**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: MUT (human) mapping to 6p12.3; Mut (mouse) mapping to 17 B2.

**SOURCE**

MUT (D-1) is a mouse monoclonal antibody raised against amino acids 451-750 mapping at the C-terminus of MUT of human origin.

**PRODUCT**

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

**APPLICATIONS**

MUT (D-1) is recommended for detection of MUT 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), immunohistochemistry (including paraffin-embedded sections) (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 MUT siRNA (h): sc-95089, MUT siRNA (m): sc-149723, MUT shRNA Plasmid (h): sc-95089-SH, MUT shRNA Plasmid (m): sc-149723-SH, MUT shRNA (h) Lentiviral Particles: sc-95089-V and MUT shRNA (m) Lentiviral Particles: sc-149723-V.

Molecular Weight of mature MUT: 78 kDa.

Molecular Weight of MUT precursor: 82 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

**RECOMMENDED SUPPORT REAGENTS**

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-204B. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).


**DATA**

- Muscular atrophy in a patient with methylmalonic acidemia showing cytoplasmic staining of hepatocytes.
- Western blot analysis of MUT expression in Hep G2 (A), NIH/3T3 (B) and K-562 (C) whole cell lysates. Note lack of reactivity with mouse MUT in lane B.

**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.

**BACKGROUND**

MUT (methylmalonyl coenzyme A mutase), also known as MCM, is a 750 amino acid mitochondrial matrix protein that exists as a homodimer and belongs to the methylmalonyl-CoA mutase family. Induced by adenosylcobalamin (also known as coenzyme B12 or vitamin B12), MUT participates in the degradation of various amino acids, odd-chain fatty acids and cholesterol via propionyl-CoA (PCC) during the tricarboxylic acid cycle. Mutations in the gene encoding MUT, which is located on human chromosome 6, are the cause of methylmalonic aciduria type mut (MMAM), an often fatal disorder of organic acid metabolism that is characterized by lethargy, vomiting, failure to thrive, hypotonia, neurological deficit and early death. Two forms of MMAM exist: mut-(o), which there is no detectable enzymatic activity and mut-, which there is residual cobalamin-dependent activity.

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