SANTA CRUZ BIOTECHNOLOGY, INC.

XPR siRNA (h): sc-40285

BACKGROUND

The xenotropic and polytropic retrovirus receptor (XPR) is a cell surface receptor that mediates infection by polytropic and xenotropic murine leukemia viruses, designated P-MLV and X-MLV, respectively. In non-murine cells these receptors facilitate infection of both P-MLV and X-MLV retroviruses, while in mouse cells, XPR selectively permits infection by P-MLV only. XPR is classified with other mammalian type C oncoretrovirus receptors, which include the chemokine receptors that are required for HIV and simian immunodeficiency virus infection. XPR contains several hydrophobic domains indicating that it transverses the cell membrane multiple times, and it may function as a phosphate transporter and participate in G protein-coupled signal transduction. Expression of XPR is detected in a wide variety of human tissues, including pancreas, kidney and heart, and it shares homology with proteins identified in nematode, fly and plant, and with the yeast SYG1 (suppressor of yeast G_α deletion) protein.

REFERENCES

1. Spain, B.H., et al. 1995. Truncated forms of a novel yeast protein suppress the lethality of a G protein α subunit deficiency by interacting with the β subunit. J. Biol. Chem. 270: 25435-25444.
2. Tomonaga, K., et al. 1999. Structures of endogenous nonecotropic murine leukemia virus (MLV) long terminal repeats in wild mice: implication for evolution of MLVs. J. Virol. 73: 4327-4340.
3. Marin, M., et al. 1999. Polymorphisms of the cell surface receptor control mouse susceptibilities to xenotropic and polytropic leukemia viruses. J. Virol. 73: 9362-9368.
4. Tailor, C.S., et al. 1999. Cloning and characterization of a cell surface receptor for xenotropic and polytropic murine leukemia viruses. Proc. Natl. Acad. Sci. USA 96: 927-932.
5. Battini, J.L., et al. 1999. A human cell-surface receptor for xenotropic and polytropic murine leukemia viruses: possible role in G protein-coupled signal transduction. Proc. Natl. Acad. Sci. USA 96: 1385-1390.
6. Yang, Y.L., et al. 1999. Receptors for polytropic and xenotropic mouse leukaemia viruses encoded by a single gene at Rmc1. Nat. Genet. 21: 216-219.

CHROMOSOMAL LOCATION

Genetic locus: XPR1 (human) mapping to 1q25.3.

PRODUCT

XPR 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see XPR shRNA Plasmid (h): sc-40285-SH and XPR shRNA (h) Lentiviral Particles: sc-40285-V as alternate gene silencing products.

For independent verification of XPR (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-40285A, sc-40285B and sc-40285C.

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

XPR siRNA (h) is recommended for the inhibition of XPR 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 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 XPR gene expression knockdown using RT-PCR Primer: XPR (h)-PR: sc-40285-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.

PROTOCOLS

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