SANTA CRUZ BIOTECHNOLOGY, INC.

2'-PDE siRNA (m): sc-108585

BACKGROUND

C-C or β chemokine family members are characterized by a pair of adjacent cysteine residues and serve as potent chemoattractants and activators of monocytes and T cells. However, this receptor family has also been shown to facilitate viral infection. 2'-PDE, also designated PDE12, is a member of the CCR4/nocturin family and a key component of the 2-5A system. The 2-5A system is a major pathway induced by interferons (IFNs), in which unusual oligoadenylates, referred to as 2-5As, modulate RNA degradation in cells. 2'-PDE degrades 2-5A to AMP and ATP. Viral infection of cells induces the secretion of IFNs, which upregulate 2',5'-OASs. Suppression of 2'-PDE results in significant reduction of viral replication, whereas overexpression of 2'-PDE has been shown to protect cells from IFN-induced antiproliferative activity. Therefore, 2'-PDE may act as a potential target for antiviral and antitumor treatments.

REFERENCES

1. Schmidt, A., et al. 1978. Interferon action: isolation of nuclease F, a translation inhibitor activated by interferon-induced (2'-5') oligo-isoadenylate. FEBS Lett. 95: 257-264.
2. Severin, E.S., et al. 1985. Regulation of 2-5 A phosphodiesterase activity by cAMP-dependent phosphorylation: mechanism and biological role. Adv. Enzyme Regul. 23: 365-376.
3. Saarma, M., et al. 1986. Nerve growth factor induces changes in (2'-5') oligo(A) synthetase and 2'-phosphodiesterase activities during differentiation of PC-12 pheochromocytoma cells. Exp. Cell Res. 166: 229-236.
4. Deng, H., et al.1996. Identification of a major co-receptor for primary isolates of HIV-1. Nature 381: 661-666.
5. Dragic, T., et al. 1996. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. Nature 381: 667-673.
6. Feng, Y., et al. 1996. HIV-1 entry cofactor: functional cDNA cloning of a seven-transmembrane, G protein-coupled receptor. Science 272: 872-877.

CHROMOSOMAL LOCATION

Genetic locus: Pde12 (mouse) mapping to 14 A3.

PRODUCT

2'-PDE siRNA (m) 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. Suit-able for 50-100 transfections. Also see 2'-PDE shRNA Plasmid (m): sc-108585-SH and 2'-PDE shRNA (m) Lentiviral Particles: sc-108585-V as alternate gene silencing products.

For independent verification of 2'-PDE (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108585A, sc-108585B and sc-108585C.

PROTOCOLS

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

2'-PDE siRNA (m) is recommended for the inhibition of 2'-PDE expression in mouse 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 2'-PDE gene expression knockdown using RT-PCR Primer: 2'-PDE (m)-PR: sc-108585-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.