

APA090Hu02 100µg
Active Colony Stimulating Factor 1, Macrophage (MCSF)
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: Glu33~Asn190

Tags: N-terminal His-tag

Purity: >95%

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: 4.6

Predicted Molecular Mass: 22.1kDa

Accurate Molecular Mass: 22kDa 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]

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EEVSEYCS HMIGSGHLQS  
LQRLIDSQME TSCQITFEFV DQEQLKDPVC YLKKAFLLVQ DIMEDTMRFR  
DNTPNIAIAIV QLQELSLRLK SCFTKDYEEH DKACVRTFYE TPLQLLEKVK  
NVFNETKNLL DKDWNIFSKN CNNSFAECSS QDVVTKPDCN
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[ACTIVITY]

Macrophage Colony Stimulating Factor (M-CSF), also known as CSF-1, is a secreted cytokine which influences hematopoietic stem cells to differentiate into macrophages or other related cell types. M-CSF (or CSF-1) is a hematopoietic growth factor that is involved in the proliferation, differentiation, and survival of monocytes, macrophages, and bone marrow progenitor cells. It can also affect macrophages and monocytes in several ways, including stimulating increased phagocytic and chemotactic activity, and increased tumour cell cytotoxicity. By interacting with its membrane receptor (CSF1R or M-CSF-R encoded by the *c-fms* proto-oncogene), M-CSF also modulates the proliferation of earlier hematopoietic progenitors and influence numerous physiological processes involved in immunology, metabolism, fertility and pregnancy. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human M-CSF and recombinant human Colony Stimulating Factor 2 Receptor Alpha (CSF2Ra). Briefly, biotin-linked M-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 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed

5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C . Finally, add 50 µl stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human M-CSF and recombinant human CSF2Ra was shown in Figure 1, the EC50 for this effect is 0.02 ug/mL.

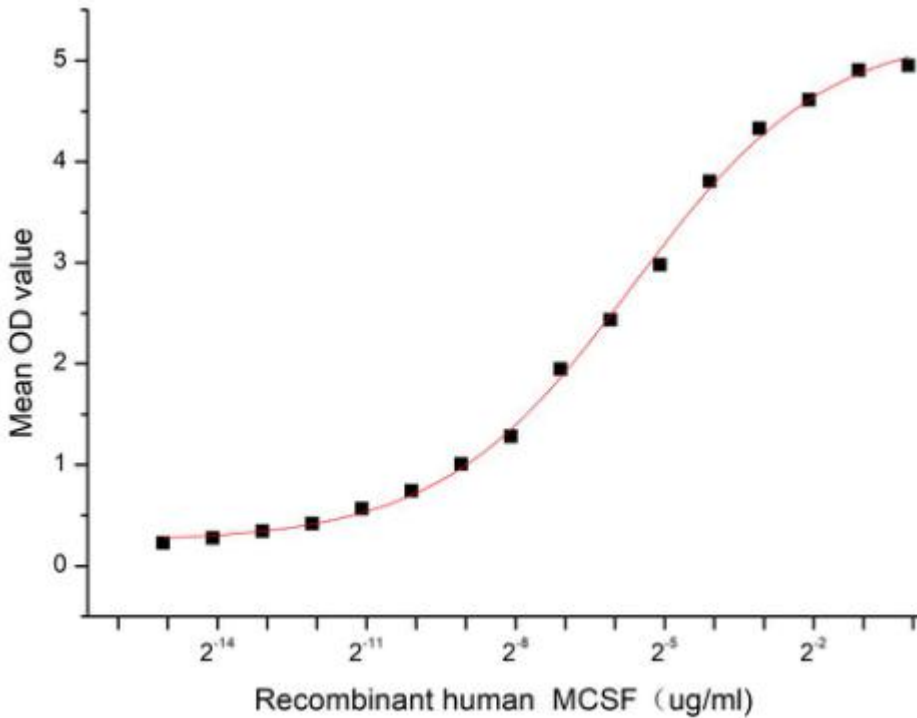


Figure 1. The binding activity of recombinant human M-CSF and recombinant human CSF2Ra

[IDENTIFICATION]

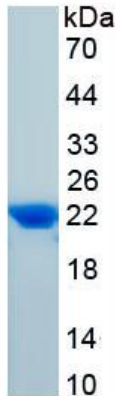


Figure 2. SDS-PAGE

Sample: Active recombinant MCSF, 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.