

Recombinant Rat IL6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52305

Size: 10ug, 100ug

Protein Name: Interleukin-6 (IL-6)

Synonym: Il6, Il-6

UniProt ID: P20607

UniProt Link: www.uniprot.org/uniprotkb/P20607/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 211 AA

Molecular Weight: 24 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MKFLSARDFQPVAFLGLMLLTATAFPTSQVRRGDFTEDTTHNRPVYTTSQVGGLITYVLREILEMRKE
LCNGNSDCMNSDDALSENNLKLPEIQRNDGCFQTGYNQEICLLKICSGLLEFRFYLEFVKNNLQDNK
KDKARVIQSNTETLVHIFKQEIKDSYKIVLPTPTSNALLMEKLESQKEWLRTKTIQLILKALEEFLKVTM
RSTRQT

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-6 (IL-6) 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: Cytokine with a wide variety of biological functions in immunity, tissue regeneration, and metabolism. Binds to IL6R, then the complex associates to the signaling subunit IL6ST/gp130 to trigger the intracellular IL6-signaling pathway. The interaction with the membrane-bound IL6R and IL6ST stimulates 'classic signaling', whereas the binding of IL6 and soluble IL6R to IL6ST stimulates 'trans-signaling'. Alternatively, 'cluster signaling' occurs when membrane-bound IL6:IL6R complexes on transmitter cells activate IL6ST receptors on neighboring receiver cells.; IL6 is a potent inducer of the acute phase response. Rapid production of IL6 contributes to host defense during infection and tissue injury, but excessive IL6 synthesis is involved in disease pathology. In the innate immune response, is synthesized by myeloid cells, such as macrophages and dendritic cells, upon recognition of pathogens through toll-like receptors (TLRs) at the site of infection or tissue injury. In the adaptive immune response, is required for the differentiation of B-cells into immunoglobulin-secreting cells. Plays a major role in the differentiation of CD4(+) T cell subsets. Essential factor for the development of T follicular helper (Tfh) cells that are required for the induction of germinal-center formation. Together with IL21, controls the early generation of Tfh cells and are critical for an effective antibody response to acute viral infection. Required to drive naive CD4(+) T cells to the Th17 lineage, through 'cluster signaling' by dendritic cells. Also required for proliferation of myeloma cells and the survival of plasmablast cells.; Acts as an essential factor in bone homeostasis and on vessels directly or indirectly by induction of VEGF, resulting in increased angiogenesis activity and vascular permeability. Induces, through 'trans-signaling' and synergistically with IL1B and TNF, the production of VEGF. Involved in metabolic controls, is discharged into the bloodstream after muscle contraction increasing lipolysis and improving insulin resistance. 'Trans-signaling' in central nervous system regulates energy and glucose homeostasis. Mediates, through GLP-1, crosstalk between insulin-sensitive tissues, intestinal L cells and pancreatic islets to adapt to changes in insulin demand (By similarity). Also acts as a myokine (By similarity). Plays a protective role during liver injury, being required for maintenance of tissue regeneration. Also has a pivotal role in iron metabolism by regulating HAMP/hepcidin expression upon inflammation or bacterial infection. Through activation of IL6ST-YAP-NOTCH pathway, induces inflammation-induced epithelial regeneration (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.