

ActiveMax® Recombinant Human IL-7

Catalog # IL7-H4219

For Research and Further Cell Culture Manufacturing Use

Description

Source ActiveMax® Human IL-7, Tag Free (IL7-H4219) is expressed from human 293 cells (HEK293). It contains AA Asp 26 - His 177 (Accession # P13232). Predicted N-terminus: Asp 26

Predicted N-terminus Asp 26

Protein Structure

**IL-7(Asp 26 - His 177)
P13232**

Molecular Characterization This protein carries no "tag". The protein has a calculated MW of 17.4 kDa. The protein migrates as 24 kDa and 25-28 kDa under reducing (R) condition (SDS-PAGE) due to different glycosylation.

Endotoxin Less than 1.0 EU per µg by the LAL method.

Purity >95% as determined by SDS-PAGE.

Bioactivity Measured by its binding ability in a functional ELISA. Immobilized Human IL-7, Tag Free (Cat. No. IL7-H4219) at 2 µg/mL (100 µL/well) can bind Human IL-7 R alpha, Fc Tag (Cat. No. ILA-H5258) with a linear range of 1-16 ng/mL (QC tested).

Formulation and Storage

Formulation Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution Please see Certificate of Analysis for specific instructions. For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage For long term storage, the product should be stored at lyophilized state at -20°C or lower. Please avoid repeated freeze-thaw cycles.

No activity loss was observed after storage at:

- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

Background

Background Interleukin 7 is also known as IL7, IL-7, and is a hematopoietic growth factor secreted by stromal cells in the red marrow and thymus. It is also produced by keratinocytes, dendritic cells, hepatocytes, neurons, and epithelial cells, but is not produced by lymphocytes. IL-7 stimulates the differentiation of multipotent (pluripotent) hematopoietic stem cells into lymphoid progenitor cells. It also stimulates proliferation of all cells in the lymphoid lineage (B cells, T cells and NK cells). It is important for proliferation during certain stages of B-cell maturation, T and NK cell survival, development and homeostasis. IL-7 is a cytokine important for B and T cell development. This cytokine and the hepatocyte growth factor (HGF) form a heterodimer that functions as a pre-pro-B cell growth-stimulating factor. IL-7 binds to the IL-7 receptor, a heterodimer consisting of Interleukin-7 receptor alpha and common gamma chain receptor. IL-7 promotes hematological malignancies (acute lymphoblastic leukemia, T cell lymphoma). Elevated levels of IL-7 have also been detected in the plasma of HIV-infected patients. IL-7 as an immunotherapy agent has been examined in many pre-clinical animal studies and more recently in human clinical trials for various malignancies and during HIV infection. IL-7 could also be beneficial in improving immune recovery after allogenic stem cell transplant.

References

- (1) Heuffer C, et al. 1993, J. Exp. Med. 178 (3): 1109-14.
- (2) Kröncke R, et al. 1996, Eur. J. Immunol. 26 (10): 2541-4.
- (3) Sawa Y, et al. 2009, Immunity 30 (3): 447-57.
- (4) Muegge K, et al. 1993, Science 261 (5117): 93-5.
- (5) Noguchi M, et al. 1994, Science 262 (5141): 1877-80.
- (6) Snyder KM, et al. 2006, Leuk. Lymphoma 47 (7): 1222-8.

Please contact us at TechSupport@acrobiosystems.com, if you have any questions about this product.

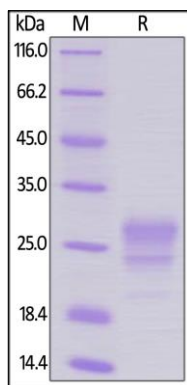
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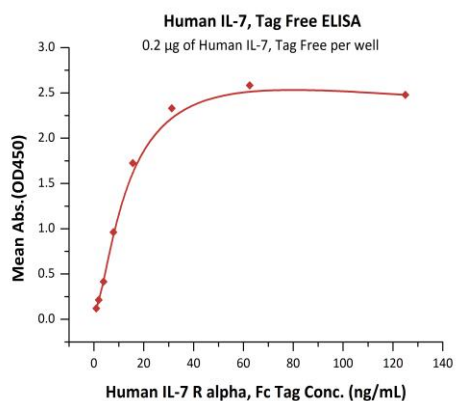
Assay Data

SDS-PAGE Data



ActiveMax® Human IL-7, Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity Data



Immobilized Human IL-7, Tag Free (Cat. No. IL7-H4219) at 2 µg/mL (100 µL/well) can bind Human IL-7 R alpha, Fc Tag (Cat. No. ILA-H5258) with a linear range of 1-16 ng/mL (QC tested).