SANTA CRUZ BIOTECHNOLOGY, INC.

MMS22L siRNA (h): sc-95116

BACKGROUND

MMS22L (methyl methanesulfonate-sensitivity protein 22-like), also known as C6orf167, is a 1,243 amino acid nuclear protein that belongs to the MMS22 family. MMS22L localizes to areas of DNA damage and accumulates specifically at stressed replication forks. The MMS22L-TONSL complex, comprised of at least MMS22L and TONSL/NFKBIL2, is required to maintain genome integrity during DNA replication and stimulates recombination-dependent repair of stalled or collapsed replication forks. A component of the MMS22L-TONSL complex, MMS22L may act by mediating the assembly of RAD51 filaments on single strand DNA to promote homologous recombination-mediated repair of double-strand DNA breaks associated with the replication fork. The MMS22L gene is located on chromosome 6 and is conserved in many species including mouse, rat, chicken, zebrafish, canine and bovine.

REFERENCES

1. O'Donnell, L., et al. 2010. The MMS22L-TONSL complex mediates recovery from replication stress and homologous recombination. Mol. Cell 40: 619-631.
2. Duro, E., et al. 2010. Identification of the MMS22L-TONSL complex that promotes homologous recombination. Mol. Cell 40: 632-644.
3. O'Connell, B.C., et al. 2010. A genome-wide camptothecin sensitivity screen identifies a mammalian MMS22L-NFKBIL2 complex required for genomic stability. Mol. Cell 40: 645-657.
4. Nguyen, M.H., et al. 2012. Identification of a novel oncogene, MMS22L, involved in lung and esophageal carcinogenesis. Int. J. Oncol. 41: 1285-1296.
5. Leone, M.A., et al. 2013. Association of genetic markers with CSF oligoclonal bands in multiple sclerosis patients. PLoS ONE 8: e64408.

CHROMOSOMAL LOCATION

Genetic locus: MMS22L (human) mapping to 6q16.1.

PRODUCT

MMS22L 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 MMS22L shRNA Plasmid (h): sc-95116-SH and MMS22L shRNA (h) Lentiviral Particles: sc-95116-V as alternate gene silencing products.

For independent verification of MMS22L (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-95116A, sc-95116B and sc-95116C.

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.

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

MMS22L siRNA (h) is recommended for the inhibition of MMS22L 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MMS22L gene expression knockdown using RT-PCR Primer: MMS22L (h)-PR: sc-95116-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.