MKS1 (HYB330-01): sc-57914



The Power to Question

BACKGROUND

MAPK (mitogen-activated protein kinase) is a serine/threonine kinase activated by extracellular stimuli called mitogens. MAPKs also regulate various cellular activities, such as gene expression, mitosis, differentiation and cell survival. MKS1 (MAP kinase substrate 1), a 222 amino acid protein with an isoelectric point of 6.0, is phosphorylated by a MAPK known as MAPK4 (MAP kinase 4). MAPK4 is involved in regulating plant defenses against pathogens by interacting with WRKY transcriptional regulators. MKS1 may contribute to MPK4-regulated defense activation by binding the kinase to WRKY transcription factors. MKS1 is required for full salicylic acid-dependent plant disease resistance, indicating that MKS1 family members may be involved in transcriptional regulation in response to pathogens.

REFERENCES

- Weiler, M.C., Smith, J.L. and Masters, J.N. 1997. CR16, a novel prolinerich protein expressed in rat brain neurons, binds to SH3 domains and is a MAP kinase substrate. J. Mol. Neurosci. 7: 203-215.
- Hawkins, J., Zheng, S., Frantz, B. and LoGrasso, P. 2000. p38 map kinase substrate specificity differs greatly for protein and peptide substrates. Arch. Biochem. Biophys. 382: 310-313.
- 3. MAPK Group. 2002. Mitogen-activated protein kinase cascades in plants: a new nomenclature. Trends Plant Sci. 7: 301-308.
- Terret, M.E., Lefebvre, C., Djiane, A., Rassinier, P., Moreau, J., Maro, B. and Verlhac, M.H. 2003. DOC1R: a MAP kinase substrate that control microtubule organization of metaphase II mouse oocytes. Development 130: 5169-5177.
- Edmunds, J.W. and Mahadevan, L.C. 2004. MAP kinases as structural adaptors and enzymatic activators in transcription complexes. J. Cell Sci. 117: 3715-3723.
- Andreasson, E., Jenkins, T., Brodersen, P., Thorgrimsen, S., Petersen, N.H., Zhu, S., Qiu, J.L., Micheelsen, P., Rocher, A., Petersen, M., Newman, M.A., Bjørn Nielsen, H., Hirt, H., Somssich, I., Mattsson, O. and Mundy, J. 2005. The MAP kinase substrate MKS1 is a regulator of plant defense responses. EMBO J. 24: 2579-2589.
- Kyttälä, M., Tallila, J., Salonen, R., Kopra, O., Kohlschmidt, N., Peltonen, L., Paavola-Sakki, P. and Kestilä, M. 2006. MKS1, encoding a component of the is mutated in Meckel syndrome. Nat. Genet. 38: 155-157.

SOURCE

MKS1 (HYB330-01) is a mouse monoclonal antibody raised against synthetic MKS1 of *Arabidopsis* origin.

PRODUCT

Each vial contains 100 $\mu g \; lg G_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MKS1 (HYB330-01) is recommended for detection of phosphorylated and non-phosphorylated MKS1 of *Arabidopsis thaliana* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of MKS1: 28 kDa.

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