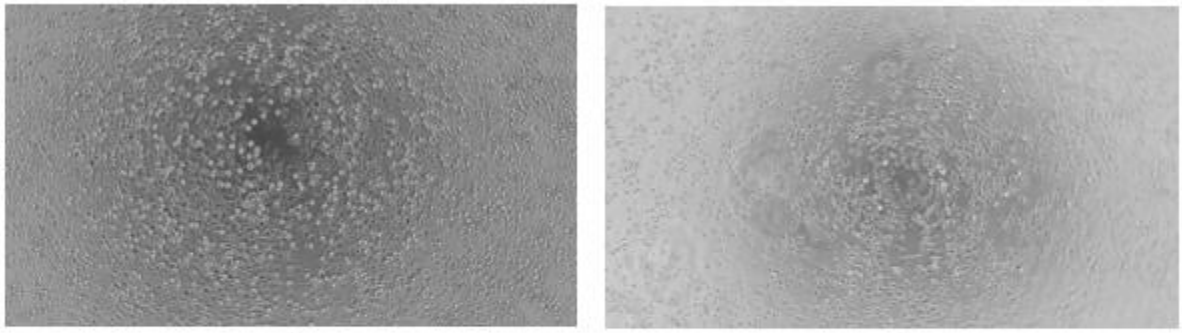
Active Interleukin 4 (IL4) Instruction Manual

SBPA049Ra61

Rattus norvegicus (Rat)

Buffer Formulation	PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Traits	Freeze-dried powder
Purity	> 90%
Isoelectric Point	9.1
Applications	Cell culture; Activity Assays.

ACTIVITY TEST



A B

Figure 1. Cell proliferation of TF-1 cells after stimulated with IL4.
(A) TF-1 cells cultured in 1640, stimulated with 100 ng/ml IL4 for 3 days;
(B) Unstimulated TF-1 cells cultured in 1640 for 3 days.

The interleukin 4 (IL4,) is a cytokine that induces differentiation of naive helper T cells (Th0 cells) to Th2 cells. Upon activation by IL4, Th2 cells subsequently produce additional IL4 in a positive feedback loop. IL4 has many biological roles, including the stimulation of activated B-cell and T-cell proliferation, and the differentiation of B cells into plasma cells. It is a key regulator in humoral and adaptive immunity. IL4 induces B-cell class switching to IgE, and up-regulates MHC class II production. IL4 decreases the production of Th1 cells, macrophages, IFN-gamma, and dendritic cell IL12. The activity of IL4 is usually measured by a cell proliferation assay using TF-1 cells. TF-1 cells were seeded into triplicate wells of 96-well plates at a density of 8,000 cells/well with 2% serum standard 1640 which contains various concentrations of recombinant rat IL4. After

incubated for 3 days, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 µl of CCK-8 solution was added to each well of the plate, then the absorbance at 450 nm was measured using a microplate reader after incubating the plate for 2-4 hours at 37 ℃. Proliferation of TF-1 cells after incubation with IL4 for 3 days 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 rat IL4 for 3 days. The result was shown in Figure 2. It was obvious that IL4 significantly increased cell viability of TF-1 cells. The ED50 is 13.76 ng/ml.

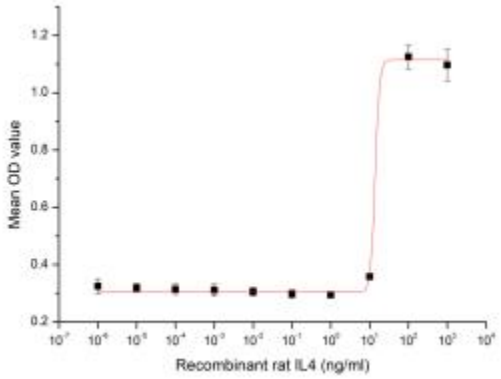


Figure 2. Cell proliferation of TF-1 cells after stimulated with IL4.

USAGE

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

STORAGE

Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months.

STABILITY

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.

Image

Figure. Gene Sequencing (Extract)

Image

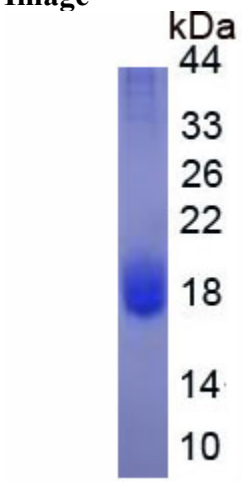


Figure. SDS-PAGE

[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.