SANTA CRUZ BIOTECHNOLOGY, INC.

FAS siRNA (h): sc-29311

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The Power to Question

BACKGROUND

Cytotoxic T lymphocyte (CTL)-mediated cytotoxicity constitutes an important component of specific effector mechanisms in immunosurveillance against virus-infected or transformed cells. Two mechanisms appear to account for this activity, one of which is the perforin-based process. Independently, a FAS-based mechanism involves the transducing molecule FAS (also designated APO-1) and its ligand (FAS-L). The human FAS (APO-1) protein is a cell surface glycoprotein that belongs to a family of receptors that includes CD40, nerve growth factor receptors and tumor necrosis factor receptors. The FAS antigen is expressed on a broad range of lymphoid cell lines, certain of which undergo apoptosis in response to treatment with antibody to FAS. These findings strongly imply that targeted cell death is potentially mediated by the intercellular interactions of FAS with its ligand or effectors, and that FAS may be critically involved in CTL-mediated cytotoxicity.

CHROMOSOMAL LOCATION

Genetic locus: FAS (human) mapping to 10q23.31.

PRODUCT

FAS 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 FAS shRNA Plasmid (h): sc-29311-SH and FAS shRNA (h) Lentiviral Particles: sc-29311-V as alternate gene silencing products. For independent verification of FAS (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-29311A, sc-29311B and sc-29311C.

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

FAS siRNA (h) is recommended for the inhibition of FAS 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.

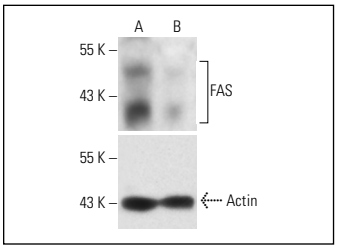
GENE EXPRESSION MONITORING

FAS (B-10): sc-8009 is recommended as a control antibody for monitoring of FAS gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FAS gene expression knockdown using RT-PCR Primer: FAS (h)-PR: sc-29311-PR (20 µl, 473 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



FAS siRNA (h): sc-29311. Western blot analysis of FAS expression in non-transfected control (**A**) and FAS siRNA transfected (**B**) HeLa cells. Blot probed with FAS (B-10): sc-8009. Actin (I-19): sc-1616 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2006. ING3 promotes UV-induced apoptosis via FAS/caspase-8 pathway in melanoma cells. J. Biol. Chem. 281: 11887-11893.
2. Borralho, P.M., et al. 2007. Inhibition of FAS expression by RNAi modulates 5-fluorouracil-induced apoptosis in HCT116 cells expressing wild-type p53. Biochim. Biophys. Acta 1772: 40-47.
3. Rege, T.A., et al. 2009. Thrombospondin-1-induced apoptosis of brain microvascular endothelial cells can be mediated by TNF-R1. J. Cell. Physiol. 218: 94-103.
4. Tamura, N., et al. 2011. Trophinin-mediated cell adhesion induces apoptosis of human endometrial epithelial cells through PKC-δ. Cell Cycle 10: 135-143.
5. Lee, H.P., et al. 2012. Curcumin induces cell apoptosis in human chondrosarcoma through extrinsic death receptor pathway. Int. Immunopharmacol. 13: 163-169.
6. Través, P.G., et al. 2013. Critical role of the death receptor pathway in the antitumoral effects induced by hispanolone derivatives. Oncogene 32: 259-268.
7. Helmke, C., et al. 2016. Ligand stimulation of CD95 induces activation of Plk3 followed by phosphorylation of caspase-8. Cell Res. 26: 914-934.

RESEARCH USE

For research use only, not for use in diagnostic procedures.