

AAT-1 siRNA (m): sc-140739

BACKGROUND

The c-Myc proto-oncogene plays a significant role in cell proliferation, differentiation, transformation and apoptosis. A novel c-Myc binding protein, MYCBP (also designated AMY-1), binds to the transactivation domain of c-Myc and stimulates the activation of E-box-dependent transcription. MYCBP translocates from the cytoplasm to the nucleus during S phase when increased expression of c-Myc occurs. MYCBP and AAT-1 (AMY-1-associated protein expressed in testis 1) have been shown to associate with AKAP 149 and AKAP 84 in mitochondria of somatic cells and sperm, which suggests a role for MYCBP and AAT-1 in spermatogenesis. Expression of the AAT-1 gene is regulated by two different promoters, which result in various isoforms. One promoter generates expression of the AAT-1, AAT-1 α , AAT-1 β and AAT-1 γ isoforms, which are specifically expressed in testis, while the other promoter generates AAT-1L, AAT-1M and AAT-1S, which are differentially expressed.

REFERENCES

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2. Furusawa, M., Onishi, T., Taira, T., Iguchi-Arigo, S.M. and Ariga, H. 2000. AMY-1 is a trigger for the erythrocyte differentiation of K562 cells. *Int. J. Oncol.* 16: 339-345.
3. Furusawa, M., Ohnishi, T., Taira, T., Iguchi-Arigo, S.M. and Ariga, H. 2001. AMY-1, a c-Myc-binding protein, is localized in the mitochondria of sperm by association with S-AKAP 84, an anchor protein of cAMP-dependent protein kinase. *J. Biol. Chem.* 276: 36647-36651.
4. Yukitake, H., Furusawa, M., Taira, T., Iguchi-Arigo, S.M. and Ariga, H. 2002. AMAP-1, a novel testis-specific AMY-1-binding protein, is differentially expressed during the course of spermatogenesis. *Biochim. Biophys. Acta* 1577: 126-132.

CHROMOSOMAL LOCATION

Genetic locus: Spata26 (mouse) mapping to 16 B3.

PRODUCT

AAT-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AAT-1 shRNA Plasmid (m): sc-140739-SH and AAT-1 shRNA (m) Lentiviral Particles: sc-140739-V as alternate gene silencing products.

For independent verification of AAT-1 (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-140739A, sc-140739B and sc-140739C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

AAT-1 siRNA (m) is recommended for the inhibition of AAT-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 AAT-1 gene expression knockdown using RT-PCR Primer: AAT-1 (m)-PR: sc-140739-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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