

# MULK (C-16): sc-160547

## 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 lysophosphatidic 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 overproduction, MULK is implicated in the initiation and progression of prostate cancer. MULK utilizes magnesium as a cofactor and exists as two alternatively spliced isoforms.

## REFERENCES

1. Waggoner, D.W., et al. 2004. MULK, a eukaryotic multi-substrate lipid kinase. *J. Biol. Chem.* 279: 38228-38235.
2. Spiegel, S., et al. 2005. Critical role of acylglycerol kinase in epidermal growth factor-induced mitogenesis of prostate cancer cells. *Biochem. Soc. Trans.* 33: 1362-1365.

## CHROMOSOMAL LOCATION

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

## SOURCE

MULK (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MULK of human origin.

## 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-160547 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MULK (C-16) is recommended for detection of MULK of mouse, rat and 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)], 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).

MULK (C-16) is also recommended for detection of MULK in additional species, including equine, canine, bovine, porcine and avian.

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-SH, MULK shRNA (h) Lentiviral Particles: sc-89394-V and MULK shRNA (m) Lentiviral Particles: sc-149707-V.

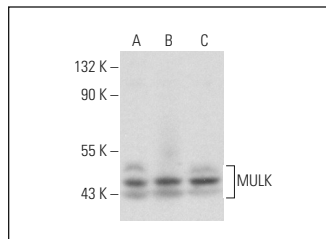
Molecular Weight of MULK: 47 kDa.

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

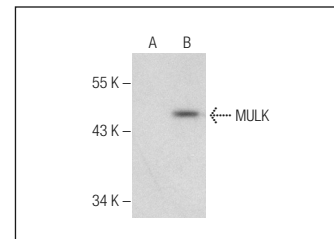
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



MULK (C-16): sc-160547. Western blot analysis of MULK expression in Raji (A), HL-60 (B) and MOLT-4 (C) whole cell lysates.



MULK (C-16): sc-160547. Western blot analysis of MULK expression in non-transfected: sc-117752 (A) and human MULK transfected: sc-113678 (B) 293T whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Satisfaction  
Guaranteed

Try **MULK (F-3): sc-374390** or **MULK (F-5): sc-514235**, our highly recommended monoclonal alternatives to MULK (C-16).