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## Human Interleukin-5 (hIL-5)

**For Research Use Only. Not for Use in Diagnostic Procedures.**

MW (kDa):	UniProt ID:	Entrez-Gene Id:
14-21	#P05113	3567

### Background

IL-5 is a pleiotrophic cytokine that is predominantly produced by TH2 T cells but can also be expressed by activated eosinophils, mast cells, NK cells, and iNKT cells (1-4). Both human and mouse IL-5 are glycosylated disulfide-linked homodimers (1). The IL-5 receptor is a heterodimer that consists of a high affinity IL-5 binding  $\alpha$  chain and the common  $\beta$  chain, which is shared by GM-CSF and IL-3 receptors, for signal transduction (1,2). Soluble IL-5Ra binds with high affinity to IL-5, thereby inhibiting IL-5 activity (1). IL-5-mediated signaling can activate the Erk1/2, Jak2, and Stat5 signaling pathways (1,2). In mice, IL-5 is important for the differentiation of antibody secreting cells from activated B cells (2). IL-5 induces eosinophil activation, proliferation, and differentiation in both mice and humans (2,3).

### Endotoxin

Less than 0.01 ng endotoxin/1  $\mu$ g hIL-5.

### Purity

>98% as determined by SDS-PAGE of 6  $\mu$ g reduced (+) and non-reduced (-) recombinant hIL-5. All lots are greater than 98% pure

### Source / Purification

Recombinant human IL-5 (hIL-5) Ile20-Ser134 (Accession #NP\_000870) was expressed in human 293 cells at Cell Signaling Technology.

### Bioactivity

The activity of hIL-5 was assessed by quantification of phospho-p44/42 MAPK (Erk1/2) in butyric acid differentiated HL-60 Clone 15 cells. The observed ED<sub>50</sub> values are between 0.50-1 ng/ml.

### Background References

1. Takatsu, K. (2011) *Proc Jpn Acad Ser B Phys Biol Sci* 87, 463-85.
2. Wang, W. et al. (2011) *PLoS One* 6, e17766.
3. Kouro, T. and Takatsu, K. (2009) *Int Immunol* 21, 1303-9.
4. Chuang, Y.H. et al. (2011) *J Immunol* 186, 4687-92.

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