

MOD5 (Y-19): sc-54536

BACKGROUND

MOD5, also known as TRIT1 (tRNA isopentenyltransferase 1), IPT (Isopentenyl-diphosphate:tRNA isopentenyltransferase) or hGRO1, is a 467 amino acid protein belonging to the IPP transferase family. Containing one matrin-type zinc finger, MOD5 assists in the formation of N⁶-(dimethylallyl)adenosine (i6A) by catalyzing the transfer of a dimethylallyl group onto the adenine 37 of cytosolic and mitochondrial tRNAs. MOD5 exists as five alternatively spliced isoforms, and is encoded by a gene mapping to human chromosome 1p34.2 and mouse chromosome 4 D2.2. Chromosome 1 is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. The rare aging disease Hutchinson-Gilford progeria, Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1.

REFERENCES

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3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
4. Lans, H. and Hoeijmakers, J.H. 2006. Cell biology: aging nucleus gets out of shape. *Nature* 440: 32-34.
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7. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
8. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant Lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. *Proc. Natl. Acad. Sci. USA* 103: 2154-2159.

CHROMOSOMAL LOCATION

Genetic locus: TRIT1 (human) mapping to 1p34.2; Trit1 (mouse) mapping to 4 D2.2.

SOURCE

MOD5 (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MOD5 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54536 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MOD5 (Y-19) is recommended for detection of MOD5 (also designated as tRNA isopentenyltransferase) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MOD5 (Y-19) is also recommended for detection of MOD5 (also designated as tRNA isopentenyltransferase) in additional species, including canine.

Suitable for use as control antibody for MOD5 siRNA (h): sc-62631, MOD5 siRNA (m): sc-62632, MOD5 shRNA Plasmid (h): sc-62631-SH, MOD5 shRNA Plasmid (m): sc-62632-SH, MOD5 shRNA (h) Lentiviral Particles: sc-62631-V and MOD5 shRNA (m) Lentiviral Particles: sc-62632-V.

Molecular Weight of MOD5: isoforms 1-5: 53/37/37/49/43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.