MULK (F-5): sc-514235

**BACKGROUND**

MULK (multi-substrate lipid kinase), also known as AGK (acylglycerol kinase), is a 422 amino acid protein that localizes to the mitochondrial membrane and is highly expressed in muscle, heart, kidney and brain. Containing one DAGKc domain, MULK acts as a lipid kinase that phosphorylates monoacylglycerol and diacylglycerol to form lysosphatidic acid (LPA) and phosphatidic acid (PA), respectively. When overexpressed, MULK increases the production and secretion of LPA, thereby transactivating EGFR and ERK signaling pathways, which in turn lead to increased cell growth. Due to its involvement of LPA secretion of LPA, thereby transactivating EGFR and ERK signaling pathways, which in turn lead to increased cell growth. Due to its involvement of LPA secretion and transactivation of epidermal growth factor receptor in prostate cancer, MULK utilizes magnesium as a cofactor and exists as two alternatively spliced isoforms. MULK is encoded by a gene mapping to 7q34.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: AGK (human) mapping to 7q34; Agk (mouse) mapping to 6 B1.

**SOURCE**

MULK (F-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 377-398 near the C-terminus of MULK of human origin.

**PRODUCT**

Each vial contains 200 µg IgG; 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-514235 P, 100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein.

**APPLICATIONS**

MULK (F-5) is recommended for detection of MULK 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 1:30-1:300).

Suitable for use as control antibody for MULK siRNA (h): sc-89394, MULK siRNA (m): sc-149707, MULK shRNA Plasmid (h): sc-89394-SH, MULK shRNA Plasmid (m): sc-149707-5H, MULK shRNA (h) Lentiviral Particles: sc-89394-V and MULK shRNA (m) Lentiviral Particles: sc-149707-V.

Molecular Weight of MULK: 47 kDa.

Positive Controls: MULK (h): 293T Lysate: sc-113678, MOLT-4 cell lysate: sc-2233 or HL-60 whole cell lysate: sc-2209.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG HRP: sc-516102 or m-IgG 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG HRP; sc-516140 or m-IgG HRP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

![Western Blot analysis of MULK expression in Raji (A), EOC-20 (B) and NIH/3T3 (C) whole cell lysates and rat hippocampus tissue extract (D).](https://example.com/figure1.png)

![Western Blot analysis of MULK expression in non-transfected 293T (A), human MULK transfected 293T: sc-113678 (B), MOLT-4 (C) and HL-60 (D) whole cell lysates.](https://example.com/figure2.png)

**SELECT PRODUCT CITATIONS**


**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.