



Jade-1 siRNA (m): sc-146315

BACKGROUND

Jade-1, also known as PHF17 (PHD finger protein 17), is an 842 amino acid protein that localizes to both the cytoplasm and the nucleus and contains two PHD-type zinc fingers. Expressed at high levels in kidney tissue and also present in heart, pancreas and liver, Jade-1 functions as a transcriptional coactivator that, via its PHD zinc fingers, promotes the TIP30-dependent acetylation of Histone H4. Additionally, Jade-1 is thought to promote apoptosis and is down-regulated in renal carcinoma cells, suggesting a possible role in tumor suppression. Three isoforms of Jade-1, two of which are designated JADE1L and JADE1S, are produced via alternative splicing events. The gene encoding Jade-1 maps to human chromosome 4q28.2, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

1. Zhou, M.I., Wang, H., Ross, J.J., Kuzmin, I., Xu, C. and Cohen, H.T. 2002. The von Hippel-Lindau tumor suppressor stabilizes novel plant homeodomain protein Jade-1. *J. Biol. Chem.* 277: 39887-39898.
2. Tzouanacou, E., Tweedie, S. and Wilson, V. 2003. Identification of Jade1, a gene encoding a PHD zinc finger protein, in a gene trap mutagenesis screen for genes involved in anteroposterior axis development. *Mol. Cell Biol.* 23: 8553-8552.
3. Panchenko, M.V., Zhou, M.I. and Cohen, H.T. 2004. von Hippel-Lindau partner Jade-1 is a transcriptional co-activator associated with histone acetyltransferase activity. *J. Biol. Chem.* 279: 56032-56041.
4. Zhou, M.I., Foy, R.L., Chitalia, V.C., Zhao, J., Panchenko, M.V., Wang, H. and Cohen, H.T. 2005. Jade-1, a candidate renal tumor suppressor that promotes apoptosis. *Proc. Natl. Acad. Sci. USA* 102: 11035-11040.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610514. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Foy, R.L., Song, I.Y., Chitalia, V.C., Cohen, H.T., Saksouk, N., Cayrou, C., Vaziri, C., Côte, J. and Panchenko, M.V. 2008. Role of Jade-1 in the histone acetyltransferase (HAT) HBO1 complex. *J. Biol. Chem.* 283: 28817-28826.
7. Chitalia, V.C., Foy, R.L., Bachschmid, M.M., Zeng, L., Panchenko, M.V., Zhou, M.I., Bharti, A., Seldin, D.C., Lecker, S.H., Dominguez, I. and Cohen, H.T. 2008. Jade-1 inhibits Wnt signalling by ubiquitinating β -catenin and mediates Wnt pathway inhibition by pVHL. *Nat. Cell Biol.* 10: 1208-1216.

CHROMOSOMAL LOCATION

Genetic locus: Jade1 (mouse) mapping to 3 B.

PRODUCT

Jade-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Jade-1 shRNA Plasmid (m): sc-146315-SH and Jade-1 shRNA (m) Lentiviral Particles: sc-146315-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 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

Jade-1 siRNA (m) is recommended for the inhibition of Jade-1 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Jade-1 gene expression knockdown using RT-PCR Primer: Jade-1 (m)-PR: sc-146315-PR (20 μ l). 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.