SANTA CRUZ BIOTECHNOLOGY, INC.

MELK (N-19): sc-48037

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

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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.
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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.
7. Nakano, I., et al. 2005. Maternal embryonic leucine zipper kinase (MELK) regulates multipotent neural progenitor proliferation. J. Cell Biol. 170: 413-427.
8. Badouel, C., et al. 2006. M-phase MELK activity is regulated by MPF and MAPK. Cell Cycle 5: 883-889.

CHROMOSOMAL LOCATION

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

SOURCE

MELK (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MELK of human origin.

RESEARCH USE

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

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 (N-19) 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), 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 (N-19) is also recommended for detection of MELK in additional species, including equine, canine, bovine, porcine and avian.

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: Hep G2 cell lysate: sc-2227.

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) 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.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.