SANTA CRUZ BIOTECHNOLOGY, INC.

MYCBP siRNA (h): sc-88098

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 has also been shown to associate with AKAP 149 and AKAP 84 in mitochondria of somatic cells and sperm, which suggests a role for MYCBP in spermatogenesis. In addition, MYCBP localizes to the *trans*-Golgi network (TGN) and the nucleus, where it binds the high molecular weight guanine-nucleotide exchange factor BIG2 *in vivo* to coordinate ADP-ribosylation factor-mediated membrane trafficking and signaling pathways.

REFERENCES

1. Taira, T., et al. 1998. AMY-1, a novel c-Myc binding protein that stimulates transcription activity of c-Myc. Genes Cells 3: 549-565.
2. Furusawa, M., et al. 2000. AMY-1 is a trigger for the erythrocyte differentiation of K562 cells. Int. J. Oncol. 16: 339-345.
3. Furusawa, M., et al. 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., et al. 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.
5. Yukitake, H., et al. 2002. AAT-1, a novel testis-specific AMY-1-binding protein, forms a quaternary complex with AMY-1, A-kinase anchor protein 84, and a regulatory subunit of cAMP-dependent protein kinase and is phosphorylated by its kinase. J. Biol. Chem. 277: 45480-45492.
6. Furusawa, M., et al. 2002. AMY-1 interacts with S-AKAP 84 and AKAP 95 in the cytoplasm and the nucleus, respectively, and inhibits cAMP-dependent protein kinase activity by preventing binding of its catalytic subunit to A-kinase-anchoring protein (AKAP) complex. J. Biol. Chem. 277: 50885-50892.

CHROMOSOMAL LOCATION

Genetic locus: MYCBP (human) mapping to 1p34.3.

PRODUCT

MYCBP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MYCBP shRNA Plasmid (h): sc-88098-SH and MYCBP shRNA (h) Lentiviral Particles: sc-88098-V as alternate gene silencing products.

For independent verification of MYCBP (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-88098A, sc-88098B and sc-88098C.

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

MYCBP siRNA (h) is recommended for the inhibition of MYCBP 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 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

MYCBP (2E9): sc-517020 is recommended as a control antibody for monitoring of MYCBP 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 MYCBP gene expression knockdown using RT-PCR Primer: MYCBP (h)-PR: sc-88098-PR (20 µl, 462 bp). 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.