

MYG1 siRNA (h): sc-96239

BACKGROUND

MYG1 (melanocyte proliferating gene 1), also known as C12orf10, Gamm1, MYG, MST024 or MSTP024, is a 376 amino acid nucleo-mitochondrial protein belonging to the UPF0160 (MYG1) family. MYG1 is encoded by a gene that maps to human chromosome 12q13.13 and is ubiquitously expressed in simple as well as complex eukaryotes, with highest levels in testis. Considered to have a metal-dependent protein hydrolase (UPF0160) domain, MYG1 exhibits a mitochondrial targeting signal in the N-terminal region and a Pat7-type nuclear localization signal in the region between amino acids 33-39. Although MYG1 displays differential patterns and levels of expression during embryonic development, expression in normal adult tissues is stable, suggesting MYG1 involvement in early developmental processes and in adult stress/illness conditions. Elevation of MYG1 expression may be also associated with vitiligo susceptibility.

REFERENCES

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2. Kingo, K., et al. 2006. MYG1, novel melanocyte related gene, has elevated expression in vitiligo. *J. Dermatol. Sci.* 44: 119-122.
3. Scherer, S.E., et al. 2006. The finished DNA sequence of human chromosome 12. *Nature* 440: 346-351.
4. Philips, M.A., et al. 2009. Characterization of MYG1 gene and protein: subcellular distribution and function. *Biol. Cell* 101: 361-373.
5. Timpson, N.J., et al. 2009. Common variants in the region around osterix are associated with bone mineral density and growth in childhood. *Hum. Mol. Genet.* 18: 1510-1517.
6. Zhang, L., et al. 2009. Comparative proteomic analysis of an *Aspergillus fumigatus* mutant deficient in glucosidase I (AfCwh41). *Microbiology* 155: 2157-2167.
7. Philips, M.A., et al. 2010. Promoter polymorphism -119C/G in MYG1 (C12orf10) gene is related to vitiligo susceptibility and Arg4Gln affects mitochondrial entrance of MYG1. *BMC Med. Genet.* 11: 56.

CHROMOSOMAL LOCATION

Genetic locus: C12orf10 (human) mapping to 12q13.13.

PRODUCT

MYG1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MYG1 shRNA Plasmid (h): sc-96239-SH and MYG1 shRNA (h) Lentiviral Particles: sc-96239-V as alternate gene silencing products.

For independent verification of MYG1 (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-96239A, sc-96239B and sc-96239C.

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

MYG1 siRNA (h) is recommended for the inhibition of MYG1 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 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

MYG1 (F-5): sc-393331 is recommended as a control antibody for monitoring of MYG1 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 Marker[™] 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 MYG1 gene expression knockdown using RT-PCR Primer: MYG1 (h)-PR: sc-96239-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.