2'-PDE (h3): 293T Lysate: sc-176773



The Power to Question

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

- Schmidt, A., Zilberstein, A., Shulman, L., Federman, P., Berissi, H. and Revel, M. 1978. Interferon action: isolation of nuclease F, a translation inhibitor activated by interferon-induced (2'-5') oligo-isoadenylate. FEBS Lett. 95: 257-264.
- Severin, E.S., Itkes, A.V., Kartasheva, O.N., Tunitskaya, V.L., Turpaev, K.T. and Kafiani, C.A. 1985. Regulation of 2-5 A phosphodiesterase activity by cAMP-dependent phosphorylation: mechanism and biological role. Adv. Enzyme Regul. 23: 365-376.
- Saarma, M., Toots, U., Raukas, E., Zhelkovsky, A., Pivazian, A. and Neuman, T. 1986. Nerve growth factor induces changes in (2'-5')oligo(A) synthetase and 2'-phosphodiesterase activities during differentiation of PC12 pheochromocytoma cells. Exp. Cell Res. 166: 229-236.
- Dragic, T., Litwin, V., Allaway, G.P., Martin, S.R., Huang, Y., Nagashima, K.A., Cayanan, C., Maddon, P.J., Koup, R.A., Moore, J.P. and Paxton, W.A. 1996. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. Nature 381: 667-673.
- Deng, H., Liu, R., Ellmeier, W., Choe, S., Unutmaz, D., Burkhart, M., Di, Marzio, P., Marmon, S., Sutton, R.E., Hill, C.M., Davis, C.B., Peiper, S.C., Schall, T.J., Littman, D.R. and Landau, N.R.1996. Identification of a major co-receptor for primary isolates of HIV-1. Nature 381: 661-666.
- Feng, Y., Broder, C.C., Kennedy, P.E. and Berger, E.A. 1996. HIV-1 entry cofactor: functional cDNA cloning of a seven-transmembrane, G proteincoupled receptor. Science 272: 872-877.
- Kubota, K., Nakahara, K., Ohtsuka, T., Yoshida, S., Kawaguchi, J., Fujita, Y., Ozeki, Y., Hara, A., Yoshimura, C., Furukawa, H., Haruyama, H., Ichikawa, K., Yamashita, M., Matsuoka, T. and Iijima, Y. 2004. Identification of 2'-phosphodiesterase, which plays a role in the 2-5A system regulated by interferon. J. Biol. Chem. 279: 37832-37841.

CHROMOSOMAL LOCATION

Genetic locus: PDE12 (human) mapping to 3p14.3.

RESEARCH USE

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

PRODUCT

2'-PDE (h3): 293T Lysate represents a lysate of human 2'-PDE transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

2'-PDE (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive 2'-PDE antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**