

## Pdcd-7 siRNA (h): sc-90046

### BACKGROUND

PD-1 (programmed cell death-1 protein) is a type I transmembrane receptor and a member of the immunoglobulin gene superfamily. Expression of PD-1 is detected in mouse thymus, and it is induced in stimulated B and T cell lines, where it may play a role in the negative regulation of various immune responses. PD-2 (also known as PDCD2, PDL2 or B7DC) is highly expressed in placenta, heart, pancreas, lung and liver. PD-2 is also expressed in spleen, lymph nodes and thymus. Pdcd-4 is a nuclear protein localized to the nucleus of proliferating cells. ALG-2 (apoptosis-linked gene 2), also designated programmed cell death protein 6, is a  $\text{Ca}^{2+}$ -binding protein that participates in regulatory events occurring late in the apoptotic program and where several death signals converge. Pdcd-7, also designated programmed cell death protein 7, is a 485 amino acid protein that promotes apoptosis when over-expressed. Human Pdcd-7 and the mouse Pdcd-7 protein, designated as Es18, share 95% homology in the overlapping region.

### REFERENCES

1. Ishida, Y., et al. 1992. Induced expression of PD-1, a novel member of the immunoglobulin gene superfamily, upon programmed cell death. *EMBO J.* 11: 3887-3895.
2. Agata, Y., et al. 1996. Expression of the PD-1 antigen on the surface of stimulated mouse T and B lymphocytes. *Int. Immunol.* 8: 765-772.
3. Park, E.J., et al. 1999. Characterization of a novel mouse cDNA, ES18, involved in apoptotic cell death of T cells. *Nucleic Acids Res.* 27: 1524-1530.
4. Li, W., et al. 2000. Increased expression of apoptosis-linked gene 2 (ALG2) in the rat brain after temporary focal cerebral ischemia. *Neuroscience* 96: 161-168.
5. Latchman, Y., et al. 2001. PD-L2 is a second ligand for PD-1 and inhibits T cell activation. *Nat. Immunol.* 2: 261-268.

### CHROMOSOMAL LOCATION

Genetic locus: PDCD7 (human) mapping to 15q22.31.

### PRODUCT

Pdcd-7 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  $\mu\text{M}$  solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Pdcd-7 shRNA Plasmid (h): sc-90046-SH and Pdcd-7 shRNA (h) Lentiviral Particles: sc-90046-V as alternate gene silencing products.

For independent verification of Pdcd-7 (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-90046A, sc-90046B and sc-90046C.

### PROTOCOLS

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

### STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}\text{C}$  with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}\text{C}$ , avoid contact with RNases and repeated freeze thaw cycles.

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

### APPLICATIONS

Pdcd-7 siRNA (h) is recommended for the inhibition of Pdcd-7 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  $\mu\text{M}$  in 66  $\mu\text{l}$ . 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

Pdcd-7 (S-18): sc-101250 is recommended as a control antibody for monitoring of Pdcd-7 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 Pdcd-7 gene expression knockdown using RT-PCR Primer: Pdcd-7 (h)-PR: sc-90046-PR (20  $\mu\text{l}$ ). Annealing temperature for the primers should be  $55-60^{\circ}\text{C}$  and the extension temperature should be  $68-72^{\circ}\text{C}$ .

### RESEARCH USE

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