

MARCH5 (E-13): sc-109543

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). MARCH5 (membrane-associated ring finger (C3HC4) 5), also known as MITOL, MARCH-V or RNF153, is a 278 amino acid multi-pass membrane protein that localizes to the mitochondrial outer membrane and contains one RING-CH-type zinc finger. Functioning as a mitochondrial E3 ubiquitin-protein ligase, MARCH5 plays an important role in mitochondrial morphology by transferring ubiquitin residues to target proteins, thereby mediating protein degradation. The gene encoding MARCH5 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

REFERENCES

1. Bartee, E., Mansouri, M., Hovey Nerenberg, B.T., Gouveia, K. and Früh, K. 2004. Downregulation of major histocompatibility complex class I by human ubiquitin ligases related to viral immune evasion proteins. *J. Virol.* 78: 1109-1120.
2. Yonashiro, R., Ishido, S., Kyo, S., Fukuda, T., Goto, E., Matsuki, Y., Ohmura-Hoshino, M., Sada, K., Hotta, H., Yamamura, H., Inatome, R. and Yanagi, S. 2006. A novel mitochondrial ubiquitin ligase plays a critical role in mitochondrial dynamics. *EMBO J.* 25: 3618-3626.
3. Nakamura, N., Kimura, Y., Tokuda, M., Honda, S. and Hirose, S. 2006. MARCH5 is a novel mitofusin 2- and DRP1-binding protein able to change mitochondrial morphology. *EMBO Rep.* 7: 1019-1022.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610637. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Karbowski, M., Neutznier, A. and Youle, R.J. 2007. The mitochondrial E3 ubiquitin ligase MARCH5 is required for DRP1 dependent mitochondrial division. *J. Cell Biol.* 178: 71-84.

CHROMOSOMAL LOCATION

Genetic locus: MARCH5 (human) mapping to 10q23.32; March5 (mouse) mapping to 19 C2.

SOURCE

MARCH5 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MARCH5 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.

PROTOCOLS

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

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-109543 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MARCH5 (E-13) is recommended for detection of MARCH5 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).

MARCH5 (E-13) is also recommended for detection of MARCH5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MARCH5 siRNA (h): sc-90592, MARCH5 siRNA (m): sc-149269, MARCH5 shRNA Plasmid (h): sc-90592-SH, MARCH5 shRNA Plasmid (m): sc-149269-SH, MARCH5 shRNA (h) Lentiviral Particles: sc-90592-V and MARCH5 shRNA (m) Lentiviral Particles: sc-149269-V.

Molecular Weight of MARCH5: 31 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.