SANTA CRUZ BIOTECHNOLOGY, INC.

c-IAP1 siRNA (m): sc-29849

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The Power to Question

BACKGROUND

The baculovirus protein p35 inhibits virally induced apoptosis of invertebrate and mammalian cells and may function to impair the clearing of virally infected cells by the immune system of the host. This is accomplished at least in part by the ability of p35 to block both TNF- and FAS-mediated apoptosis through the inhibition of the ICE family of serine proteases. Three mammalian homologs of baculovirus p35, designated MIHA (mammalian IAP homolog A), MIHB and MIHC have been described. These three mammalian inhibitor of apoptosis proteins (IAPs) are designated XIAP, c-IAP1 and c-IAP2, respectively. XIAP, c-IAP1 and c-IAP2 share an N-terminal baculovirus IAP repeat (BIR) motif and a C-terminal RING finger. Although c-IAP1 and c-IAP2 do not directly associate with the TNF receptor (TNF-R), they efficiently block TNF-mediated apoptosis through their interaction with the downstream TNF-R effectors, TRAF1 and TRAF2. The interaction between the TRAF1/TRAF2 heterocomplexes and c-IAPs is dependent on a functional BIR motif.

REFERENCES

1. Hay, B.A., et al. 1994. Expression of baculovirus p35 prevents cell death in *Drosophila*. Development 120: 2121-2129.
2. Clem, R.J., et al. 1994. Control of programmed cell death by the baculovirus genes p35 and IAP. Mol. Cell. Biol. 14: 5212-5222.
3. Beidler, D.R., et al. 1995. The baculovirus p35 protein inhibits FAS- and tumor necrosis factor-induced apoptosis. J. Biol. Chem. 270: 16526-16528.
4. Xue, D., et al. 1995. Inhibition of the *Caenorhabditis elegans* cell-death protease CED-3 by a CED-3 cleavage site in baculovirus p35 protein. Nature 377: 248-251.
5. Bump, N.J., et al. 1995. Inhibition of ICE family proteases by baculovirus antiapoptotic protein p35. Science 269: 1885-1888.
6. Rothe, M., et al. 1995. The TNFR2-TRAF signaling complex contains two novel proteins related to baculoviral inhibitor of apoptosis proteins. Cell 83: 1243-1252.
7. Duckett, C.S., et al. 1996. A conserved family of cellular genes related to the baculovirus iap gene and encoding apoptosis inhibitors. EMBO J. 15: 2685-2694.

CHROMOSOMAL LOCATION

Genetic locus: Birc2 (mouse) mapping to 9 A1.

PRODUCT

c-IAP1 siRNA (m) 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 c-IAP1 shRNA Plasmid (m): sc-29849-SH and c-IAP1 shRNA (m) Lentiviral Particles: sc-29849-V as alternate gene silencing products.

For independent verification of c-IAP1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-29849A, sc-29849B and sc-29849C.

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

c-IAP1 siRNA (m) is recommended for the inhibition of c-IAP1 expression in mouse 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 c-IAP1 gene expression knockdown using RT-PCR Primer: c-IAP1 (m)-PR: sc-29849-PR (20 µl, 539 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2009. Tumor necrosis factor-related weak inducer of apoptosis augments matrix metalloproteinase 9 (MMP-9) production in skeletal muscle through the activation of nuclear factor-κB-inducing kinase and p38 mitogen-activated protein kinase: a potential role of MMP-9 in myopathy. J. Biol. Chem. 284: 4439-4450.

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.