SANTA CRUZ BIOTECHNOLOGY, INC.

FAN siRNA (h): sc-63326

BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated through two distinct cell surface receptors. These receptors, designated TNF-R1 and TNF-R2, are expressed on most cell types. The majority of TNF functions are primarily mediated through TNF-R1. FAN (for factor associated with neutral sphingomyelinase (N-SMase) activation) is an intermediate protein that interacts with TNF-R1 to initiate TNF signaling events. FAN binds to TNF-R1 at the cytoplasmic NSD (N-SMase activating domain), which results in the initiation of the N-SMase pathway. N-SMase has been shown to be involved in TNF-induced Raf-1 activation. FAN contains four carboxy-terminal WD-repeat domains which appear to be involved in protein-protein interaction. The FAN WD-repeats may mediate the interaction between FAN and TNF-R1.

REFERENCES

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3. Smith, C.A., Farrah, T. and Goodwin, R.G. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation, and death. Cell 76: 959-962.
4. Hsu, H., Xiong, J. and Goeddel, D.V. 1995. The TNF receptor 1-associated protein TRADD signals cell death and NFκB activation. Cell 81: 495-504.
5. Belka, C., Wiegmann, K., Adam, D., Holland, R., Neuloh, M., Herrmann, F., Kronke, M. and Brach, M.A. 1995. Tumor necrosis factor (TNF)-α activates c-Raf-1 kinase via the p55 TNF receptor engaging neutral sphingomyelinase. EMBO J. 14: 1156-1165.
6. Adam-Klages, S., Adam, D., Weigmann, K., Struve, S., Kolanus, W., Schneider-Mergener, J. and Kronke, M. 1996. FAN, a novel WD-repeat protein, couples the p55 TNF-receptor to neutral sphingomyelinase. Cell 86: 937-947.

CHROMOSOMAL LOCATION

Genetic locus: NSMAF (human) mapping to 8q12.1.

PRODUCT

FAN 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 FAN shRNA Plasmid (h): sc-63326-SH and FAN shRNA (h) Lentiviral Particles: sc-63326-V as alternate gene silencing products.

For independent verification of FAN (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-63326A, sc-63326B and sc-63326C.

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

FAN siRNA (h) is recommended for the inhibition of FAN 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 FAN gene expression knockdown using RT-PCR Primer: FAN (h)-PR: sc-63326-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.