SANTA CRUZ BIOTECHNOLOGY, INC.

Pdcd-5 siRNA (r): sc-270337

BACKGROUND

Pdcd-5 (programmed cell death protein 5), also known as TFAR19, is a 125 amino acid protein that is widely expressed with highest expression in heart, testis, kidney, pituitary gland, adrenal gland and placenta. Belonging to the Pdcd family, Pdcd-5 is activated in cells undergoing apoptosis. Pdcd-5 may be an important regulator of TIP60 by inhibiting its proteasome-dependent degradation. TIP60, also known as K(lysine) acetyltransferase 5, is a protein involved in transcription, DNA damage response and cell cycle control. Pdcd-5 is encoded by a gene located on human chromosome 19q13.11. Chromosome 19 consists of approximately 63 million bases and makes up over 2% of human genomic DNA. Chromosome 19 is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fcα receptors.

REFERENCES

1. Liu, H., et al. 1999. TFAR19, a novel apoptosis-related gene cloned from human leukemia cell line TF-1, could enhance apoptosis of some tumor cells induced by growth factor withdrawal. Biochem. Biophys. Res. Commun. 254: 203-210.
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3. Rui, M., et al. 2002. Transfer of anti-TFAR19 monoclonal antibody into HeLa cells by *in situ* electroporation can inhibit the apoptosis. Life Sci. 71: 1771-1778.
4. Feng, Y.M., et al. 2002. Soluble expression in *Escherichia coli*, purification and characterization of a human TF-1 cell apoptosis-related protein TFAR19. Protein Expr. Purif. 25: 323-329.
5. Tian, H.K., et al. 2002. TFAR19 enhances the opening of permeability transition pore in the mitochondrial membrane of mice liver. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 34: 279-284.
6. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. Nature 428: 529-535.
7. Gu, L., et al. 2004. FTIR spectroscopy studies on the apoptosis-promoting effect of TFAR19 on the erythroleukemia cell line MEL. Sheng Wu Yi Xue Gong Cheng Xue Za Zhi 21: 449-452.
8. Gu, L., et al. 2005. TFAR19 gene changes the biophysical properties of murine erythroleukemia cells. Cell Biochem. Biophys. 43: 355-363.
9. Xiong, L., et al. 2006. Expression of TFAR19(PDCD5) in normal human kidney, renal clear cell carcinoma, normal human bladder and bladder carcinoma. Nan Fang Yi Ke Da Xue Xue Bao 26: 805-809.

CHROMOSOMAL LOCATION

Genetic locus: Pdcd5 (rat) mapping to 1q21.

PROTOCOLS

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

PRODUCT

Pdcd-5 siRNA (r) 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 Pdcd-5 shRNA Plasmid (r): sc-270337-SH and Pdcd-5 shRNA (r) Lentiviral Particles: sc-270337-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

Pdcd-5 siRNA (r) is recommended for the inhibition of Pdcd-5 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pdcd-5 gene expression knockdown using RT-PCR Primer: Pdcd-5 (r)-PR: sc-270337-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, C.H., et al. 2013. The involvement of programmed cell death 5 (PDCD5) in the regulation of apoptosis in cerebral ischemia/reperfusion injury. CNS Neurosci. Ther. 19: 566-576.
2. Jiang, Z., et al. 2014. Autophagic effect of programmed cell death 5 (PDCD5) after focal cerebral ischemic reperfusion injury in rats. Neurosci. Lett. 566: 298-303.

RESEARCH USE

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