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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

MCM3AP siRNA (m): sc-149319

BACKGROUND

Minichromosome maintenance protein 3 (MCM3) is a protein essential for the initiation of DNA replication. MCM3-associated protein (MCM3AP), also known as GANP or MAP80, is a 1,980 amino acid protein which binds to MCM3. MCM3AP is an acetyltransferase that acetylates MCM3, thereby playing an indirect role in DNA replication. MCM3AP is also believed to be involved in the nuclear localization of MCM3. Localized to the nucleus and the cytoplasm, MCM3AP is thought to have phosphorylation-dependent DNA-primase activity that is up-regulated in germinal center regions. MCM3AP contains a nuclear localization signal, a coiled-coil structure and four LXXLL motifs.

REFERENCES

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2. Takei, Y., et al. 2001. MCM3AP, a novel acetyltransferase that acetylates replication protein MCM3. EMBO Rep. 2: 119-123.
3. EL-Gazzar, M.A., et al. 2001. PU.1 is involved in the regulation of B lineage-associated and developmental stage-dependent expression of the germinal center-associated DNA primase GANP. J. Biol. Chem. 276: 48000-48008.
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5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603294. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Sakaguchi, N., et al. 2002. Involvement of GANP in B cell activation in T cell-dependent antigen response. Dev. Immunol. 9: 169-172.
7. Kono, Y., et al. 2002. MCM3-binding GANP DNA-primase is associated with a novel phosphatase component G5PR. Genes Cells 7: 821-834.
8. Takei, Y., et al. 2002. The MCM3 acetylase MCM3AP inhibits initiation, but not elongation, of DNA replication via interaction with MCM3. J. Biol. Chem. 277: 43121-43125.
9. Hu, Y.H., et al. 2006. Cell array-based intracellular localization screening reveals novel functional features of human chromosome 21 proteins. BMC Genomics 7: 155.

CHROMOSOMAL LOCATION

Genetic locus: Mcm3ap (mouse) mapping to 10 C1.

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

MCM3AP siRNA (m) 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 MCM3AP shRNA Plasmid (m): sc-149319-SH and MCM3AP shRNA (m) Lentiviral Particles: sc-149319-V as alternate gene silencing products.

For independent verification of MCM3AP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149319A, sc-149319B and sc-149319C.

SSTORAGE 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

MCM3AP siRNA (m) is recommended for the inhibition of MCM3AP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MCM3AP gene expression knockdown using RT-PCR Primer: MCM3AP (m)-PR: sc-149319-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.