SANTA CRUZ BIOTECHNOLOGY, INC.

MSH5 siRNA (m): sc-75833

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The Power to Question

BACKGROUND

MSH5 (mutS homolog 5 *(E. coli)),* also known as G7, NG23 or MutSH5, is an 834 amino acid protein that belongs to the mutS family of DNA mismatch repair proteins. Expressed ubiquitously with highest expression in thymus and testis, MSH5 exists as a heterooligomer with MSH4 and is involved in meiotic recombination, specifically functioning to facilitate homologous cross-overs during meiosis. Multiple isoforms of MSH5 exist due to alternative splicing events. The gene encoding MSH5 maps to human chromosome 6p21.33, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Msh5 (mouse) mapping to 17 B1.

PRODUCT

MSH5 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 MSH5 shRNA Plasmid (m): sc-75833-SH and MSH5 shRNA (m) Lentiviral Particles: sc-75833-V as alternate gene silencing products.

For independent verification of MSH5 (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-75833A, sc-75833B and sc-75833C.

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

MSH5 siRNA (m) is recommended for the inhibition of MSH5 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 MSH5 gene expression knockdown using RT-PCR Primer: MSH5 (m)-PR: sc-75833-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.