

Recombinant Rat IL12A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52602

Size: 10ug, 100ug

Protein Name: Interleukin-12 subunit alpha (IL-12A) (Cytotoxic lymphocyte maturation factor 35 kDa subunit) (CLMF p35) (IL-12 subunit p35)

Synonym: Il12a

UniProt ID: Q9R103

UniProt Link: www.uniprot.org/uniprotkb/Q9R103/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 215 AA

Molecular Weight: 24 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MCQSRYLFLATLVLLNHLTSARVIPVSGPAKCLNQSQNLLKTTDDMVRTAREKLKHYSCTAGDIDHE
DITRDKTSTLEACLPLELHKNESCLATKETSSIIRGSCLPQKTSMMTLCLGSIYEDLKMYQSEFQAI
NAALQSHNHQQITLDRNMLMAIDELMRSLNHSGETLHQKAPMGADPYRVKMKLCILLHAFSTRVM
TINRVMNYLSSS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Interleukin-12 subunit alpha (IL-12A) (Cytotoxic lymphocyte maturation factor 35 kDa subunit) (CLMF p35) (IL-12 subunit p35) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Heterodimerizes with IL12B to form the IL-12 cytokine or with EBI3/IL27B to form the IL-35 cytokine. IL-12 is primarily produced by professional antigen-presenting cells (APCs) such as B-cells and dendritic cells (DCs) as well as macrophages and granulocytes and regulates T-cell and natural killer-cell responses, induces the production of interferon-gamma (IFN-gamma), favors the differentiation of T-helper 1 (Th1) cells and is an important link between innate resistance and adaptive immunity. Mechanistically, exerts its biological effects through a receptor composed of IL12R1 and IL12R2 subunits. Binding to the receptor results in the rapid tyrosine phosphorylation of a number of cellular substrates including the JAK family kinases TYK2 and JAK2. In turn, recruited STAT4 gets phosphorylated and translocates to the nucleus where it regulates cytokine/growth factor responsive genes (By similarity). As part of IL-35, plays essential roles in maintaining the immune homeostasis of the liver microenvironment and also functions as an immune-suppressive cytokine (By similarity). Mediates biological events through unconventional receptors composed of IL12RB2 and gp130/IL6ST heterodimers or homodimers. Signaling requires the transcription factors STAT1 and STAT4, which form a unique heterodimer that binds to distinct DNA sites (By similarity).

Subcellular Localization: Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer- composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.