SANTA CRUZ BIOTECHNOLOGY, INC.

INO80A siRNA (h): sc-90293

BACKGROUND

INO80A, also known as INO80 or INOC1, is a 1,556 amino acid nuclear protein that contains one DBINO domain, one helicase ATP-binding domain and one helicase C-terminal domain. Expressed in a variety of tissues, including liver, brain and pancreas, INO80A functions as a component of the INO80 chromatin remodeling complex where it acts as a putative DNA helicase that binds DNA and exhibits DNA-dependent ATPase activity. The gene encoding INO80A maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

1. Shen, X., et al. 2000. A chromatin remodelling complex involved in transcription and DNA processing. Nature 406: 541-544.
2. Bakshi, R., et al. 2004. In silico characterization of the INO80 subfamily of SWI2/SNF2 chromatin remodeling proteins. Biochem. Biophys. Res. Commun. 320: 197-204.
3. Bakshi, R., et al. 2006. Characterization of a human SWI2/SNF2 like protein hINO80: demonstration of catalytic and DNA binding activity. Biochem. Biophys. Res. Commun. 339: 313-320.
4. Cai, Y., et al. 2006. Purification and assay of the human INO80 and SRCAP chromatin remodeling complexes. Methods 40: 312-317.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610169. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yao, T., et al. 2008. Distinct modes of regulation of the Uch37 deubiquitinating enzyme in the proteasome and in the INO80 chromatin-remodeling complex. Mol. Cell 31: 909-917.
7. Trujillo, K.M. and Osley, M.A. 2008. INO80 meets a fork in the road. Nat. Struct. Mol. Biol. 15: 332-334.
8. Papamichos-Chronakis, M. and Peterson, C.L. 2008. The INO80 chromatin-remodeling enzyme regulates replisome function and stability. Nat. Struct. Mol. Biol. 15: 338-345.

CHROMOSOMAL LOCATION

Genetic locus: INO80 (human) mapping to 15q15.1.

PRODUCT

INO80A 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 INO80A shRNA Plasmid (h): sc-90293-SH and INO80A shRNA (h) Lentiviral Particles: sc-90293-V as alternate gene silencing products.

For independent verification of INO80A (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-90293A, sc-90293B and sc-90293C.

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

INO80A siRNA (h) is recommended for the inhibition of INO80A 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 INO80A gene expression knockdown using RT-PCR Primer: INO80A (h)-PR: sc-90293-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.