MAK (h): 293T Lysate: sc-115533



The Power to Question

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. MAK (male germ cell-associated kinase) is a 623 amino acid member of the Ser/Thr protein kinase family. Expressed predominantly in testicular germ cells, MAK contains one protein kinase domain and is believed to play an important role in spermatogenesis, as it is involved in the regulation of cell cycle and cell fate. MAK is a homolog of the *S. cerevisiae* protein Ime2, a meiosis-specific protein kinase that is required for the initiation of meiosis and spore formation. MAK expression is induced by androgen and MAK physically associates with AR (androgen receptor), functioning as a co-activator. The knockdown of MAK expression results in diminished expression of AR-responsive genes and inhibition of androgen-induced growth.

REFERENCES

- Matsushime, H., Jinno, A., Takagi, N. and Shibuya, M. 1990. A novel mammalian protein kinase gene (MAK) is highly expressed in testicular germ cells at and after meiosis. Mol. Cell. Biol. 10: 2261-2268.
- Taketo, M., Jinno, A., Yamaguchi, S., Matushime, H., Shibuya, M. and Seldin, M.F. 1994. Mouse Mak gene for male germ cell-associated kinase maps to chromosome 13. Genomics 19: 397-398.
- Shinkai, Y., Satoh, H., Takeda, N., Fukuda, M., Chiba, E., Kato, T., Kuramochi, T. and Araki, Y. 2002. A testicular germ cell-associated serine-threonine kinase, MAK, is dispensable for sperm formation. Mol. Cell. Biol. 22: 3276-3280.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 154235. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 5. Miyata, Y. and Nishida, E. 2004. CK2 controls multiple protein kinases by phosphorylating a kinase-targeting molecular chaperone, Cdc37. Mol. Cell. Biol. 24: 4065-4074.
- Jia, L. and Coetzee, G.A. 2005. Androgen receptor-dependent PSA expression in androgen-independent prostate cancer cells does not involve androgen receptor occupancy of the PSA locus. Cancer Res. 65: 8003-8008.
- Fu, Z., Schroeder, M.J., Shabanowitz, J., Kaldis, P., Togawa, K., Rustgi, A.K., Hunt, D.F. and Sturgill, T.W. 2005. Activation of a nuclear Cdc2-related kinase within a mitogen-activated protein kinase-like TDY motif by autophosphorylation and cyclin-dependent protein kinase-activating kinase. Mol. Cell. Biol. 25: 6047-6064.
- Fu, Z., Larson, K.A., Chitta, R.K., Parker, S.A., Turk, B.E., Lawrence, M.W., Kaldis, P., Galaktionov, K., Cohn, S.M., Shabanowitz, J., Hunt, D.F. and Sturgill, T.W. 2006. Identification of yin-yang regulators and a phosphorylation consensus for male germ cell-associated kinase (MAK)-related kinase. Mol. Cell. Biol. 26: 8639-8654.

CHROMOSOMAL LOCATION

Genetic locus: MAK (human) mapping to 6p24.2.

PRODUCT

MAK (h): 293T Lysate represents a lysate of human MAK transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MAK (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive MAK antibodies. Recommended use: 10-20 µl per lane.

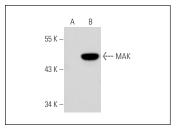
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MAK (JK-10): sc-100432 is recommended as a positive control antibody for Western Blot analysis of enhanced human MAK expression in MAK transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



MAK (JK-10): sc-100432. Western blot analysis of MAK expression in non-transfected: sc-117752 (**A**) and human MAK transfected: sc-115533 (**B**) 293T whole cell Ivsates

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com