

ML-IAP siRNA (h): sc-37510

BACKGROUND

Inhibitor of apoptosis proteins (IAPs) contain conserved, unique N-terminal baculovirus IAP repeats (BIRs) and usually a C-terminal RING finger domain. Immunoprecipitation and Western blot analysis indicate that ML-IAP, also known as melanoma inhibitor of apoptosis protein, kidney inhibitor of apoptosis protein (KIAP), livin or BIRC7, binds to caspase-3, -7 and -9, but only inhibits caspase-9. Additionally, ML-IAP physically interacts with Smac through its BIR domain with a very high affinity and this interaction is very specific. The gene which encodes ML-IAP maps to human chromosome 20q13.33. There is controversy regarding the localization of this protein and its involvement in apoptosis, but it has been suggested that ML-IAP may play a complex role in the regulation of apoptosis.

REFERENCES

1. Vucic, D., et al. 2000. ML-IAP, a novel inhibitor of apoptosis that is preferentially expressed in human melanomas. *Curr. Biol.* 10: 1359-1366.
2. Lin, J.H., et al. 2000. KIAP, a novel member of the inhibitor of apoptosis protein family. *Biochem. Biophys. Res. Commun.* 279: 820-831.
3. Kasof, G.M., et al. 2001. Livin, a novel inhibitor of apoptosis protein family member. *J. Biol. Chem.* 276: 3238-3246.
4. Ashhab, Y., et al. 2001. Two splicing variants of a new inhibitor of apoptosis gene with different biological properties and tissue distribution pattern. *FEBS Lett.* 495: 56-60.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605737. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: BIRC7 (human) mapping to 20q13.33.

PRODUCT

ML-IAP siRNA (h) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ML-IAP shRNA Plasmid (h): sc-37510-SH and ML-IAP shRNA (h) Lentiviral Particles: sc-37510-V as alternate gene silencing products.

For independent verification of ML-IAP (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-37510A and sc-37510B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ML-IAP siRNA (h) is recommended for the inhibition of ML-IAP 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 μ M in 66 μ l. 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

ML-IAP (E-3): sc-393237 is recommended as a control antibody for monitoring of ML-IAP 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ML-IAP gene expression knockdown using RT-PCR Primer: ML-IAP (h)-PR: sc-37510-PR (20 μ l, 573 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chung, C.Y., et al. 2013. Expression and prognostic significance of Livin in gastric cancer. *Oncol. Rep.* 30: 2520-2528.
2. Han, Y., et al. 2017. Livin promotes the progression and metastasis of breast cancer through the regulation of epithelial-mesenchymal transition via the p38/GSK3 β pathway. *Oncol. Rep.* 38: 3574-3582.
3. Imai, H., et al. 2021. LPIN1 downregulation enhances anticancer activity of the novel HDAC/PI3K dual inhibitor FK-A11. *Cancer Sci.* 112: 792-802.

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.