

**APA120Mu01 10µg**  
**Active Stem Cell Factor (SCF)**  
**Organism Species: *Mus musculus (Mouse)***  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Lys24~Ala219

**Tags:** N-terminal His-tag

**Purity:** >98%

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

**Buffer Formulation:** PBS, pH7.4, containing 0.01% SKL, 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:** 5.1

**Predicted Molecular Mass:** 22.9kDa

**Accurate Molecular Mass:** 20kDa 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 (pH7.4) 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 ]**

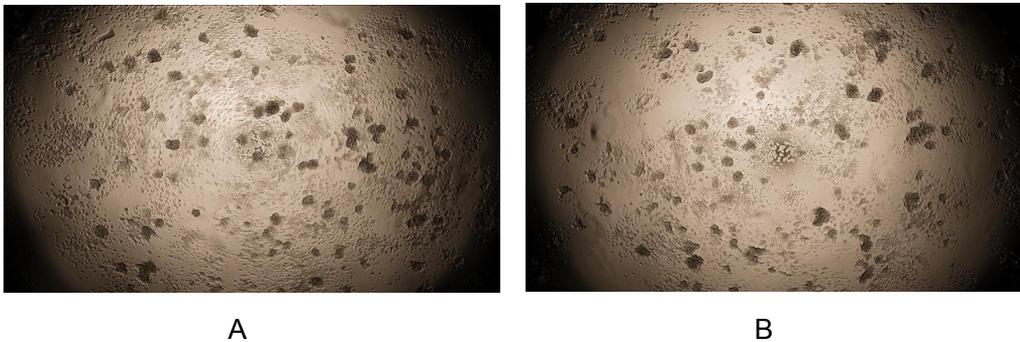
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KTKEICG NPVTDNVKDI TKLVANLPND  
YMITLNYVAG MDVLP SHCWL RDMVIQLSLS LTTLLDKFSN ISEGLSNYSI  
IDKLGKIVDD LVL CMEENAP KNIKESPKRP ETRSFTPEEF FSIFNRSIDA  
FKDFMVASDT SDCVLSSTLG PEKDSRVSVT KPFMLPPVAA SSLRNDSSSS  
NRKAAKAPED SGLQWTAMA
```

## **[ ACTIVITY ]**

Stem cell factor (also known as SCF, KIT-ligand, KL, or steel factor) is a cytokine that binds to the c-KIT receptor (CD117). SCF can exist both as a transmembrane protein and a soluble protein. This cytokine plays an important role in hematopoiesis (formation of blood cells), spermatogenesis, and melanogenesis. SCF has been shown to stimulate the proliferation of Raw264.7 cells. To test this effect, Raw264.7 cells were seeded into triplicate wells of 96-well plates at a density of 2,000 cells/well and allowed to attach later, replaced with serum-free overnight, then the medium was replaced with 2% serum standard DMEM containing various concentrations of recombinant mouse SCF.

After incubated for 120h, cells were observed by inverted microscope and cell

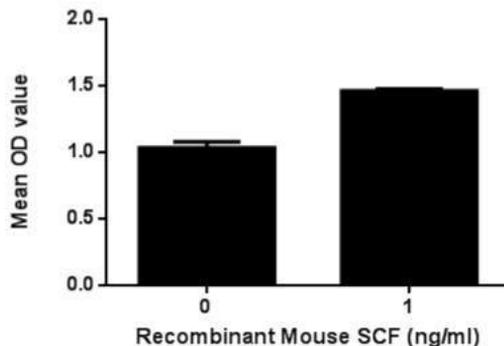
proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 $\mu$ L of CCK-8 solution was added to each well of the plate, then the absorbance at 450nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37°C. Proliferation of Raw264.7 cells after incubation with SCF for 120h observed by inverted microscope was shown in Figure 1. Cell viability was assessed by CCK-8 (Cell Counting Kit-8) assay after incubation with recombinant SCF for 120h. The result was shown in Figure 2. It was obvious that SCF significantly increased cell viability of Raw264.7 cells.



**Figure 1. Cell proliferation of Raw264.7 cells after stimulated with SCF.**

**(A) Raw264.7 cells cultured in DMEM, stimulated with 1ng/mL SCF for 120h;**

**(B) Unstimulated Raw264.7 cells cultured in DMEM for 120h.**



**Figure 2. Cell proliferation of Raw264.7 cells after stimulated with SCF.**

[ IDENTIFICATION ]

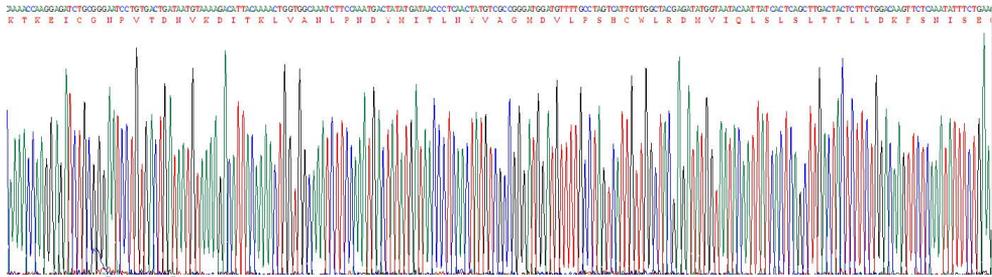


Figure 3. Gene Sequencing (extract)

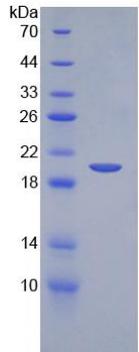


Figure 4. SDS-PAGE

Sample: Active recombinant SCF, Mouse

[ 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.