

APA045Hu01 100µg

Active Colony Stimulating Factor 2, Granulocyte Macrophage (GM-CSF)

Organism Species: *Homo sapiens* (Human)

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Ala18~Glu144

Tags: N-terminal His and GST Tag

Purity: >90%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 6.0

Predicted Molecular Mass: 44.5kDa

Accurate Molecular Mass: 45kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) 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 37°C 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]

APA RSPSPSTQPW EHVNAIQEAR RLLNLSRDTA
AEMNETVEVI SEMFDLQEP T CLQTRLELYK QGLRGS�TKL KGPLTMMASH
YKQHCPTPE TSCATQIITF ESFKENLKDF LLVIPFDCWE PVQE

[ACTIVITY]

Granulocyte-macrophage colony-stimulating factor (GM-CSF), also known as colony stimulating factor 2 (CSF2), is a monomeric glycoprotein secreted by macrophages, T cells, mast cells, natural killer cells, endothelial cells and fibroblasts that functions as a cytokine. GM-CSF is a monomeric glycoprotein that functions as a cytokine - it is a white blood cell growth factor. It also has some effects on mature cells of the immune system, such as inhibiting neutrophil migration and causing an alteration of the receptors expressed on the cells surface. GM-CSF signals via signal transducer and activator of transcription, STAT5. In macrophages, it has also been shown to signal via STAT3. Besides, Colony Stimulating Factor 2 Receptor Alpha (CSF2Ra) has been identified as an interactor of GM-CSF, thus a binding ELISA assay was conducted to detect the interaction of recombinant human GM-CSF and recombinant human CSF2Ra. Briefly, GM-CSF were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to CSF2Ra-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-GM-CSF 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°C. Finally,

add 50 μ L stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human GM-CSF and recombinant human CSF2Ra was shown in Figure 1, the EC50 for this effect is 0.04 μ g/mL.

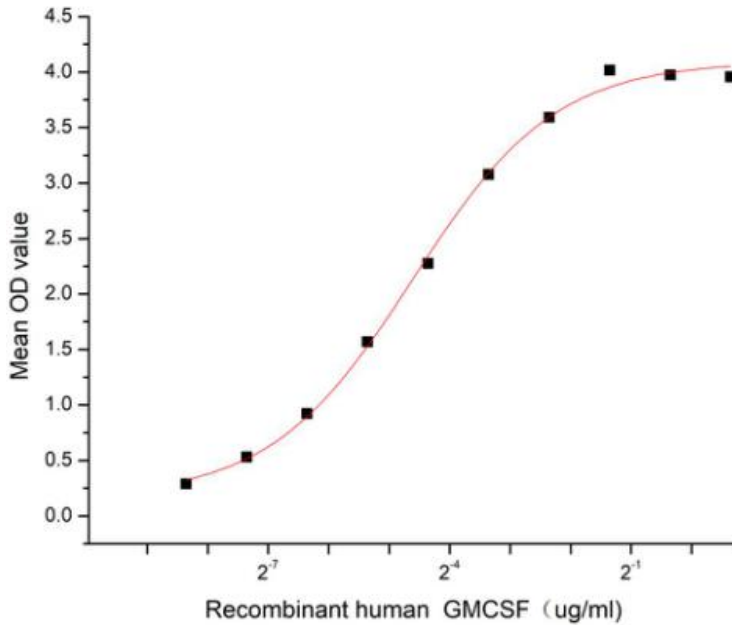


Figure 1. The binding activity of recombinant human GM-CSF and recombinant human CSF2Ra

[IDENTIFICATION]

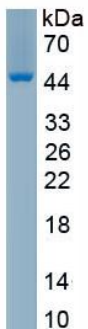


Figure 2. SDS-PAGE

Sample: Active recombinant GM-CSF, Human

[IMPORTANT NOTE]

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