SANTA CRUZ BIOTECHNOLOGY, INC.

DR6 siRNA (h): sc-35220

BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated by two distinct cell surface receptors, designated TNF-R1 and TNF-R2, which are expressed on most cell types. TNF function is primarily mediated through TNF-R1 signaling. Both TNF-R1 and TNF-R2 belong to the growing TNF receptor superfamily which includes the FAS antigen and CD40. TNF-R1 contains a cytoplasmic motif, termed the "death domain", that has been found to be necessary for the transduction of the apoptotic signal. The death domain is also found in several other receptors, including FAS, DR2 (or TRUNDD), DR3 (death receptor 3), DR4, DR5 and DR6. TRUNDD, DR4 and DR5 are receptors for the apoptosis-inducing cytokine, TRAIL. A non-death domain-containing receptor, designated decoy receptor (DcRI or TRID), also specifically associates with TRAIL and may play a role in cellular resistance to apoptotic stimuli.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF21 (human) mapping to 6p12.3.

PRODUCT

DR6 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 DR6 shRNA Plasmid (h): sc-35220-SH and DR6 shRNA (h) Lentiviral Particles: sc-35220-V as alternate gene silencing products.

For independent verification of DR6 (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-35220A, sc-35220B and sc-35220C.

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

DR6 siRNA (h) is recommended for the inhibition of DR6 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

DR6 (E-4): sc-376873 is recommended as a control antibody for monitoring of DR6 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DR6 gene expression knockdown using RT-PCR Primer: DR6 (h)-PR: sc-35220-PR (20 µl, 440 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Jo, M., et al. 2012. Anti-cancer effect of bee venom toxin and melittin in ovarian cancer cells through induction of death receptors and inhibition of JAK2/Stat3 pathway. Toxicol. Appl. Pharmacol. 258: 72-81.
2. Lee, U.S., et al. 2012. Growth inhibitory effect of (E)-2,4-bis(p-hydroxyphenyl)-2-butenal diacetate through induction of apoptotic cell death by increasing DR3 expression in human lung cancer cells. Biomol. Ther. 20: 538-543.
3. Kollipara, P.S., et al. 2014. Co-culture with NK-92MI cells enhanced the anti-cancer effect of bee venom on NSCLC cells by inactivation of NFκB. Arch. Pharm. Res. 37: 379-389.
4. Choi, K.E., et al. 2014. Myriocin induces apoptotic lung cancer cell death via activation of DR4 pathway. Arch. Pharm. Res. 37: 501-511.
5. Ban, J.O., et al. 2014. (E)-2,4-bis(p-hydroxyphenyl)-2-butenal inhibits tumor growth via suppression of NFκB and induction of death receptor 6. Apoptosis 19: 165-178.
6. Dong, Y., et al. 2017. Lysophosphatidic acid triggers apoptosis in HeLa cells through the upregulation of tumor necrosis factor receptor superfamily member 21. Mediators Inflamm. 2017: 2754756.

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.