



Midkine Human *E. coli*

Product Data Sheet

Type: Recombinant

Source: *E. coli*

Species: Human

Other names: MK, NEGF-2, Neurite growth promoting factor 2

Cat. No.:

RD172042100 (0.1 mg)

Description

The Human Midkine is created as a recombinant protein with N terminal fusion of HisTag. The Human Midkine His-Tagged Fusion Protein, produced in *E. coli*, is 14.6 kDa protein containing 121 amino acid residues of the human Midkine and 10 additional amino acid residues - HisTag.

Introduction to the Molecule

Midkine is a product of a retinoic acid responsive gene. It is a secreted 13 kDa protein belonging to the family of heparin binding growth/differentiation factors. MK shares 45% sequence identity with other member of this family called Pleiotrophin (HB-GAM). Midkine is composed of two domains held together by disulfide linkages. The C-terminally located domain contains two heparin binding sites and is responsible for midkine activity. Part of the MK activity is enhanced by its dimerization. Midkine has been found in a variety of vertebrates from human to zebrafish. It is most strongly expressed in midgestation. In the adult MK expression is restricted. In addition to normal development, MK is also involved in the pathogenesis of diseases e.g. inflammatory diseases, human carcinomas such as esophageal, stomach, colon, pancreatic, thyroid, lung, urinary, hepatocellular, neuroblastoma, glioblastoma, Wilm's tumor etc. High MK levels are associated with poor prognosis in some type of cancer. The increased expression in many carcinomas indicates that MK can be applied to the diagnosis of malignancy. Midkine is expressed during the reparative stage of bone fractures, also suppresses infection of certain viruses including HIV in target cells. Anti-apoptotic and cell protecting activity of midkine makes it to be a promising in therapy.

Research topic

Oncology

Amino Acid Sequence

MKHHHHHHHM KKKDKVKKGG PGSECAEWAW GPCTPSSKDC GVGFRGTCG AQTQRIRCRV PCNWKKEFGA DCKYKFENWG
ACDGGTGTKV RQGLLKKARY NAQCQETIRV TKPCTPKTKA KAKAKKGK GK D

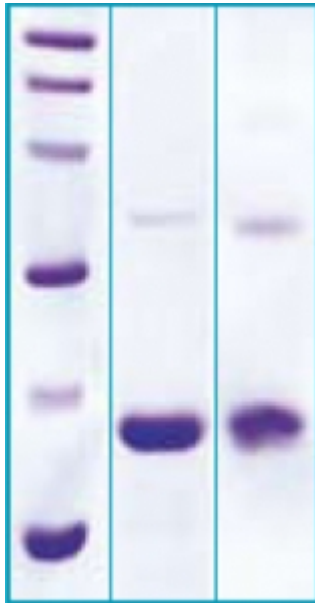
Source

E. coli

Purity

>95%

SDS-PAGE gel



- 12% SDS-PAGE separation of Human Midkine
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
 2. reduced and heated sample, 5µg/lane
 3. non-reduced and non-heated sample, 5µg/lane

Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2

Reconstitution

Add PBS pH 7.2 to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a week.

Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.

Gentaur Molecular Products
Voortstraat 49
1910 Kampenhout, Belgium
<http://www.gentaur-worldwide.com>