

APA090Mu61 10µg
Active Colony Stimulating Factor 1, Macrophage (MCSF)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Eukaryotic expression.

Host: 293F cell

Residues: Lys33~Glu262

Tags: N-terminal His-tag

Purity: >95%

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

Buffer Formulation: 10mM PBS, pH7.6, containing 5% trehalose.

Original Concentration: 1000µg/mL

Applications: Cell culture; Activity Assays.

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

Predicted isoelectric point: 5.1

Predicted Molecular Mass: 27.6kDa

Accurate Molecular Mass: 35-55kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.6) 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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KEVSEHCS HMIGNHGLKV
LQQLIDSQME TSCQIAFEFV DQEQLDDPVC YLKKAFFLVQ DIIDETMRFK
DNTPNANATE RLQELSNLN SCFTKDYEEQ NKACVRTFHE TPLQLLEKIK
NFFNETKNLL EKDOWNIFTKN CNNSFAKCSS RDVVTKPCDN CLYPKATPSS
DPASASPHQP PAPSMAPLAG LAWDDSQRTE GSSLLPSELP LRIEDPGSAK
QRPPRSTCQT LE
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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. The role of M-CSF is not only restricted to the monocyte/macrophage cell lineage. By

interacting with its membrane receptor (CSF-1R 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. Besides, Colony Stimulating Factor Receptor, Macrophage (M-CSF-R) has been identified as an interactor of M-CSF, thus a binding ELISA assay was conducted to detect the interaction of recombinant mouse M-CSF and recombinant mouse M-CSF-R. Briefly, M-CSF were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ L were then transferred to M-CSF-R coated microtiter wells and incubated for 2h at 37 $^{\circ}$ C. Wells were washed with PBST and incubated for 1h with anti-M-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 $^{\circ}$ C. Finally, add 50 μ L stop solution to the wells and read at 450nm immediately. The binding activity of M-CSF and M-CSF-R was shown in Figure 1, and this effect was in a dose dependent manner.

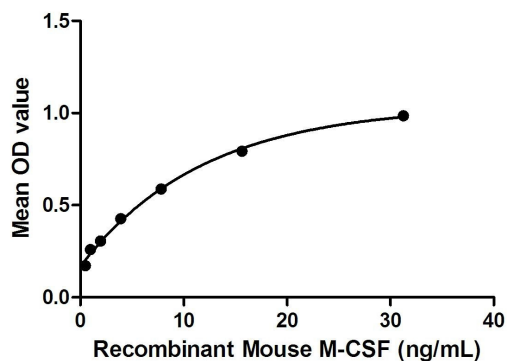


Figure 1. The binding activity of M-CSF with M-CSF-R.

[IDENTIFICATION]

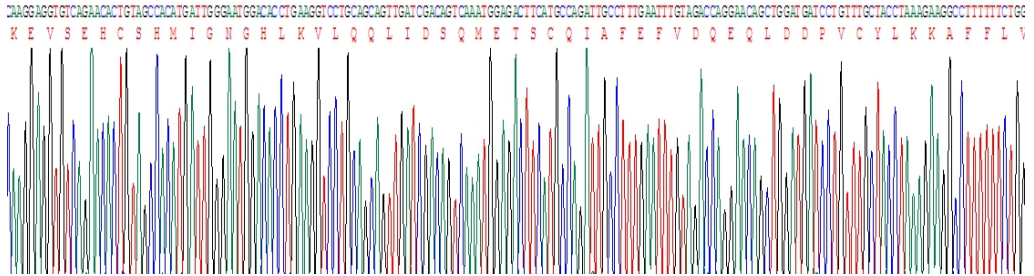


Figure 2. Gene Sequencing (extract)

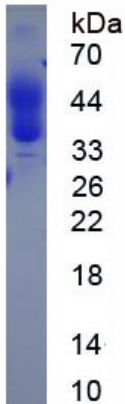


Figure 3. SDS-PAGE

Sample: Active recombinant MCSF, Mouse

[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.