SANTA CRUZ BIOTECHNOLOGY, INC.

# MELK (H-16): sc-48036

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Maternal embryonic leucine zipper Kinase (KIAA0175, HPK38) or MELK, a new member of the Snf1/AMPK family of kinases, encodes a protein with a kinase catalytic domain and a leucine zipper motif consisting of a periodic repetition of leucine residues at every seventh residue located within the N-terminal catalytic domain. This motif has been observed in myriad DNA-binding proteins and is presumed to be involved in protein-DNA interactions, and potentially protein-protein interactions. Research predicts that the gene product of MELK plays a role in the signal transduction events in the egg and early embryo. Mouse and human MELK proteins share 95% sequence identity in the kinase domain and northern blot analysis in mouse indicates that MELK expression is restricted to spermatogonia in the testis and to oocytes in the ovary.

## REFERENCES


1. Nagase, T., et al. 1996. Prediction of the coding sequences of unidentified human genes. V. The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by analysis of cDNA clones from human cell line KG-1. DNA Res. 3: 17-24.
2. Heyer, B.S., et al. 1997. New member of the Snf1/AMPK kinase family, Melk, is expressed in the mouse egg and preimplantation embryo. Mol. Reprod. Dev. 47: 148-156.
3. Seong, H.A., et al. 2002. Phosphorylation of a novel zinc-finger-like protein, ZPR9, by murine protein serine/threonine kinase 38 (MPK38). Biochem. J. 361: 597-604.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607025. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Vulsteke, V., et al. 2004. Inhibition of spliceosome assembly by the cell cycle-regulated protein kinase MELK and involvement of splicing factor NIPP1. J. Biol. Chem. 279: 8642-8647.
6. Beullens, M., et al. 2005. Substrate specificity and activity regulation of protein kinase MELK. J. Biol. Chem. 280: 40003-40011.


## CHROMOSOMAL LOCATION

Genetic locus: MELK (human) mapping to 9p13.2; Melk (mouse) mapping to 4 B1.

## SOURCE

MELK (H-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MELK 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-48036 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MELK (H-16) is recommended for detection of MELK 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).

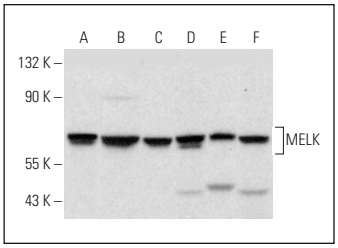
MELK (H-16) is also recommended for detection of MELK in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MELK siRNA (h): sc-61016, MELK siRNA (m): sc-61017, MELK shRNA Plasmid (h): sc-61016-SH, MELK shRNA Plasmid (m): sc-61017-SH, MELK shRNA (h) Lentiviral Particles: sc-61016-V and MELK shRNA (m) Lentiviral Particles: sc-61017-V.

Molecular Weight of MELK: 73 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or HEK293 whole cell lysate: sc-45136.

## DATA




MELK (H-16): sc-48036. Western blot analysis of MELK expression in HeLa (**A**), Jurkat (**B**), HEK293 (**C**) and NIH/3T3 (**D**) whole cell lysates and rat brain (**E**) and mouse brain (**F**) tissue extracts.

## 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 or our catalog for detailed protocols and support products.