

## Recombinant Mouse Interleukin-4/IL-4 Protein

**Catalog Number: PKSM041095**

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

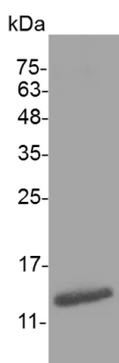
### Description

<b>Species</b>	Mouse
<b>Source</b>	E.coli-derived Mouse Interleukin-4/IL-4 protein His 21-Ser 140, with an C-terminal His
<b>Calculated MW</b>	14.5 kDa
<b>Observed MW</b>	14 kDa
<b>Accession</b>	P07750
<b>Bio-activity</b>	Measure by its ability to induce HT-2 cells proliferation. The ED <sub>50</sub> for this effect is <1 ng/mL. The specific activity of recombinant mouse IL-4 is approximately >1 x 10 <sup>6</sup> IU/mg.

### Properties

<b>Purity</b>	> 98 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 0.1 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

### Data



> 98 % as determined by reducing SDS-PAGE.

### Background

#### For Research Use Only

Interleukin-4, also known as IL4, is a secreted protein that belongs to the IL-4 / IL-13 family. Interleukin-4 / IL4 has many biological roles, including the stimulation of activated B-cell and T-cell proliferation. It enhances both secretion and cell surface expression of IgE and IgG1. Interleukin-4 / IL4 also regulates the expression of the low-affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. Interleukin-4 is essential for the switching of B cells to IgE antibody production and the maturation of T helper (Th) cells toward the Th2 phenotype. It participates in at least several B-cell activation processes as well as other cell types. However, studies show that double mutant (Q116D, Y119D) of the murine IL4 protein (QY), both glutamine 116 and tyrosine 119, which binds to the IL4 receptor alpha, completely inhibits in a dose-dependent manner the IL4-induced proliferation of lipopolysaccharide-stimulated murine splenic B-cells, of the murine T cell line CTLL-2, and the murine pre-B-cell line BA/F3. QY also inhibited the IL4-stimulated up-regulation of CD23 expression by lipopolysaccharide-stimulated murine splenic B-cells and abolished tyrosine phosphorylation of the transcription factor Stat6 and the tyrosine kinase Jak3 in IL4-stimulated BA/F3 cells.

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