

CA150 siRNA (h): sc-37728

BACKGROUND

Maximal expression of the human immunodeficiency virus type 1 (HIV-1) gene requires specific cellular factors in addition to the virus-encoded transactivator protein Tat and the RNA element TAR. The nuclear protein CA150 (also designated p144 in mouse and rat) is a component of the human RNA polymerase II holoenzyme complex that is involved in Tat-dependent HIV-1 transcriptional activation. CA150 affects elongation of transcription complexes assembled on the HIV-1 promoter in a TATA-box-dependent manner. In addition to its role in the regulation of Tat-activated HIV-1 gene expression, CA150 may also play a role in the regulation of cellular transcriptional processes. CA150 exists as a 1,034 amino acid long form, which contains a leucine-zipper-like motif, and a 970 amino acid short form, which lacks this motif. These two forms, designated CA150a and CA150b, respectively, are produced by alternative splicing. The gene encoding human CA150 maps to chromosome 5q32.

REFERENCES

1. Sune, C., et al. 1995. Transcriptional *trans*-activation by human immunodeficiency virus type 1 Tat requires specific coactivators that are not basal factors. *J. Virol.* 69: 3098-3107.
2. Sune, C., et al. 1997. CA150, a nuclear protein associated with the RNA polymerase II holoenzyme, is involved in Tat-activated human immunodeficiency virus type 1 transcription. *Mol. Cell. Biol.* 17: 6029-6039.
3. Shimada, M., et al. 1999. Molecular cloning and splicing isoforms of mouse p144, a homologue of CA150. *J. Biochem.* 126: 1033-1042.
4. Sune, C., et al. 1999. Transcriptional cofactor CA150 regulates RNA polymerase II elongation in a TATA-box-dependent manner. *Mol. Cell. Biol.* 19: 4719-4728.
5. Ferguson, N., et al. 2006. General structural motifs of amyloid protofilaments. *Proc. Natl. Acad. Sci. USA* 103: 16248-16253.
7. DeMarco, R., et al. 2006. Gender biased differential alternative splicing patterns of the transcriptional cofactor CA150 gene in *Schistosoma mansoni*. *Mol. Biochem. Parasitol.* 150: 123-131.
8. Andresen, J.M., et al. 2007. Replication of twelve association studies for Huntington's disease residual age of onset in large Venezuelan kindreds. *J. Med. Genet.* 44: 44-50.
9. LocusLink Report (LocusID: 10915). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: TCERG1 (human) mapping to 5q32.

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.

PRODUCT

CA150 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CA150 shRNA Plasmid (h): sc-37728-SH and CA150 shRNA (h) Lentiviral Particles: sc-37728-V as alternate gene silencing products.

For independent verification of CA150 (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-37728A, sc-37728B and sc-37728C.

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

CA150 siRNA (h) is recommended for the inhibition of CA150 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CA150 gene expression knockdown using RT-PCR Primer: CA150 (h)-PR: sc-37728-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.