

Recombinant Human IL-15 Protein

Size / Cat.No.: 50µg / GMP-TL202-0050
 100µg / GMP-TL202-0100
 500µg / GMP-TL202-0500
 1mg / GMP-TL202-1000 (Customized)

Product Name

Generic Name Recombinant Human IL-15 Protein
 Synonym IL-15, Interleukin 15 Protein

Product Information

Protein sequence A DNA sequence encoding IL-15 (P40933) and IL-15RA (Q13261) was expressed with the C-terminal fused Fc region of human IgG1.

Expression Host HEK293 cells

QC Testing Purity > 95 % as determined by SDS-PAGE.

Activity The ED₅₀ as determined by the dose-dependent stimulation of the proliferation of CTLL-2 cells was found to be 0.2~3ng/mL. The specific activity of recombinant human IL-15 is > 5 × 10⁶ IU/mg, which is calibrated against the human IL-15 WHO International Standard (NIBSC code:95/554).

Endotoxin < 0.01EU per µg of the protein as determined by the LAL method.

Molecular Mass The recombinant human IL-15 predicts a molecular mass of 12.8 kD and 33kD.

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.
 Avoid repeated freeze-thaw cycles.

Background

The protein encoded by IL-15 gene is a cytokine that regulates T and natural killer cell activation and proliferation. This cytokine and interleukine 2 share many biological activities. They are found to bind common hematopoietin receptor subunits, and may compete for the same receptor, and thus negatively regulate each other's activity. The number of CD8⁺ memory cells is shown to be controlled by a balance between IL-15 and IL2. IL-15 induces the activation of JAK kinases, as well as the phosphorylation and activation of transcription activators STAT3, STAT5, and STAT6. Studies of the mouse counterpart suggested that IL-15 may increase the expression of apoptosis inhibitor BCL2L1/BCL-x(L), possibly through the transcription activation activity of STAT6, and thus prevent apoptosis. Alternatively spliced transcript variants of this gene have been reported.

References

1. X. Zhu, W.D. Marcus, W. Xu, H.I. Lee, K. Han, J.O. Egan, J.L. Yovandich, P.R. Rhode, H.C. Wong, Novel human interleukin-15 agonists, *J Immunol* 183(6) (2009): 3598-3607.
2. M. Chirifu, C. Hayashi, T. Nakamura, S. Toma, T. Shuto, H. Kai, Y. Yamagata, S.J. Davis, S. Ikemizu, Crystal structure of the IL-15-IL-15Ralpha complex, a cytokine-receptor unit presented in trans, *NatImmunol* 8(9) (2007): 1001-1007.