APA077Ra01 10μg
Active Interleukin 4 (IL4)
Organism Species: *Rattus norvegicus* (Rat)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Asn61~Leu111
Tags: Two N-terminal Tags, His-tag and GST-tag
Purity: >98%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: 100mM $NaHCO_3$, 500mM NaCl, pH8.3, containing 0.01% sarcosyl, 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: 8.4
Predicted Molecular Mass: 35.7kDa
Accurate Molecular Mass: 36kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 100mM $NaHCO_3$, 500mM NaCl (pH8.3) 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 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]

NTTENELICR ASRVLRKFYF PRDVPPCLKN KSGVLGELRK LCRGVSGLNS L

[ACTIVITY]

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. Besides, Interleukin 2 Receptor Gamma (IL2Rg) has been identified as an interactor of IL4, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat IL4 and recombinant rat IL2Rg. Briefly, IL4 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to IL2Rg-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-IL4 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℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of IL4 and IL2Rg was shown in Figure 1, and this effect was in a dose dependent manner.

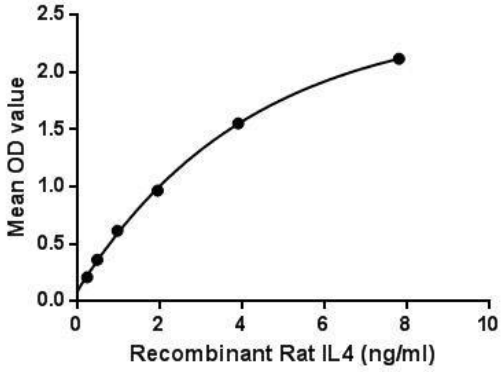

Figure 1. The binding activity of IL4 with IL2Rg.

[IDENTIFICATION]

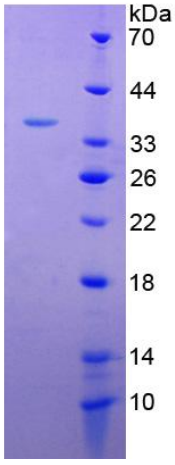

Figure 2. SDS-PAGE

Sample: Active recombinant IL4, Rat

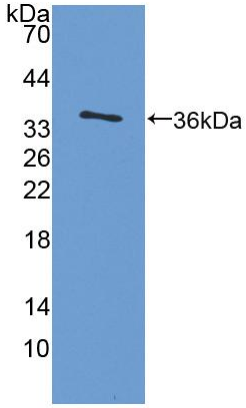

Figure 3. Western Blot

Sample: Recombinant IL4, Rat;

Antibody: Rabbit Anti-Rat IL4 Ab (PAA077Ra01)

[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.