

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Midkine in direct ELISAs.
Source	Monoclonal Mouse IgG _{2A} Clone # 1011522
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Midkine Lys23-Asp143 Accession # P21741
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Midkine (MK) is a 15 kDa heparin-binding molecule originally cloned during a search for genes preferentially transcribed during retinoic acid (RA)-induced differentiation. Midkine belongs to a family of neurotrophic and developmentally-regulated heparin-binding molecules consisting of midkine, pleiotrophin (PTN/HBNF/OSF-1/HNGF-8) and the avian midkine homolog, RI-HB (for retinoic acid-inducible heparin-binding protein).

Midkine is a highly basic, nonglycosylated polypeptide that contains five intrachain disulfide bonds. The predicted molecular weight is approximately 13.3 kDa, based on a mature peptide length of 118 amino acid residues in the mouse and 121 amino acid residues in the human. Across species, MK shows 87% identity between the human and murine proteins. Between family members, human MK is approximately 50% identical to human PTN, with conservation of all 10 cysteines. Initial structure-function studies indicate that the C-terminal half of MK contains the principal heparin-binding site plus the molecule's antigenicity and neurite-promoting sequences; while both the C- and N-termini are necessary for the molecule's neurotrophic effects. Cells known to produce MK include endothelial cells, fetal astrocytes, renal proximal tubule epithelial cells and Wilms' (kidney) tumor cells. MK has also been identified in the senile plaques of patients with Alzheimer's disease. The pattern of expression of midkine during development strongly suggests a role for this factor both in epithelial-mesenchymal interactions and in development of the nervous system.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.