APA122Hu02 100μg
Active Stromal Cell Derived Factor 1 (SDF1)
Organism Species: Homo sapiens (Human)
Instruction manual

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

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Pro23~Lys89
Tags: Two N-terminal Tags, His-tag and GST-tag
Purity: >98%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 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: 8.5
Predicted Molecular Mass: 37.8kDa
Accurate Molecular Mass: 40kDa as determined by SDS-PAGE reducing conditions.

[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 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

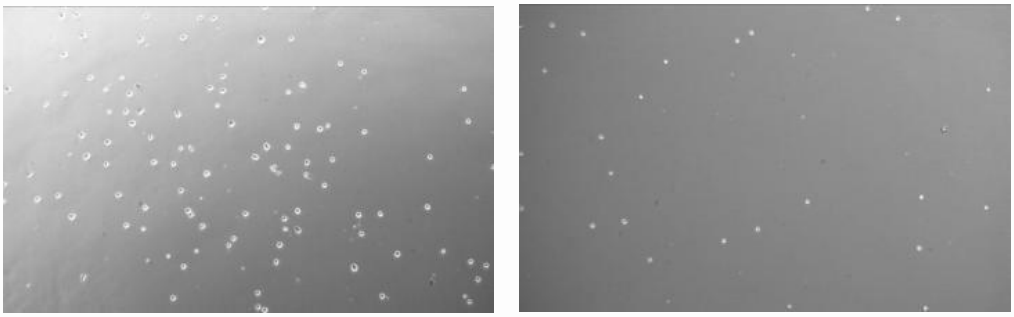
Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

PVSLSYRC PCRFFESHVA RANVKHLKIL NTPNCALQIV ARLKNNNRQV CIDPKLKWIQ EYLEKALNK

[ACTIVITY]

SDF1 (stromal cell-derived factor 1), also known as C-X-C motif chemokine 12, is a chemokine protein that has chemotaxis active on T-lymphocytes and monocytes. It is thought that SDF1 stimulates migration of monocytes and T-lymphocytes through its receptors, CXCR4 and ACKR3; thus, chemotaxis assay used 24-well microchemotaxis system was undertaken to detect the chemotactic effect of SDF1 on the human monocytic cell line THP-1. Briefly, THP-1 cells were seeded into the upper chambers (100uL cell suspension,10^6cells/mL in RPMI 1640 with 0.5% FBS) and SDF1 (10ng/mL, 30ng/mL and 60ng/mL diluted separately in serum free RPMI 1640) was added in lower chamber with a polycarbonate filter (8μm pore size) used to separate the two compartments. After incubation at 37℃ with 5% CO_2 for 3h, the filter was removed, then cells in low chamber were observed by inverted microscope at low magnification (×100) and the number of migrated cells were counted at high magnification (×400) randomly (five fields for each filter). Result shows SDF1 is able to induce migration of THP-1 cells. The migrated THP-1 cells in low chamber at low magnification (×100) were shown in Figure 1. Five fields of each chamber were randomly chosen, and the migrated cells were counted at high magnification (×400). Statistical results were shown in Figure 2. The optimum chemotaxis of SDF1 occurs at 10ng/mL.



A B

Figure 1. The chemotactic effect of SDF1 on THP1 cells.

(A) THP-1 cells were seeded into the upper chambers and serum free RPMI 1640 with 10ng/mL SDF1 was added in lower chamber, then cells in lower chamber were observed at low magnification (×100) after incubation for 3h;

(B) THP-1 cells were seeded into the upper chambers and serum free RPMI 1640 without SDF1 was added in lower chamber, then cells in lower chamber were observed at low magnification (×100) after incubation for 3h.

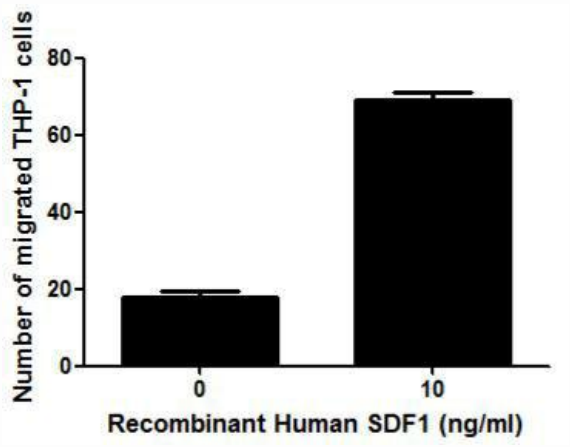


Figure 2. The chemotactic effect of SDF1 on THP-1 cells

[IDENTIFICATION]

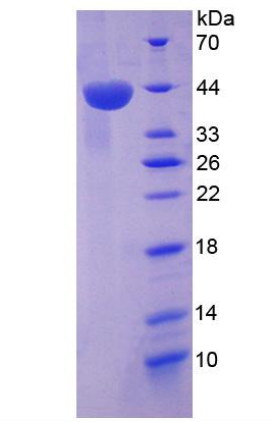


Figure 3. SDS-PAGE

Sample: Active recombinant SDF1, Human

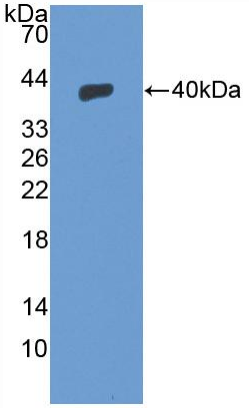


Figure 4. Western Blot

Sample: Recombinant SDF1, Human;

Antibody: Rabbit Anti-Human SDF1 Ab (PAA122Hu02)