

MK (H-65): sc-20715

BACKGROUND

Midkine, or MK, is a heparin-binding molecule involved in the regulation of growth and differentiation during embryogenesis. MK expression is tightly regulated during embryonic development by steroid receptors of the retinoic acid superfamily. The mature human MK protein is 118 amino acids in length and contains 5 intrachain disulfide bonds. MK is a non-glycosylated protein that shows greater than 87% identity between human and mouse. The carboxy-terminus of MK contains the principle heparin-binding site and the molecule's neurite-promoting sequences; both the amino and carboxy-terminal sequences are required for the molecule's neurotrophic properties. An association between overexpression of MK and colon adenocarcinoma has been shown in families suffering from familial polyposis. In addition, MK functions to enhance the activity of plasminogen activator (PA).

REFERENCES

- Li, Y.S., et al. 1990. Cloning and expression of a developmentally regulated protein that induces mitogenic and neurite outgrowth activity. *Science* 250: 1690-1694.
- Tsutsui, J., et al. 1991. A new family of heparin-binding factors: strong conservation of midkine (MK) sequences between the human and the mouse. *Biochem. Biophys. Res. Commun.* 176: 792-797.
- Muramatsu, H., et al. 1994. Localization of heparin-binding, neurite outgrowth and antigenic regions in midkine molecule. *Biochem. Biophys. Res. Commun.* 203: 1131-1139.

CHROMOSOMAL LOCATION

Genetic locus: MDK (human) mapping to 11p11.2; Mdk (mouse) mapping to 2 E1.

SOURCE

MK (H-65) is a rabbit polyclonal antibody raised against amino acids 79-143 of MK 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.

APPLICATIONS

MK (H-65) is recommended for detection of precursor and mature MK of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

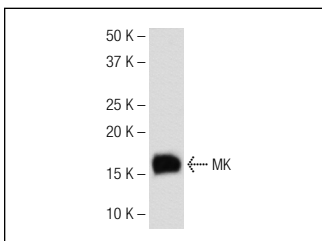
Suitable for use as control antibody for MK siRNA (h): sc-39711, MK siRNA (m): sc-39712, MK shRNA Plasmid (h): sc-39711-SH, MK shRNA Plasmid (m): sc-39712-SH, MK shRNA (h) Lentiviral Particles: sc-39711-V and MK shRNA (m) Lentiviral Particles: sc-39712-V.

Molecular Weight of MK: 13 kDa.

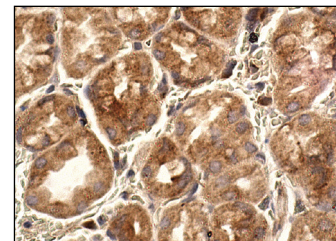
STORAGE

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

DATA



MK (H-65): sc-20715. Western blot analysis of human recombinant MK.



MK (H-65): sc-20715. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Wang, Y., et al. 2009. Overexpression of Midkine promotes the viability of BA/F3 cells. *Biochem. Biophys. Res. Commun.* 384: 341-346.
- Zhang, H., et al. 2009. The angiogenic factor midkine is regulated by dexamethasone and retinoic acid during alveolarization and in alveolar epithelial cells. *Respir. Res.* 10: 77.
- Lorente, M., et al. 2011. Stimulation of the midkine/ALK axis renders glioma cells resistant to cannabinoid antitumoral action. *Cell Death Differ.* 18: 959-973.
- Doi, T., et al. 2011. Downregulation of Midkine gene expression and its response to retinoic acid treatment in the nitrofen-induced hypoplastic lung. *Pediatr. Surg. Int.* 27: 199-204.
- Sonobe, Y., et al. 2012. Midkine inhibits inducible regulatory T cell differentiation by suppressing the development of tolerogenic dendritic cells. *J. Immunol.* 188: 2602-2611.

RESEARCH USE

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

PROTOCOLS

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


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Try **MK (A-9): sc-46701**, our highly recommended monoclonal alternative to MK (H-65).