

# Recombinant Rat IL2 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52289

Size: 10ug, 100ug

Protein Name: Interleukin-2 (IL-2) (T-cell growth factor) (TCGF)

Synonym: IL2, IL-2

UniProt ID: P17108

UniProt Link: [www.uniprot.org/uniprotkb/P17108/entry](http://www.uniprot.org/uniprotkb/P17108/entry)

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 155 AA

Molecular Weight: 18 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MYSMQLASCVALTLVLLVNSAPTSSPAKETQQHLEQLLLDLQVLLRGIDNYKNLKLPMMLTFKFYLPK  
QATELKHLLQCLENELGALQRVLDLTQSKSFHLEDAGNFISNIRVTTVVKLKGSENKFECQFDDEPATVV  
EFLRRWIAICQSIISTMTQ

## 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-2 (IL-2) (T-cell growth factor) (TCGF) 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 produced by activated CD4-positive helper T-cells and to a lesser extent activated CD8-positive T-cells and natural killer (NK) cells that plays pivotal roles in the immune response and tolerance. Binds to a receptor complex composed of either the high-affinity trimeric IL-2R (IL2RA/CD25, IL2RB/CD122 and IL2RG/CD132) or the low-affinity dimeric IL-2R (IL2RB and IL2RG). Interaction with the receptor leads to oligomerization and conformation changes in the IL-2R subunits resulting in downstream signaling starting with phosphorylation of JAK1 and JAK3. In turn, JAK1 and JAK3 phosphorylate the receptor to form a docking site leading to the phosphorylation of several substrates including STAT5. This process leads to activation of several pathways including STAT, phosphoinositide-3-kinase/PI3K and mitogen-activated protein kinase/MAPK pathways. Functions as a T-cell growth factor and can increase NK-cell cytolytic activity as well. Promotes strong proliferation of activated B-cells and subsequently immunoglobulin production. Plays a pivotal role in regulating the adaptive immune system by controlling the survival and proliferation of regulatory T-cells, which are required for the maintenance of immune tolerance. Moreover, participates in the differentiation and homeostasis of effector T-cell subsets, including Th1, Th2, Th17 as well as memory CD8-positive T-cells.

**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.