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SANTA CRUZ BIOTECHNOLOGY, INC.

INO80B siRNA (m): sc-155812

BACKGROUND

The zinc finger HIT domain-containing family of proteins (ZNHIT1-4) contain one HIT-type zinc finger domain and have a variety of functions throughout the cell. INO80B (INO80 complex subunit B), also known as ZNHIT4 (zinc finger HIT domain-containing protein 4), PAPA1 (PAP-1-associated protein 1), PAPA-1 or HMGA1L4, is a 343 amino acid member of the zinc finger HIT family that acts as a PAP-1 (Pim-1-associated protein, also known as RP9) binding protein. Localized to the nucleolus and highly expressed in the testis, INO80B functions to induce growth arrest by haulting the cell cycle at the G_1 phase. INO80B expression is controlled at the transcriptional level and is highest at the G_0 and G_1 phases of the cell cycle. *In vitro,* INO80B binds PAP-1, a splicing factor, and may play a role in nucleolar complexes that regulate ribosome biogenesis and cell cycle events.

REFERENCES

1. Keen, T.J., Hims, M.M., McKie, A.B., Moore, A.T., Doran, R.M., Mackey, D.A., Mansfield, D.C., Mueller, R.F., Bhattacharya, S.S., Bird, A.C., Markham, A.F. and Inglehearn, C.F. 2002. Mutations in a protein target of the Pim-1 kinase associated with the RP9 form of autosomal dominant retinitis pigmentosa. Eur. J. Hum. Genet. 10: 245-249.
2. Maita, H., Kitaura, H., Keen, T.J., Inglehearn, C.F., Ariga, H. and Iguchi-Ariga, S.M. 2004. PAP-1, the mutated gene underlying the RP9 form of dominant retinitis pigmentosa, is a splicing factor. Exp. Cell Res. 300: 283-296.
3. Kuroda, T.S., Maita, H., Tabata, T., Taira, T., Kitaura, H., Ariga, H. and Iguchi-Ariga, S.M. 2004. A novel nucleolar protein, PAPA-1, induces growth arrest as a result of cell cycle arrest at the G_1 phase. Gene 340: 83-98.
4. Maita, H., Kitaura, H., Ariga, H. and Iguchi-Ariga, S.M. 2005. Association of PAP-1 and Prp3p, the products of causative genes of dominant retinitis pigmentosa, in the tri-snRNP complex. Exp. Cell Res. 302: 61-68.
5. Maita, H., Kitaura, H., Ariga, H. and Iguchi-Ariga, S.M. 2005. CIR, a corepressor of CBF1, binds to PAP-1 and effects alternative splicing. Exp. Cell Res. 303: 375-387.

CHROMOSOMAL LOCATION

Genetic locus: Ino80b (mouse) mapping to 6 C3.

PRODUCT

INO80B siRNA (m) 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 INO80B shRNA Plasmid (m): sc-155812-SH and INO80B shRNA (m) Lentiviral Particles: sc-155812-V as alternate gene silencing products.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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

INO80B siRNA (m) is recommended for the inhibition of INO80B 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.

GENE EXPRESSION MONITORING

INO80B (E-3): sc-390009 is recommended as a control antibody for monitoring of INO80B 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 INO80B gene expression knockdown using RT-PCR Primer: INO80B (m)-PR: sc-155812-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.