Growth Factor Data Sheet

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Midkine (MDK) is a heparin-binding growth factor that is expressed in various cell types during embryo development and in a variety of carcinomas. It is induced by retinoic acid, as well as during oncogenesis, inflammation, and tissue repair. MDK is pleiotropic and promotes angiogenesis, neurogenesis, chondrogenesis, cell growth, cell migration, and tumorigenesis. It also inhibits apoptosis in some cells. MDK acts through several different receptors including PTP, ALK, PTP-zeta, and LRP. MDK shows significant homology to pleiotrophin (PTN). The amino acid sequence of Rat MDK is 99% homologous to human MDK.

Catalog Number **Product Name**	**1570-18** **MDK, Rat** Recombinant Rat Midkine (MDK) Neurite Growth-Promoting Factor 2 (NEGF2) Amphiregulin-Associated Protein (ARAP) Midgestation and Kidney Protein (MK) MK1
Source	*Escherichia coli*
MW	~13.2 kDa (120 amino acids)
Sequence	VAKKKDKVKK GSECSEWTWG PCTPSSKDCG MGFREGTCGA QTQRIHCKVP CNWKKEFGAD CKYKFESWGA CDGSTGTKAR QGTLKKARYN AQCQETIRVT KPCTSKTKSK AKAKKGKGKD
Accession Number	Q9R1S9
Purity	>97% by SDS-PAGE and HPLC analyses
Biological Activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human neutrophils is in a concentration range of 10-100 ng/ml.
Formulation	Sterile filtered white lyophilized powder. Purified and tested for use in cell culture.
Storage/Handling	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The reconstituted sample can be apportioned into working aliquots and stored at -80 °C for up to 6 months. Avoid repeated freeze/thaw cycles.
Reconstitution	The sample should be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a siliconized tube using PBS that contains a 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Reconstituted solutions are stable for up to one week at 2-8°C. Stock solutions should be aliquoted and stored at -80°C. Further dilutions should be made in appropriate buffered solutions containing BSA or serum.