

APC7 siRNA (m): sc-29707

BACKGROUND

The anaphase-promoting complex (APC) is composed of more than ten subunits, including APC1, APC2, APC4, APC5, APC7, APC8, APC10, and APC11. The APC acts in a cell-cycle dependent manner to promote the separation of sister chromatids during the transition between metaphase and anaphase in mitosis. APC, or cyclosome, accomplishes this progression through the ubiquitination of mitotic cyclins and other regulatory proteins that are targeted for destruction during cell division. APC is phosphorylated, and thus activated, by protein kinases Cdk1/cyclin B and polo-like kinase (Plk). APC is under tight control by a number of regulatory factors, including CDC20, CDH1 and MAD2. Specifically, CDC20 and CDH1 directly bind to and activate the cyclin-ubiquitination activity of APCs. In contrast, MAD2 inhibits APC by forming a ternary complex with CDC20 and APC, thus preventing APC activation. APC7, also known as ANAPC7, is a subunit of APC that mediates the interaction of APC with the transcription coactivators CBP and p300.

REFERENCES

1. Jorgensen, P.M., et al. 1998. A subunit of the anaphase-promoting complex is a centromere-associated protein in mammalian cells. *Mol. Cell. Biol.* 18: 468-476.
2. Page, A.M., et al. 1999. The anaphase-promoting complex: new subunits and regulators. *Annu. Rev. Biochem.* 68: 583-609.
3. Peters, J.M. 1999. Subunits and substrates of the anaphase-promoting complex. *Exp. Cell Res.* 248: 339-349.
4. Fang, G., et al. 1999. Control of mitotic transitions by the anaphase-promoting complex. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 354: 1583-1590.
5. Jorgensen, P.M., et al. 2001. Characterisation of the human APC1, the largest subunit of the anaphase-promoting complex. *Gene* 262: 51-59.
6. Bolte, M., et al. 2002. Inhibition of APC-mediated proteolysis by the meiosis-specific protein kinase Ime2. *Proc. Natl. Acad. Sci. USA* 99: 4385-4390.
7. Golan, A., et al. 2002. The cyclin-ubiquitin ligase activity of cyclosome/APC is jointly activated by protein kinases Cdk1/cyclin B and Plk. *J. Biol. Chem.* 277: 15552-15557.
8. Liu, J. and Fuchs, S.Y. 2006. Cross-talk between APC/C and CBP/p300. *Cancer Biol. Ther.* 5: 760-762.

CHROMOSOMAL LOCATION

Genetic locus: Anapc7 (mouse) mapping to 5 F.

PRODUCT

APC7 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 APC7 shRNA Plasmid (m): sc-29707-SH and APC7 shRNA (m) Lentiviral Particles: sc-29707-V as alternate gene silencing products.

For independent verification of APC7 (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-29707A, sc-29707B and sc-29707C.

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

APC7 siRNA (m) is recommended for the inhibition of APC7 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.

GENE EXPRESSION MONITORING

APC7 (A-6): sc-365649 is recommended as a control antibody for monitoring of APC7 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 APC7 gene expression knockdown using RT-PCR Primer: APC7 (m)-PR: sc-29707-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.