

# Cytokines

## Human Recombinant IL-37

Interleukin 37



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Catalog #100-1320

100 µg

## Product Description

Interleukin 37 (IL-37), also known as interleukin-1 family member 7 (IL-1F7), is a secreted protein belonging to the interleukin-1 cytokine family. Human IL-37 gene undergoes alternative splicing, resulting in multiple isoforms of the protein (Boraschi et al.). IL-37 acts as an anti-inflammatory alarmin, with predominant expression in monocytes and constitutive secretion by myeloid dendritic cells (Rudloff et al.). Recent in vitro studies show that IL-37 inhibits the expression of inflammatory cytokines, such as IL-6, MIP-1 $\alpha$ , MIP-1 $\beta$ , and TNF- $\alpha$  in a MAPK-dependent manner (Qi et al.). IL-37 was also shown to limit inflammation in human blood M1 macrophages by extracellular binding to surface receptors, requiring IL-1R8 as a coreceptor (Li et al.). It also has protective effects against obesity-induced inflammation and insulin resistance, reducing adipogenesis and activating AMPK signaling both in vitro and in vivo (Ballak et al.).

## Product Information

**Alternative Names:** FIL1, FIL1(ZETA), FIL1Z, IL1F7, IL-1F7, IL-1H, IL1H4, IL-1H4, IL1RP1, IL-1RP1, IL37

**Accession Number:** Q9NZH6-2 (Lys27-Asp192)

**Amino Acid Sequence:** KNLNPKKFSI HDQDHKVLVL DSGNLIAVPD KNYIRPEIFF ALASSLSSAS AEKGSPILLG VSKGEFCLYC DKDKGQSHPS LQLKKEKLMK LAAQKESARR PFIFYRAQVG SWNMLESAAH PGWFICTSCN CNEPVGVTDK FENRKHIEFS FQPVCKAEMS PSEVSD

**Predicted Molecular Mass:** 18.7 kDa

**Species:** Human

**Formulation:** Lyophilized from sterile PBS, pH 7.4. Trehalose (5 - 8%), mannitol, and 0.01% TWEEN® 80 are normally added as protectants before lyophilization.

**Source:** *E. coli*

## Specifications

**Activity:** Not available

**Purity:**  $\geq$  93%

**Endotoxin Level:** Not Available

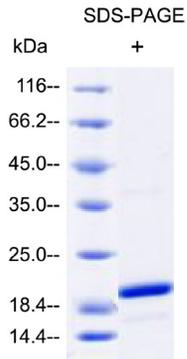
## Preparation and Storage

**Storage:** Store at -20 to -80°C.

**Stability:** Stable as supplied for 12 months from date of receipt.

**Preparation:** Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.2 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



Human Recombinant IL-37 was resolved with SDS-PAGE under reducing (+) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-37 has a predicted molecular mass of 18.7 kDa.

## Related Products

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## References

- Ballak DB et al. (2014) IL-37 protects against obesity-induced inflammation and insulin resistance. *Nat Commun* 5(1): 4711.
- Boraschi D et al. (2011) IL-37: a new anti-inflammatory cytokine of the IL-1 family. *Eur Cytokine Netw* 22(3): 127–47.
- Li S et al. (2015) Extracellular forms of IL-37 inhibit innate inflammation in vitro and in vivo but require the IL-1 family decoy receptor IL-1R8. *Proc Natl Acad Sci* 112(8): 2497–502.
- Qi F et al. (2019) Interleukin-37 ameliorates influenza pneumonia by attenuating macrophage cytokine production in a MAPK-dependent manner. *Front Microbiol* 10. <https://doi.org/10.3389/fmicb.2019.02482>.
- Rudloff I et al. (2017) Monocytes and dendritic cells are the primary sources of interleukin 37 in human immune cells. *J Leukoc Biol* 101(4): 901–11.

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