

# MK (h): 293T Lysate: sc-159960

## 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 five 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). The gene encoding MK maps to human chromosome 11q11.2.

## 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.
- Pedraza, C., et al. 1995. A retinoic acid-responsive element in human midkine gene. *J. Biochem.* 117: 845-849.
- Aridome, K., et al. 1995. Increased midkine gene expression in human gastrointestinal cancers. *Jpn. J. Cancer Res.* 86: 655-661.
- Kojima, S., et al. 1995. Midkine enhances fibrinolytic activity of bovine endothelial cells. *J. Biol. Chem.* 270: 9590-9596.
- Kojima, S., et al. 1995. Midkine is a heat and acid stable polypeptide capable of enhancing plasminogen activator activity and neurite outgrowth extension. *Biochem. Biophys. Res. Commun.* 216: 574-581.

## CHROMOSOMAL LOCATION

Genetic locus: MDK (human) mapping to 11p11.2.

## PRODUCT

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

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

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

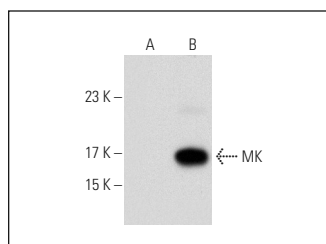
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MK (A-9): sc-46701 is recommended as a positive control antibody for Western Blot analysis of enhanced human MK expression in MK 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



MK (A-9): sc-46701. Western blot analysis of MK expression in non-transfected: sc-117752 (A) and human MK transfected: sc-159960 (B) 293T whole cell lysates.

## RESEARCH USE

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