

Recombinant Human Interleukin-5 (IL-5), Animal Component-Free

Cat. No. :	H008C
Alternative Names:	IL5; IL-5; Interleukin-5; Interleukin 5; B-cell differentiation factor I; Eosinophil differentiation factor; T-cell replacing factor; TRF
Species:	Human
Accession No.:	P05113
Expression System:	CHO
Protein Sequence:	Ile20-Ser134
Theoretical MW:	13.15 kDa
Theoretical pI:	7.02
Tag:	Tag-Free.
Formulation buffer:	PBS, 5% Mannitol and 0.01% Tween80, pH7.4.
Appearance:	Lyophilized Powder.
Purity:	≥95% as determined by SDS-PAGE.
Bioactivity:	ED50 < 0.1 ng/mL, as determined in a cell proliferation assay using TF-1 human erythroleukemia cells.
Endotoxin Level:	≤0.01 EU/μg, as determined by the LAL assay.
Application:	Cell Culture; Activity Assays.

Preparation & Storage

Reconstitution:	<p>Reconstitute with sterile double-distilled water (ddH₂O).</p> <p>⚠ Centrifuge the vial briefly before opening to ensure full recovery of the solution. Avoid vortexing and minimize vigorous pipetting to maintain protein stability.</p> <p>❄ Immediately aliquot the reconstituted protein solution and store under recommended conditions. Avoid repeated freeze-thaw cycles.</p>
Shipping:	Shipped on dry ice. Short-term transit on cold packs (2-8°C) is acceptable.
Storage:	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -80°C as supplied. ● 2-7 days at 2 to 8°C under sterile conditions after reconstitution. ● 3-6 months at -20 to -80°C under sterile conditions after reconstitution.

Protein Description

Background: Interleukin-5 (IL-5) is a key cytokine predominantly secreted by activated Th2 CD4⁺ T lymphocytes, with additional contributions from mast cells, type 2 innate lymphoid cells (ILC2s), and eosinophils themselves. First identified by Takatsu and colleagues in 1980 and standardized in nomenclature by 1986, IL-5 was historically designated as T cell replacing factor (TRF) or eosinophil differentiation factor.

IL-5 functions as a disulfide-linked homodimeric glycoprotein with a molecular weight of 40-50 kDa. Its receptor (IL-5R) comprises a specific α -subunit (CD125) and the common β c chain (CD131), triggering downstream JAK-STAT signaling pathways upon activation. IL-5 serves as the master regulator of eosinophil biology, governing their entire lifecycle—promoting proliferation, differentiation, activation, migration, and survival. Additionally, IL-5 enhances histamine and leukotriene release from basophils.

Pathophysiologically, IL-5 is the central mediator of eosinophilia in allergic disorders, asthma, and helminth infections. Therapeutic targeting of IL-5 with monoclonal antibodies (e.g., mepolizumab, reslizumab) represents a cornerstone in managing severe eosinophilic diseases. Next-generation anti-IL-5 biologics like depemokimab, engineered through CDR-directed affinity maturation and Fc-YTE modification, extend dosing intervals to six months, significantly improving treatment adherence.

References:

1. Takatsu K, et al. T cell replacing factor (TRF): A new lymphokine regulating IgE responses. Immunol Rev. 1980;51:111-31.
2. Singh D, et al. Generation and preclinical assessment of depemokimab, an enhanced IL-5 antagonist monoclonal antibody. Heliyon. 2025;11(12):e16943.
3. Milburn MV, et al. Crystal structure of human interleukin-5 at 2.8 Å resolution. EMBO J. 1994;13(2):313-8.
4. Rothenberg ME, Hogan SP. The eosinophil. Annu Rev Immunol. 2006;24:147-74.

Product Disclaimer

- This product is intended for research use only and is not for use in diagnostic, therapeutic, or clinical procedures.
- Due to the inherent nature of research reagents, any liability arising from product quality issues is limited solely to the replacement or refund of the product itself and excludes all indirect, incidental, or consequential damages.



获取前沿资讯、最新产品及活动

ANEWBiosystems 只为基于科学研究的用途提供服务，不为任何个人或者非科研性质的使用等其他用途提供服务

Tel: 86 + 132-0209-8186; 86 + 186-2016-1769 E-mail: info@anewbiosystems.com

A Foundation Built for Discovery. --- 探索之路，基石为筑

购买产品将视为接受 ANEWBiosystems 的销售条款及条件