

hMidkine Protein
Human Midkine, Recombinant, E. coli
Catalog # PG10024

Specification

hMidkine Protein - Product Information

hMidkine Protein - Additional Information

Storage
-20°C

Precautions
hMidkine Protein is for research use only and not for use in diagnostic or therapeutic procedures.

hMidkine Protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

hMidkine Protein - Images

hMidkine Protein - Background

Midkine is a heparin-binding multifunctional protein that has anti-apoptotic properties and promotes cell migration and neurite process formation. Midkine is induced by tissue injury, and is believed to participate in tissue repair.^{1,2} Midkine has various activities related to neurogenesis; it enhances the survival of embryonic neurons, migration of neurons, neurite outgrowth,¹ and clustering of acetylcholine receptors at the neuromuscular junction. Midkine has in vitro neurotrophic activity for dorsal root ganglia and midbrain dopaminergic neurons.³⁻⁵ Midkine activities in tissue repair processes include enhanced migration of macrophages, neutrophils, and osteoblasts.⁶ Midkine promotes fibrinolytic activity of endothelial cells,⁷ and synthesis of collagens and glycosaminoglycans in fibroblasts.^{8,9} In the adult, Midkine expression is restricted to certain tissues.^{2,11} However, protein expression is induced during inflammation, repair, and oncogenesis.^{2,11} High expression of Midkine is observed in a variety of human carcinomas (gastric, colon, pancreatic, lung, breast, urinary bladder).¹² Serum or urinary levels of truncated Midkine mRNA, with a high specificity for tumor tissues may be used as tumor markers.¹³

hMidkine Protein - References

- 1 . Kaneda, N. et al. (1996) J. Biochem. (Tokyo) 119, 1150.
- 2 . Muramatsu, T. (2002) J. Biochem.

(Tokyo) 132,359.3 . Asai, T.et al.(1997)Biochem. Biophys. Res. Commun. 236,66.4 . Muramatsu, T.(1995)Nihon Shinkei Seishin Yakurigaku Zasshi. 15,275.5 . Haynes, L.et al.(2001)Prog. Brain Res. 132,313.6 . Hayashi, K.et al.(2001)Glycoconj. J. 18,401.7 . Choudhuri, R.et al.(1997)Cancer Res. 57,1814.8 . Kadomatsu, K.(2000)Nippon Rinsho. 58,1337.9 . Kurosawa, N.et al. (2000)Eur. J. Biochem. 267,344.10 . Kadomatsu, K.et al.(1990)J. Cell Biol. 110,607.11 . Kurtz, A.et al.(1995)Crit. Rev. Oncog. 6,151.12 . Shimada, H.et al.(2003)Cancer Sci. 94,628.13 . Shimada, H. et al.(2003)Oncol. Rep. 10,411.