SANTA CRUZ BIOTECHNOLOGY, INC.

c-IAP2 siRNA (h): sc-29850

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.

CHROMOSOMAL LOCATION

Genetic locus: BIRC3 (human) mapping to 11q22.2.

PRODUCT

c-IAP2 siRNA (h) is a target-specific 19-25 nt siRNA 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-IAP2 shRNA Plasmid (h): sc-29850-SH and c-IAP2 shRNA (h) Lentiviral Particles: sc-29850-V as alternate gene silencing 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

c-IAP2 siRNA (h) is recommended for the inhibition of c-IAP2 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

c-IAP2 (Ac-71): sc-517317 is recommended as a control antibody for monitoring of c-IAP2 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 c-IAP2 gene expression knockdown using RT-PCR Primer: c-IAP2 (h)-PR: sc-29850-PR (20 µl, 497 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Melki, M.T., et al. 2010. Escape of HIV-1-infected dendritic cells from TRAIL-mediated NK cell cytotoxicity during NK-DC cross-talk—a pivotal role of HMGB1. PLoS Pathog. 6: e1000862.
2. Busca, A., et al. 2012. Critical role for antiapoptotic Bcl-x_L and Mcl-1 in human macrophage survival and cellular IAP1/2 (cIAP1/2) in resistance to HIV-Vpr-induced apoptosis. J. Biol. Chem. 287: 15118-15133.
3. Jazirehi, A.R., et al. 2014. Histone deacetylase inhibitor sensitizes apoptosis-resistant melanomas to cytotoxic human T lymphocytes through regulation of TRAIL/DR5 pathway. J. Immunol. 192: 3981-3989.
4. Gan, H., et al. 2016. SHh-Gli1 signaling pathway promotes cell survival by mediating baculoviral IAP repeat-containing 3 (BIRC3) gene in pancreatic cancer cells. Tumour Biol. 37: 9943-9950.
5. Cianciulli, A., et al. 2018. Resistance to apoptosis in *Leishmania infantum*-infected human macrophages: a critical role for anti-apoptotic Bcl-2 protein and cellular IAP1/2. Clin. Exp. Med. 18: 251-261.

RESEARCH USE

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