

MYG1 (F-5): sc-393331



The Power to Question

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

1. Nepomuceno-Silva, J.L., et al. 2004. Characterization of *Trypanosoma cruzi* TcR1 locus and analysis of its transcript. *Parasitology* 129: 325-333.
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; Myg1 (mouse) mapping to 15 F3.

SOURCE

MYG1 (F-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 162-199 within an internal region of MYG1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393331 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MYG1 (F-5) is recommended for detection of MYG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MYG1 siRNA (h): sc-96239, MYG1 siRNA (m): sc-149737, MYG1 shRNA Plasmid (h): sc-96239-SH, MYG1 shRNA Plasmid (m): sc-149737-SH, MYG1 shRNA (h) Lentiviral Particles: sc-96239-V and MYG1 shRNA (m) Lentiviral Particles: sc-149737-V.

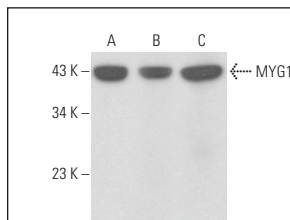
Molecular Weight of MYG1: 42 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, NIH/3T3 whole cell lysate: sc-2210 or human tonsil tissue extract: sc-364263.

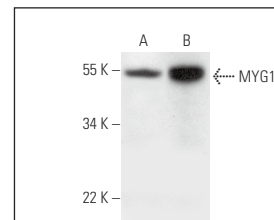
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MYG1 (F-5): sc-393331. Western blot analysis of MYG1 expression in WI-38 (A) and NIH/3T3 (B) whole cell lysates and human tonsil tissue extract (C).



MYG1 (F-5): sc-393331. Western blot analysis of MYG1 expression in NTERA-2 cl.D1 whole cell lysate (A) and human tonsil tissue extract (B).

SELECT PRODUCT CITATIONS

1. Han, X., et al. 2021. MYG1 promotes proliferation and inhibits autophagy in lung adenocarcinoma cells via the AMPK/mTOR complex 1 signaling pathway. *Oncol. Lett.* 21: 334.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.