

MELK (E-14): sc-48035

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. 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/>
4. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: MELK (human) mapping to 9p13.2.

SOURCE

MELK (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-48035 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MELK (E-14) is recommended for detection of MELK 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)], 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 (E-14) is also recommended for detection of MELK in additional species, including bovine.

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

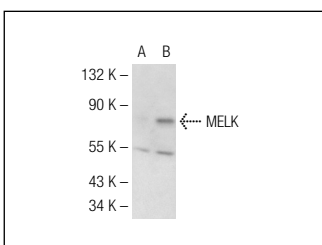
Molecular Weight of MELK: 73 kDa.

Positive Controls: MELK (h): 293T Lysate: sc-110053.

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



MELK (E-14): sc-48035. Western blot analysis of MELK expression in non-transfected: sc-117752 (A) and human MELK transfected: sc-110053 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **MELK (2G2B7): sc-517201**, our highly recommended monoclonal alternative to MELK (E-14).