated death signaling upstream of caspase-3 (CPP32)-like protease activation. *Oncogene* 15: 1471-1480.
5. Schmidt, T., et al. 1998. Evidence implicating Gfi-1 and Pim-1 in pre-T cell differentiation steps associated with  $\beta$ -selection. *EMBO J.* 17: 5349-5359.
6. Levenson, J.D., et al. 1998. Pim-1 kinase and p100 cooperate to enhance c-Myb activity. *Mol. Cell* 2: 417-425.

## CHROMOSOMAL LOCATION

Genetic locus: Pim1 (rat) mapping to 20p12.

## PRODUCT

Pim-1 siRNA (r) is a pool of 2 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 Pim-1 shRNA Plasmid (r): sc-270539-SH and Pim-1 shRNA (r) Lentiviral Particles: sc-270539-V as alternate gene silencing products.

For independent verification of Pim-1 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270539A and sc-270539B.

## 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

Pim-1 siRNA (r) is recommended for the inhibition of Pim-1 expression in rat 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

Pim-1 (G-11): sc-374116 is recommended as a control antibody for monitoring of Pim-1 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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pim-1 gene expression knockdown using RT-PCR Primer: Pim-1 (r)-PR: sc-270539-PR (20  $\mu$ l, 584 bp). 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](http://www.scbt.com) for detailed protocols and support products.