

Recombinant Human IL-18 Protein

Size / Cat.No.: 50µg / GMP-TL902-0050

1mg / GMP-TL902-1000 (Customize)

Product Name

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| Generic Name | Recombinant Human IL-18 Protein |
| Synonym | interleukin-18, Interleukin-1 gamma, IL1F4 |

Product Information

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| Protein sequence | A DNA sequence encoding the human IL-18 (NP_001553.1) was expressed with no tag. |
| Expression Host | E.coli |
| QC Testing Purity | > 90 % as determined by SDS-PAGE. |
| Activity | In the presence of TNF- α , the specific activity is determined by the ability of KG-1 cells to secrete IFN- γ , with a specific activity $\geq 2.0 \times 10^6$ IU/mg. |
| Endotoxin | < 0.1EU per 1 µg of the protein by the LAL method. |
| Molecular Mass | Predicts a molecular mass of 18.2 kD. |
| Formulation | Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization. |
| Stability & Storage | Lyophilized preparation can be stored at -20 °C. 6 months at -20°C under sterile conditions after reconstitution. 12 months at -80°C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 µg/mL. Avoid repeated freeze-thaw cycles. |

Background

IL-18 is a proinflammatory cytokine that plays an important role in NK cell activation and Th1 cell response. It is expressed as a 24 kDa precursor by endothelial and epithelial cells, keratinocytes, $\gamma\delta$ T cells, and phagocytes. IL-18 is related to the IL-1 family in terms of both structure and function. In terms of structure, IL-18 and IL-1beta share significant primary amino acid sequences and are similarly folded as all-beta pleated sheet molecules. Also similar to IL-1beta, IL-18 is synthesized as a biologically inactive precursor molecule lacking a signal peptide. In the presence of IL-1 beta or IL-23, IL-18 induces the antigen-independent production of IL-17 by gamma δ T cells and CD4+ T cells (11). IL-18 also promotes myeloid dendritic cell maturation and triggers neutrophil respiratory burst (12, 13). In cancer, IL-18 exhibits diverse activities including enhancing anti-tumor immunity, inhibiting or promoting angiogenesis, and promoting tumor cell metastasis.

References

1. Çakır M, Tekin S, Taşlıdere A, Çakan P, Düzova H, Gül CC (2011) Protective effect of N-(p-amylcinnamoyl) anthranilic acid, phospholipase A2 enzyme inhibitor, and transient receptor potential melastatin-2 channel blocker against renal ischemia-reperfusion injury. *Cell Biochem*. 2018J Cell Biochem, 120(3):3822-3832.
2. Xu F, Sang W, Li L, He X, Wang F, Wen T, Zeng N. (2019) Protective effects of ethyl acetate extracts of *Rimulus Cinnamom* on systemic inflammation and lung injury in endotoxin-poisoned mice. *Drug Chem Toxicol*, 42(3):309-316.

Product Use

For research and manufacturing use