



# UHMK1 (K-15): sc-103915

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. UHMK1 (U2AF homology motif kinase 1), also known as KIS (kinase interacting with stathmin) or KIST, is a 419 amino acid nuclear protein that contains one protein kinase domain and one RRM domain and belongs to the Ser/Thr protein kinase family. Expressed in a variety of tissues with highest levels present in placenta, kidney and skeletal muscle, UHMK1 functions to catalyze the ATP-dependent phosphorylation of target proteins, such as p27, and is thought to be involved in cell cycle regulation, as well as in the trafficking and processing of RNA. Multiple isoforms of UHMK1 exist due to alternative splicing events.

## REFERENCES

1. Maucuer, A., Camonis, J.H. and Sobel, A. 1995. Stathmin interaction with a putative kinase and coiled-coil-forming protein domains. *Proc. Natl. Acad. Sci. USA* 92: 3100-3104.
2. Boehm, M., Yoshimoto, T., Crook, M.F., Nallamshetty, S., True, A., Nabel, G.J. and Nabel, E.G. 2002. A growth factor-dependent nuclear kinase phosphorylates p27(Kip1) and regulates cell cycle progression. *EMBO J.* 21: 3390-3401.
3. Bièche, I., Manceau, V., Curmi, P.A., Laurendeau, I., Lachkar, S., Leroy, K., Vidaud, D., Sobel, A. and Maucuer, A. 2003. Quantitative RT-PCR reveals a ubiquitous but preferentially neural expression of the KIS gene in rat and human. *Brain Res. Mol. Brain Res.* 114: 55-64.
4. Puri, V., McQuillin, A., Choudhury, K., Datta, S., Pimm, J., Thirumalai, S., Krasucki, R., Lawrence, J., Quedsted, D., Bass, N., Moorey, H., Morgan, J., Punukollu, B., Kandasami, G., Curtis, D. and Gurling, H. 2007. Fine mapping by genetic association implicates the chromosome 1q23.3 gene UHMK1, encoding a serine/threonine protein kinase, as a novel schizophrenia susceptibility gene. *Biol. Psychiatry* 61: 873-879.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608849. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Puri, V., McQuillin, A., Datta, S., Choudhury, K., Pimm, J., Thirumalai, S., Krasucki, R., Lawrence, J., Quedsted, D., Bass, N., Crombie, C., Fraser, G., Walker, N., Moorey, H., Ray, M.K., Sule, A., Curtis, D., St Clair, D. and Gurling, H. 2008. Confirmation of the genetic association between the U2AF homology motif (UHM) kinase 1 (UHMK1) gene and schizophrenia on chromosome 1q23.3. *Eur. J. Hum. Genet.* 16 1275-1282.
7. Nakamura, S., Okinaka, K., Hirano, I., Ono, T., Sugimoto, Y., Shigeno, K., Fujisawa, S., Shinjo, K. and Ohnishi, K. 2008. KIS induces proliferation and the cell cycle progression through the phosphorylation of p27Kip1 in leukemia cells. *Leuk. Res.* 32: 1358-1365.

## CHROMOSOMAL LOCATION

Genetic locus: UHMK1 (human) mapping to 1q23.3; Uhmk1 (mouse) mapping to 1 H3.

## SOURCE

UHMK1 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UHMK1 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-103915 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

UHMK1 (K-15) is recommended for detection of UHMK1 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).

Suitable for use as control antibody for UHMK1 siRNA (h): sc-78640, UHMK1 siRNA (m): sc-106671, UHMK1 shRNA Plasmid (h): sc-78640-SH, UHMK1 shRNA Plasmid (m): sc-106671-SH, UHMK1 shRNA (h) Lentiviral Particles: sc-78640-V and UHMK1 shRNA (m) Lentiviral Particles: sc-106671-V.

Molecular Weight of UHMK1: 49 kDa.

## 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.

## 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.