

Recombinant human IL7

Catalog No: #AG0006

Orders: order@signalwayantibody.comSupport: tech@signalwayantibody.com

Description

Product Name	Recombinant human IL7
Host Species	HEK293
Purification	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC
Immunogen Description	Asp26-His177
Target Name	IL7
Other Names	Human IL-7, h-IL-7, rh-IL-7, recombinant IL-7, interleukin-7
Accession No.	Uniprot:P13232Gene ID:3574
Uniprot	P13232
GeneID	3574
Target Species	human
Calculated MW	17.4 KDa
Tag Info	additional amino acid free
Formulation	0.22 µm filtered solution of PBS, pH 7.4.
Storage	Aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Background

IL-7 (interleukin-7) is a 25 kDa cytokine of the hemopoietin family that plays important roles in lymphocyte differentiation, proliferation, and survival (1,4). Human IL-7 cDNA encodes 177 amino acids (aa) that include a 25 aa signal peptide (3). Human IL-7 shares approximately 60-63% aa sequence identity with mouse, rat, canine and feline IL-7, and 72-76% with equine, bovine, ovine, porcine, feline and canine IL-7. Human and mouse IL-7 exhibit cross-species activity (2, 3). IL-7 protein is produced by a wide variety of cells in primary and secondary lymphoid tissues, including stromal epithelial cells of the thymus, bone marrow, and intestines (1, 2, 5). Circulating IL-7 protein is limiting in healthy animals, but increases during lymphopenia (1, 6). IL-7 signals through a complex of the IL-7 Receptor alpha subunit (IL-7 R alpha, also known as CD127) with the common gamma chain (gamma_c) (1). The gamma_c is also a subunit of the receptors for IL-2, -4, -9, -15, and -21 (1). IL-7 R alpha is expressed on double negative (CD4-CD8-) and CD4+ or CD8+ single positive naive and memory T cells, but undergoes IL-7-mediated down-regulation and shedding during antigen-driven T cell proliferation, and is absent on regulatory T cells (1, 2, 6-11). IL-7 contributes to the maintenance of all naive and memory T cells, mainly by promoting expression of the anti-apoptotic protein Bcl-2 (9-11). It is required for optimal T cell-dendritic cell interaction (6). IL-7 is expressed early in B cell development prior to the appearance of surface IgM (1, 5, 9). In mouse, IL-7 activation of IL-7 R alpha is critical for both T cell and B cell lineage development, while in humans, it is required for T cell but not for B cell development (4, 9, 12, 13). However, IL-7 functions in both mouse and human pro-B cells to suppress premature Ig light chain recombination during proliferative growth (14, 15).

Note: This product is for in vitro research use only