

Recombinant human IL-16

Mammalian cell-expressed human interleukin-16 (IL-16)

Cat. code: rcyc-hil16-01, rcyc-hil16

<https://www.invivogen.com/human-mouse-il16>

For research use only

Version 25A08-MM

PRODUCT INFORMATION

Contents

Recombinant human IL-16 is provided as a lyophilized powder and is available in two quantities:

- **rcyc-hil16-01:** 10 µg
- **rcyc-hil16:** 50 µg

Note: This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water for rcyc-hil16-01 and rcyc-hil16

Storage and stability

• Recombinant human IL-16 is shipped at room temperature. Upon receipt it should be immediately stored at -20 °C. Lyophilized product is stable for 6 months at -20 °C.

• Upon resuspension, prepare aliquots of recombinant human IL-16 and store at -80 °C for 4 months.

Note: Avoid repeated freeze-thaw cycles.

Quality control

- Purity: ≥ 95% (SDS-PAGE)
- Endotoxin level: ≤ 0.1 EU/µg (LAL assay)
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- The binding to monoclonal Anti-human IL-16 antibody has been confirmed using ELISA.

Characteristics

- Alternate name: LCF (Lymphocyte chemoattractant factor)
- Source: Mammalian; Human embryonic kidney (HEK) cells
- Molecular mass: ~17 kDa (SDS PAGE), ~23 kDa (WES)
- Monomer frequency: predominant (gel filtration)
- Chromosome: 15
- UniProt ID: Q14005
- Protein sequence: S1212-S1332 (120 a.a.)
SAASASAADSVSVETAETVCTVTLKMSAGLGFSL
EGGKGSLSHGDKPLTINRIFKGAASEQSETVQPGDEI
LQLGGTAMQGLTRFEAWNIIKALPDGPPVIVIRKSL
QSKETTAAGDS
- Formulation: Recombinant human IL-16 was lyophilized from a 0.2 µm filtered 20 mM Sodium Phosphate, 150 mM NaCl, and 5% saccharose buffer solution (pH 7).
- Solubility: 100 µg/ml in water

APPLICATIONS

- Cellular assays
- ELISA
- Western-Blot

PRODUCT DESCRIPTION

Interleukin 16 (IL-16, initially named lymphocyte chemoattractant factor (LCF)) is a pro-inflammatory cytokine playing an important role in modulating T cell activation, chemotaxis, and proliferation¹. It has also been classified as an alarmin, conveying an endogenous danger signal when released by stressed or necrotic cells². It is associated with the development of several cancers as well as the exacerbation of infectious, immune-mediated and autoimmune inflammatory disorders^{3,4}. More recently, high plasmatic levels of IL-16 were found to correlate with COVID-19 severity⁵.

IL-16 is synthesized as a large (~80 kDa) inactive precursor protein (pro-IL-16) stored inside the cell prior to activation⁶. Caspase-3 mediates pro-IL-16 proteolytic cleavage and release of two functional proteins. The cytokine function is exclusively attributed to the secreted C-terminal region (IL-16C, ~17-20 kDa)⁷.

InvivoGen provides an untagged and non-glycosylated recombinant murine IL-16 in its mature and intracellular form. It was engineered from cDNA sequences with no signal sequence and purified from transfected HEK cell lysates using an anti-IL-16 monoclonal antibody.

1. Cruikshank W.W. *et al.*, 2000. Interleukin-16. *J Leukoc Biol.* 67(6): p. 757-66. 2. Rider P. *et al.*, 2017. Alarmins: feel the stress. *J Immunol.* 198(4):1395-1402. 3. Amiel C. *et al.*, 1999. Interleukin-16 (IL-16) inhibits human immunodeficiency virus replication in cells from infected subjects, and serum IL-16 levels drop with disease progression. *J Infect Dis.* 179(1):83-91. 4. Glass W.G. *et al.*, 2006. Not-so-sweet sixteen: the role of IL-16 in infectious and immune-mediated inflammatory diseases. *J Interferon Cytokine Res.* 26(8):511-20. 5. Lucas C. *et al.*, 2020. Longitudinal analyses reveal immunological misfiring in severe COVID-19. *Nature.* 584(7821):463-9. 6. Cruikshank W.W. *et al.*, 1994. Molecular and functional analysis of a lymphocyte chemoattractant factor: association of biologic function with CD4 expression. *PNAS USA.* 1994. 91(11): 5109-13. 7. Zhang, Y. *et al.*, 1998. Processing and activation of pro-interleukin-16 by caspase-3. *J Biol Chem.* 273(2): p. 1144-9.

METHODS

Preparation of stock solution (100 µg/ml):

1. Resuspend with endotoxin-free water (provided)
Add 100 µl to 10 µg of recombinant human IL-16.
Add 500 µl to 50 µg of recombinant human IL-16.
2. Mix gently by pipetting until completely resuspended.
3. Use immediately or prepare aliquots and store at -80 °C for 4 months. Avoid freeze-thaw cycles.
4. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Cat. Code
Recombinant mouse IL-16	rcyc-mil16-01
Anti-human IL-16 hlgG1	hil16-mab1-02
Anti-mouse IL-16 mlgG1e3	mil16-mab15-02
Anti-mouse IL-16 mlgG1e3 InvivoFit™	mil16-mab15-1

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