APA045Hu61 100μg
Active Colony Stimulating Factor 2, Granulocyte Macrophage (GMCSF)
Organism Species: Homo sapiens (Human)
Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1th Edition (Apr, 2016)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Ala18~Glu144
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% sarcosyl, 5% trehalose, and Proclin300.
Predicted isoelectric point: 5.2
Predicted Molecular Mass: 16.1kDa
Accurate Molecular Mass: 19-26kDa as determined by SDS-PAGE reducing conditions.
Applications: Cell culture; Activity Assays; In vivo assays.
(May be suitable for use in other assays to be determined by the end user.)
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 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 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.

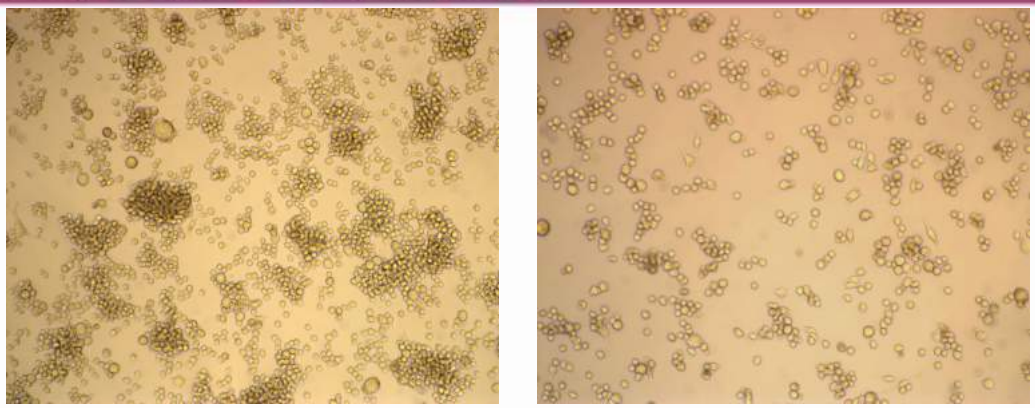
[SEQUENCE]

APA RSPSPSTQPW EHVNAIQEAR RLLNLSRDTA
AEMNETVEVI SEMFDLQEPT CLQTRLELYK QGLRGSLTKL KGPLTMMASH
YKQHCPPTPE TSCATQIITF ESFKENLKDF LLVIPFDCWE PVQE

[ACTIVITY]

TF-1, the human erythroleukemia cell line,provides a good system for detecting the activity of GM-CSF for it is a cell line of immature erythroid origin that completely depends on interleukin 3 (IL-3) or granulocyte-macrophage colony-stimulating factor (GM-CSF) for long term growth. As reported, GM-CSF was also able to induce differentiation of human monoblastic leukemia cell line U937. In house data was obtained by the following experiment: TF-1 cells and U937 cells were incubated in the presence of various concentrations of rhGM-CSF, then cells were observed by inverted microscope everyday .

Cell proliferation of TF1 cells after incubation with GM-CSF (10ng/mL) for 3 days was shown in Figure 1.



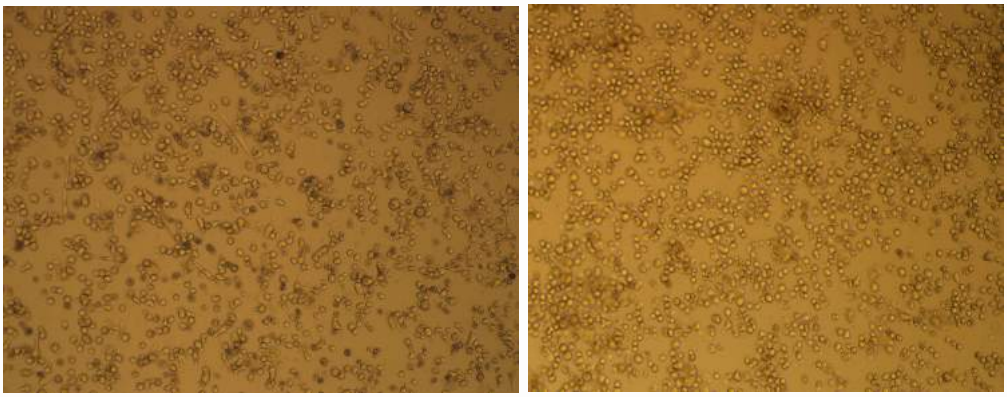
A B

Figure 1. Effect of GM-CSF on TF-1 cells.

(A) TF-1 cells cultured in RPMI 1640, stimulated with GM-CSF (2ng/mL);

(B) Unstimulated TF-1 cells cultured in RPMI 1640.

Cell differentiation of U937 cells after incubation with GM-CSF (10ng/mL) for 5 days was shown in Figure 2.



A B

Figure 2. Effect of GM-CSF on U937 cells.

(A) U937 cells cultured in RPMI 1640, stimulated with GM-CSF (10ng/mL);

(B) Unstimulated U937 cells cultured in RPMI 1640.

[IDENTIFICATION]

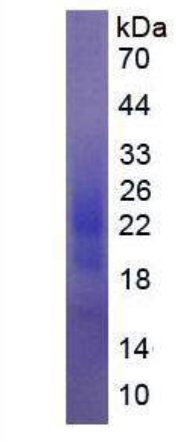


Figure 3. SDS-PAGE

Sample: Active recombinant GMCSF, Human

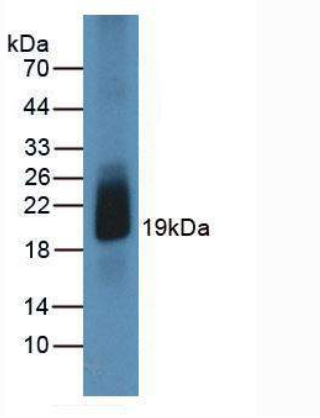


Figure 4. Western Blot

Sample: Recombinant GMCSF, Human;

Antibody: Rabbit Anti-Human GMCSF Ab (PAA045Hu06)