SANTA CRUZ BIOTECHNOLOGY, INC.

RNF34 siRNA (h): sc-75301

BACKGROUND

E3 ubiquitin-protein ligase RNF34, also designated RING finger protein 34, human RING finger homologous to inhibitor of apoptosis protein (hRFI), or caspase-8 and -10 associated RING finger protein 1 (CARP-1), is a 372 amino acid apoptosis regulator protein. Expressed ubiquitously, RNF34 has been observed at highest levels in testis, ovary, heart, skeletal muscle, and esophageal carcinomas. RNF34 has been shown to protect cells against apoptosis induced by TNF and 5-FU, and it also interacts with caspase-8 and caspase-10 to target them for proteasomal degradation. RNF34 is auto-ubiquitinated and is proteolytically cleaved by caspases upon induction of apoptosis by TNF. These known functions of RNF34 have identified it as a therapeutic target for gene therapy in various cancers.

REFERENCES

1. Sasaki, S., et al. 2002. Isolation and characterization of a novel gene, hRFI, preferentially expressed in esophageal cancer. Oncogene 21: 5024-5030.
2. Sasaki, S., et al. 2003. Expression of hRFI in digestive system cancer. Nippon Rinsho 7: 242-246.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608299. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Sasaki, S., et al. 2004. Effects of expression of hRFI on adenoma formation and tumor progression in colorectal adenoma-carcinoma sequence. J. Exp. Clin. Cancer Res. 23: 507-512.
5. Konishi, T., et al. 2005. Exogenous expression of hRFI induces multidrug resistance through escape from apoptosis in colorectal cancer cells. Anticancer Res. 25: 2737-2741.
6. Sasaki, S., et al. 2005. High hRFI expression correlates with resistance to fluoropyrimidines in human colon cancer cell lines and in xenografts. J. Exp. Clin. Cancer Res. 24: 397-403.

CHROMOSOMAL LOCATION

Genetic locus: RNF34 (human) mapping to 12q24.31.

PRODUCT

RNF34 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 RNF34 shRNA Plasmid (h): sc-75301-SH and RNF34 shRNA (h) Lentiviral Particles: sc-75301-V as alternate gene silencing products.

For independent verification of RNF34 (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-75301A, sc-75301B and sc-75301C.

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

RNF34 siRNA (h) is recommended for the inhibition of RNF34 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 RNF34 gene expression knockdown using RT-PCR Primer: RNF34 (h)-PR: sc-75301-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.