APA631Hu01 200μg
Active Midkine (MK)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Ala22~Asp143
Tags: N-terminal His-tag
Purity: >95%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 9.4
Predicted Molecular Mass: 20.0kDa
Accurate Molecular Mass: 20kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

AKKKDKVKK GGPGSECAEW AWGPCTPSSK
DCGVGFREGT CGAQTQRIRC RVPCNWKKEF GADCKYKFEN WGACDGGTGT
KVRQGTLKKA RYNAQCQETI RVTKPCTPKT KAKAKAKKGK GKD

[ACTIVITY]

Midkine (MK) also known as neurite growth-promoting factor 2 (NEGF2) is a protein that in humans is encoded by the MDK gene. MK is a basic heparin-binding growth factor of low molecular weight, and forms a family with pleiotrophin. It is pleiotropic, capable of exerting activities such as cell proliferation, cell migration, angiogenesis and fibrinolysis. MK may potentially be indirectly targeted as a cancer treatment as a result of its cancerous proliferation properties. Besides, Low Density Lipoprotein Receptor Related Protein 1 (LRP1) has been identified as an interactor of MK, thus a binding ELISA assay was conducted to detect the interaction of recombinant human MK and recombinant human LRP1. Briefly, MK were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to LRP1-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-MK pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 ℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of MK and LRP1 was shown in Figure 1, and this effect was in a dose dependent manner.

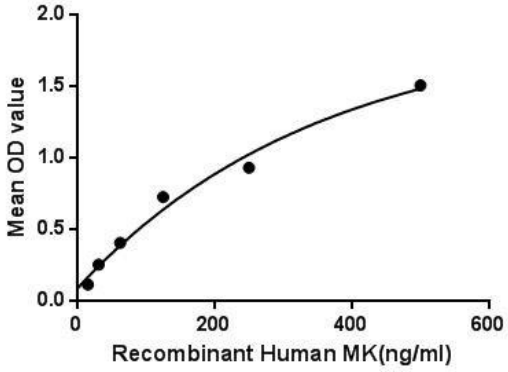

Figure 1. The binding activity of MK with LRP1.

[IDENTIFICATION]

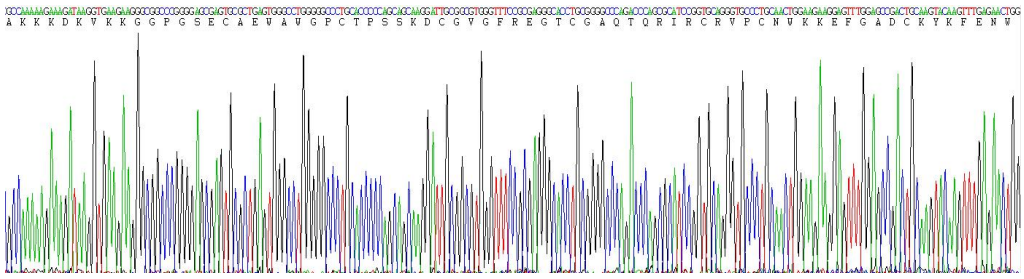

Figure 2. Gene Sequencing (extract)

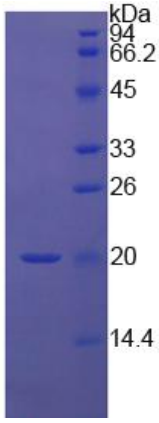

Figure 3. SDS-PAGE

Sample: Active recombinant Midkine, Human

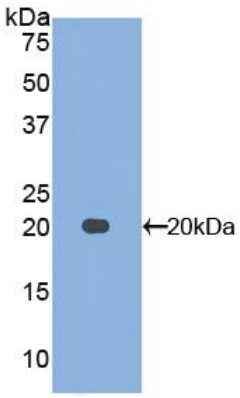

Figure 4. Western Blot

Sample: Recombinant Midkine, Human;

Antibody: Rabbit Anti-Human Midkine Ab (PAA631Hu01)

[IMPORTANT NOTE]

The kit is designed for in vitro and research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.