SANTA CRUZ BIOTECHNOLOGY, INC.

IFI-27 siRNA (h): sc-105551

BACKGROUND

The Interferon (IFN) family of proteins are able to alter the expression of a variety of target genes, thereby controlling a number of events within the cell. IFI-27 (interferon-α-inducible protein 27), also known as P27, ISG12, FAM14D or ISG12A, is a 119 amino acid multi-pass membrane protein that belongs to a group of low molecular weight proteins whose function is influenced by IFNs. Localized to the mitochondrion, IFI-27 is thought to play a role in membrane permeability, possibly sensitizing cells to pro-apoptoic signals from other stimuli (e.g. viruses). Additionally, IFI-27 may, under the influence of IFN-α proteins, be responsible for the modulation of membrane permeability under a variety of biological conditions. IFI-27 expression is upregulated in several types of tumors, including breast cancer, bladder cancer, and head and neck squamous cell carcinomas, suggesting a possible role for IFI-27 in tumor progression and metastasis.

REFERENCES

1. Rasmussen, U.B., et al. 1993. Identification of a new interferon-α-inducible gene (p27) on human chromosome 14q32 and its expression in breast carcinoma. Cancer Res. 53: 4096-4101.
2. Martensen, P.M., et al. 2001. The interferon α induced protein ISG12 is localized to the nuclear membrane. Eur. J. Biochem. 268: 5947-5954.
3. Parker, N., et al. 2004. Identification of a novel gene family that includes the interferon-inducible human genes 6-16 and ISG12. BMC Genomics 5: 8.
4. Nishiu, M., et al. 2004. Distinct pattern of gene expression in pyothorax-associated lymphoma (PAL), a lymphoma developing in long-standing inflammation. Cancer Sci. 95: 828-834.
5. Taguchi, T., et al. 2004. Protein levels of p21, p27, cyclin E and Bax predict sensitivity to cisplatin and paclitaxel in head and neck squamous cell carcinomas. Oncol. Rep. 11: 421-426.
6. Fjaerli, H.O., et al. 2006. Whole blood gene expression in infants with respiratory syncytial virus bronchiolitis. BMC Infect. Dis. 6: 175.

CHROMOSOMAL LOCATION

Genetic locus: IFI27 (human) mapping to 14q32.12.

PRODUCT

IFI-27 siRNA (h) is a pool of 2 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 IFI-27 shRNA Plasmid (h): sc-105551-SH and IFI-27 shRNA (h) Lentiviral Particles: sc-105551-V as alternate gene silencing products.

For independent verification of IFI-27 (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-105551A and sc-105551B.

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

IFI-27 siRNA (h) is recommended for the inhibition of IFI-27 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 IFI-27 gene expression knockdown using RT-PCR Primer: IFI-27 (h)-PR: sc-105551-PR (20 µl, 407 bp). 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.