

MCC siRNA (h): sc-106908

BACKGROUND

MCC (mutated in colorectal cancers), also known as MCC1, is a coiled-coil protein that localizes to the cytoplasm. It is involved in cell cycle regulation, negatively regulating cell cycle progression during the G₁ to S transition via a role in the NFκB signaling pathway. More specifically, MCC interacts with the NFκB inhibitor, IκBβ, playing a role in its stabilization and thereby inhibiting the nuclear translocation and signaling of NFκB. This suggests that MCC may act as a tumor suppressor. MCC is a phosphorylated protein and the state of phosphorylation changes in relation to the cell cycle. This implies that its function may be regulated by phosphorylation. MCC is highly phosphorylated during the transition from G₁ to S phase and weakly phosphorylated in G₀/G₁. The overexpression of MCC results in a decreased number of cells entering S phase.

REFERENCES

1. Kinzler, K.W., et al. 1991. Identification of a gene located at chromosome 5q21 that is mutated in colorectal cancers. *Science* 251: 1366-1370.
2. Matsumine, A., et al. 1996. MCC, a cytoplasmic protein that blocks cell cycle progression from the G₀/G₁ to S phase. *J. Biol. Chem.* 271: 10341-10346.
3. Fang, D.C., et al. 2002. Telomere erosion is independent of microsatellite instability but related to loss of heterozygosity in gastric cancer. *World J. Gastroenterol.* 7: 522-526.
4. Wang, M., et al. 2002. The possible role of loss of heterozygosity at APC, MCC and DCC genetic loci in esophageal carcinoma. *Zhonghua Zhong Liu Za Zhi* 21: 16-18.
5. Sikdar, N., et al. 2003. Loss of heterozygosity at APC and MCC genes of oral cancer and leukoplakia tissues from Indian tobacco chewers. *J. Oral Pathol. Med.* 32: 450-454.
6. Wang, D., et al. 2003. Study of loss of heterozygosity at DCC and APC/MCC genetic loci of gastric cancer. *Chin. Med. Sci. J.* 14: 107-111.
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CHROMOSOMAL LOCATION

Genetic locus: MCC (human) mapping to 5q22.2.

PRODUCT

MCC 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 MCC shRNA Plasmid (h): sc-106908-SH and MCC shRNA (h) Lentiviral Particles: sc-106908-V as alternate gene silencing products.

For independent verification of MCC (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-106908A, sc-106908B and sc-106908C.

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

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

MCC (A-9): sc-398216 is recommended as a control antibody for monitoring of MCC 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 MCC gene expression knockdown using RT-PCR Primer: MCC (h)-PR: sc-106908-PR (20 μl). 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.