SANTA CRUZ BIOTECHNOLOGY, INC.

IFIX siRNA (h): sc-88428

BACKGROUND

IFIX (interferon-inducible protein X), also known as PYHIN1 (pyrin and HIN domain family, member 1), is a 492 amino acid protein that exists as multiple alternatively spliced isoforms which localize to different regions within the nucleus. Expressed in lymph node, spleen, bone marrow and thymus, IFIX contains one HIN-200 domain and one DAPIN domain, and functions as a major mediator of interferon (IFN) tumor suppressor activity in breast cancer cells. Additionally, IFIX promotes the ubiquitination and subsequent degradation of HDAC1 and MDM2, thereby stabilizing p53 and impairing the invasive activity of cancer cells. The gene encoding IFIX maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Ding, Y., et al. 2004. Antitumor activity of IFIX, a novel interferon-inducible HIN-200 gene, in breast cancer. Oncogene 23: 4556-4566.
2. Ding, Y., et al. 2006. Interferon-inducible protein IFIXα1 functions as a negative regulator of HDM2. Mol. Cell. Biol. 26: 1979-1996.
3. Patel, S. and Player, M.R. 2008. Small-molecule inhibitors of the p53-HDM2 interaction for the treatment of cancer. Expert Opin. Investig. Drugs 17: 1865-1882.
4. Choubey, D. and Panchanathan, R. 2008. Interferon-inducible Ifi200-family genes in systemic lupus erythematosus. Immunol. Lett. 119: 32-41.
5. Yamaguchi, H., et al. 2008. Interferon-inducible protein IFIXα inhibits cell invasion by upregulating the metastasis suppressor maspin. Mol. Carcinog. 47: 739-743.

CHROMOSOMAL LOCATION

Genetic locus: PYHIN1 (human) mapping to 1q23.1.

PRODUCT

IFIX 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 IFIX shRNA Plasmid (h): sc-88428-SH and IFIX shRNA (h) Lentiviral Particles: sc-88428-V as alternate gene silencing products.

For independent verification of IFIX (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-88428A, sc-88428B and sc-88428C.

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

IFIX siRNA (h) is recommended for the inhibition of IFIX 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 IFIX gene expression knockdown using RT-PCR Primer: IFIX (h)-PR: sc-88428-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.