

Anti-Mouse IL12 p40 Antibody [PSH04-87] - BSA and Azide free (Capture)

HA722193



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse
Applications:	ELISA(Cap)
Molecular Wt:	Predicted band size: 38 kDa
Clone number:	PSH04-87

Description: Subunit beta of interleukin 12 (also known as IL-12B, natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor p40, or interleukin-12 subunit p40) is a protein subunit that in humans is encoded by the IL12B gene. IL-12B is a common subunit of interleukin 12 and interleukin 23. This gene encodes a subunit of interleukin 12, a cytokine that acts on T and natural killer cells, and has a broad array of biological activities. Interleukin 12 is a disulfide-linked heterodimer composed of the 40 kDa cytokine receptor like subunit encoded by this gene, and a 35 kDa subunit encoded by IL12A. This cytokine is expressed by activated macrophages that serve as an essential inducer of Th1 cells development. This cytokine has been found to be important for sustaining a sufficient number of memory/effector Th1 cells to mediate long-term protection to an intracellular pathogen. Overexpression of this gene was observed in the central nervous system of patients with multiple sclerosis (MS), suggesting a role of this cytokine in the pathogenesis of the disease. The promoter polymorphism of this gene has been reported to be associated with the severity of atopic and non-atopic asthma in children.

Immunogen: Recombinant protein within Mouse IL-12B (aa 23-335)-GSGSSRGGSGSGGGGGSK-IL-12A (aa 23-215).

Positive control: Recombinant mouse IL-12p40 protein (HA210890).

Subcellular location: Secreted.

Database links: SwissProt: P43432 Mouse

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH04-88] to Mouse IL-12p40 (Detector) (HA722194) and recombinant standard Mouse IL-12p40 protein (HA210890). The reference range value is 37-3000pg/ml.

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

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Images

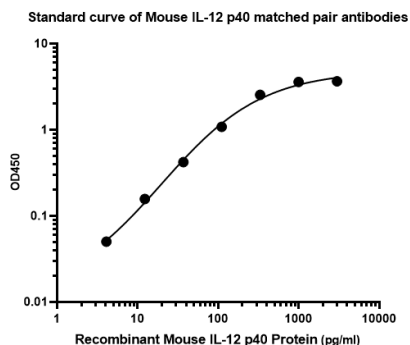


Fig1: Sandwich ELISA analysis of Mouse IL-12p40 matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100 μ l per well of capture antibody (HA722193) diluted in carbonate/bicarbonate buffer, at a concentration of 5 μ g/ml overnight at 4 $^{\circ}$ C. Wells of the plate were washed, blocked with 150 μ l 0.05% tween-20 1%BSA blocking buffer, and incubated with serial diluted Recombinant mouse IL-12p40 protein (HA210890) starting from 3000 pg/ml to 0 pg/ml and detect antibody (HA722194, Biotin, 0.2 μ g/ml) for 1 hour at 30 $^{\circ}$ C with shaking. Then the plate was washed and incubated with 100 μ l per well of SA-HRP for 0.5 hour at 30 $^{\circ}$ C with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

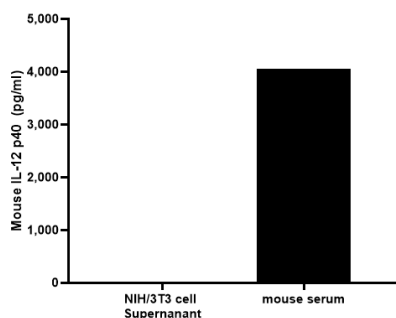


Fig2: Interpolated concentrations of native IL-12 p40 in cell culture supernatant and mouse serum samples.

IL-12 p40 was measured in 100% cell supernatant. The concentrations of IL-12 p40 were interpolated from the IL-12 p40 standard curves. The mean IL-12 p40 concentration was determined to be 4055 pg/mL in mouse serum. There was no detectable signal in NIH/3T3 cell supernatant.

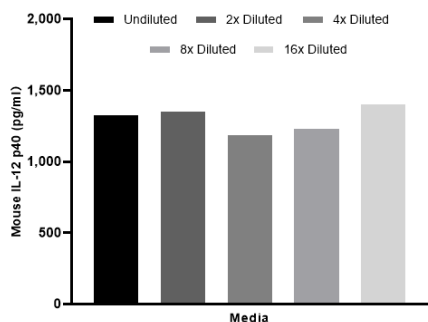


Fig3: Interpolated concentrations of spiked IL-12 p40 in mouse cell culture media samples.

The concentrations of IL-12 p40 were measured in duplicates, interpolated from the IL-12 p40 standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 25%.

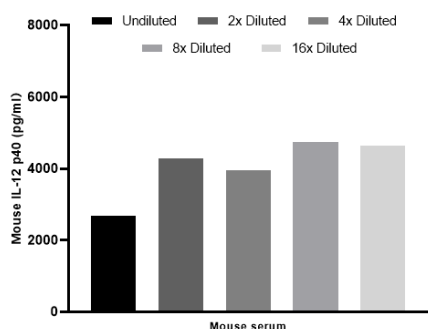


Fig4: Interpolated concentrations of native IL-12 p40 in mouse serum sample.

The concentrations of IL-12 p40 were interpolated from the IL-12 p40 standard curves and corrected for sample dilution. Undiluted samples are serum 100%. The mean IL-12 p40 concentration was determined to be 4055 pg/mL in mouse serum.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Mondal S et al. IL-12 p40 monomer is different from other IL-12 family members to selectively inhibit IL-12R β 1 internalization and suppress EAE. Proc Natl Acad Sci U S A. 2020 Sep
2. Georgy J et al. Tryptophan (W) at position 37 of murine IL-12/IL-23 p40 is mandatory for binding to IL-12R β 1 and subsequent signal transduction. J Biol Chem. 2021 Nov

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