

# MTUS1 (31-Y): sc-100293

## BACKGROUND

MTUS1 (mitochondrial tumor suppressor 1), also known as ATIP (Angiotensin II type 2 receptor (AT<sub>2</sub>)-interacting protein), MP44, GK1 or MTSG1, is a ubiquitously expressed protein with highest expression in brain tissues. MTUS1 is predominantly hydrophilic and contains a large coiled-coil domain and two leucine zippers. It interacts with the C-terminal tail of AT<sub>2</sub> and cooperates with this receptor to mediate the inhibition of growth factor-induced ERK 2 activation and cell proliferation. MTUS1 functions as a tumor suppressor and mutations in the gene encoding MTUS1 may result in hepatocellular carcinoma (HCC). Five transcript variants of MTUS1 are produced by alternative splicing events, namely ATIP1, ATIP2, ATIP3a, ATIP3b and ATIP4. ATIP1 exhibits cytosolic localization and ATIP4 localizes to the plasma membrane. ATIP2, ATIP3a and ATIP3b localize to the nucleus and are highly conserved throughout evolution, implying an important function for each in cellular homeostasis.

## REFERENCES

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3. Nouet, S., et al. 2004. *Trans*-inactivation of receptor tyrosine kinases by novel Angiotensin II AT<sub>2</sub> receptor-interacting protein, ATIP. *J. Biol. Chem.* 279: 28989-28997.
4. Di Benedetto, M., et al. 2006. Structural organization and expression of human MTUS1, a candidate 8p22 tumor suppressor gene encoding a family of Angiotensin II AT<sub>2</sub> receptor-interacting proteins, ATIP. *Gene* 380: 127-136.
5. Lee, S., et al. 2006. Differential expression in normal-adenoma-carcinoma sequence suggests complex molecular carcinogenesis in colon. *Oncol. Rep.* 16: 747-754.
6. Di Benedetto, M., et al. 2006. Mutation analysis of the 8p22 candidate tumor suppressor gene ATIP/MTUS1 in hepatocellular carcinoma. *Mol. Cell. Endocrinol.* 252: 207-215.
7. Ye, H., et al. 2007. Genomic assessments of the frequent loss of heterozygosity region on 8p21.3 approximately p22 in head and neck squamous cell carcinoma. *Cancer Genet. Cytogenet.* 176: 100-106.
8. Frank, B., et al. 2007. Copy number variant in the candidate tumor suppressor gene MTUS1 and familial breast cancer risk. *Carcinogenesis* 28: 1442-1445.
9. Li, J.M., et al. 2007. Angiotensin II-induced neural differentiation via Angiotensin II type 2 (AT<sub>2</sub>) receptor-MMS2 cascade involving interaction between AT<sub>2</sub> receptor-interacting protein and Src homology 2 domain-containing protein-tyrosine phosphatase 1. *Mol. Endocrinol.* 21: 499-511.

## STORAGE

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

## CHROMOSOMAL LOCATION

Genetic locus: MTUS1 (human) mapping to 8p22.

## SOURCE

MTUS1 (31-Y) is a mouse monoclonal antibody raised against recombinant MTUS1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MTUS1 (31-Y) is recommended for detection of MTUS1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MTUS1 siRNA (h): sc-77687, MTUS1 shRNA Plasmid (h): sc-77687-SH and MTUS1 shRNA (h) Lentiviral Particles: sc-77687-V.

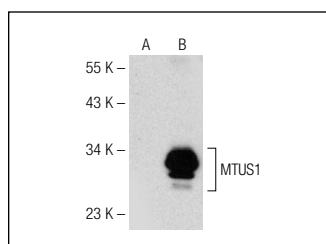
Molecular Weight of MTUS1: 141 kDa.

Positive Controls: MTUS1 (h): 293T Lysate: sc-115006 or MTUS1 (m): 293T Lysate: sc-121852.

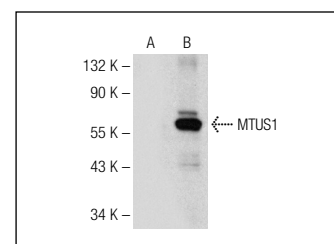
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



MTUS1 (31-Y): sc-100293. Western blot analysis of MTUS1 expression in non-transfected: sc-117752 (A) and human MTUS1 transfected: sc-115006 (B) 293T whole cell lysates.



MTUS1 (31-Y): sc-100293. Western blot analysis of MTUS1 expression in non-transfected: sc-117752 (A) and mouse MTUS1 transfected: sc-121852 (B) 293T whole cell lysates.

## RESEARCH USE

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