SANTA CRUZ BIOTECHNOLOGY, INC.

DEDD2 siRNA (h): sc-77113

BACKGROUND

Apoptosis is a physiological process by which multicellular organisms eliminate unwanted cells. DEDD (Death Effector Domain-containing DNA binding protein) induces apoptosis by triggering a series of intracellular protein-protein interactions mediated by the N-terminal DED motif. DEDD, a cytoplasmic protein, translocates to the nucleus during CD95-mediated apoptosis, where it localizes to nucleoli-like structures, activates caspase-6 and specifically inhibits RNA polymerase I-dependent transcription. The cell death activity of DEDD relates to its nuclear localization. The DED in DEDD is sufficient for its DNA binding, capspase-6 activating and Pol I specific transcriptional repressor activity. Point specific mutations indicate that the DED in DEDD represents a novel domain that is structually similar to other DEDs but functionally different from classical DEDs found in FADD or caspase-8. DEDD is widely expressed in a variety of tissues, with highest levels in the testis. The human DEDD gene maps to chromosome 1q23.3. Alternative splicing results in two transcript variants which encode the same protein.

REFERENCES

1. Myers, S., Evans, C.T., Bartula, L., Kalley-Taylor, B., Habeeb, A.R. and Goka, T. 1992. Increased gall-bladder prostanoid synthesis after bile-duct ligation in the rabbit is secondary to new enzyme formation. Biochem. J. 288: 585-590.
2. Zhan, Y., Hegde, R., Srinivasula, S.M., Fernandes-Alnemri, T. and Alnemri, E.S. 2002. Death effector domain-containing proteins DEDD and FLAME-3 form nuclear complexes with the TFIIIC102 subunit of human transcription factor IIIC. Cell Death Differ. 9: 439-447.
3. Roth, W., Stenner-Liewen, F., Pawlowski, K., Godzik, A. and Reed, J.C. 2002. Identification and characterization of DEDD2, a death effector domain-containing protein. J. Biol. Chem. 277: 7501-7508.
4. Lee, J.C., Schickling, O., Stegh, A.H., Oshima, R.G., Dinsdale, D., Cohen, G.M. and Peter, M.E. 2002. DEDD regulates degradation of intermediate filaments during apoptosis. J. Cell Biol. 158: 1051-1066.
5. Alcivar, A., Hu, S., Tang, J. and Yang, X. 2003. DEDD and DEDD2 associate with caspase-8/10 and signal cell death. Oncogene 22: 291-297.

CHROMOSOMAL LOCATION

Genetic locus: DEDD2 (human) mapping to 19q13.2.

PRODUCT

DEDD2 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 DEDD2 shRNA Plasmid (h): sc-77113-SH and DEDD2 shRNA (h) Lentiviral Particles: sc-77113-V as alternate gene silencing products.

For independent verification of DEDD2 (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-77113A, sc-77113B and sc-77113C.

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

DEDD2 siRNA (h) is recommended for the inhibition of DEDD2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DEDD2 gene expression knockdown using RT-PCR Primer: DEDD2 (h)-PR: sc-77113-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.