

Datasheet for ABIN1889397

**Midkine ELISA Kit**[Go to Product page](#)**1** Image

## Overview

Quantity:	96 tests
Target:	Midkine (MDK)
Binding Specificity:	AA 23-143
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	78-5000 pg/mL
Minimum Detection Limit:	78 pg/mL
Application:	ELISA

## Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Midkine
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: E.coli Immunogen sequence: K23-D143
Specificity:	Expression system for standard: E.coli Immunogen sequence: K23-D143
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

## Product Details

Sensitivity: <10pg/mL

Material not included: Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

## Target Details

Target: Midkine (MDK)

Alternative Name: MDK ([MDK Products](#))

Background: Protein Function: Developmentally regulated, secreted growth factor homologous to pleiotrophin (PTN), which has heparin binding activity. Binds anaplastic lymphoma kinase (ALK) which induces ALK activation and subsequent phosphorylation of the insulin receptor substrate (IRS1), followed by the activation of mitogen-activated protein kinase (MAPK) and PI3-kinase, and the induction of cell proliferation. Involved in neointima formation after arterial injury, possibly by mediating leukocyte recruitment. Also involved in early fetal adrenal gland development (By similarity). .

Background: Midkine(MK or MDK) also known as neurite growth-promoting factor 2(NEGF2) is a protein that in humans is encoded by the MDK gene. Midkine is a basic heparin-binding growth factor of low molecular weight, and forms a family with pleiotrophin(NEGF1, 46 % homologous with MK). It is a nonglycosylated protein, composed of two domains held by disulfide bridges. It is a developmentally important retinoic acid-responsive gene product strongly induced during mid-gestation, hence the name midkine. Restricted mainly to certain tissues in the normal adult, it is strongly induced during oncogenesis, inflammation and tissue repair. MK is pleiotropic, capable of exerting activities such as cell proliferation, cell migration, angiogenesis and fibrinolysis. A molecular complex containing receptor-type tyrosine phosphatase zeta(PTPi), low density lipoprotein receptor-related protein(LRP1), anaplastic leukemia kinase(ALK) and syndecans is considered to be its receptor.

Synonyms: Midkine,MK,Amphiregulin-associated protein,ARAP,Midgestation and kidney protein,Neurite outgrowth-promoting factor 2,Neurite outgrowth-promoting protein,MDK,MK1, NEGF2,

Full Gene Name: Midkine

Cellular Localisation: Secreted.

Gene ID: 4192

## Target Details

UniProt: [P21741](#)

Pathways: [RTK Signaling, M Phase, Skeletal Muscle Fiber Development](#)

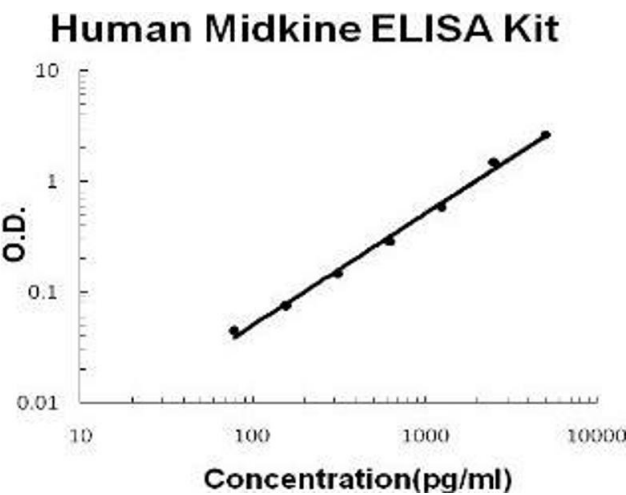
## Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Tissue Specificity: Expressed in various tumor cell lines. In insulinoma tissue predominantly expressed in precancerous lesions. .
Plate:	Pre-coated
Protocol:	human Midkine ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Midkine has been precoated onto 96-well plates. Standards(E.coli, K23-D143) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Midkine is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human Midkine amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 313pg/mL, 156pg/mL, 78pg/mL human Midkine standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human Midkine standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(pg/ml): 465, Standard deviation: 21.4, CV(%): 4.6</li><li>• Sample 2: n=16, Mean(pg/ml): 1616, Standard deviation: 88.88, CV(%): 5.5</li><li>• Sample 3: n=16, Mean(pg/ml): 2823, Standard deviation: 169.4, CV(%): 6,</li><li>• Sample 1: n=24, Mean(pg/ml): 582, Standard deviation: 30.85, CV(%): 5.3</li><li>• Sample 2: n=24, Mean(pg/ml): 1828, Standard deviation: 122.5, CV(%): 6.7</li><li>• Sample 3: n=24, Mean(pg/ml): 3012, Standard deviation: 220, CV(%):7.3</li></ul>
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Images



ELISA

**Image 1.** Human Midkine PicoKine ELISA Kit standard curve