IL-36 gamma/IL-1F9 Protein, Human (152a.a, His)

Cat. No.:	HY-P75861
Synonyms:	Interleukin-36 gamma; IL-36γ; IL36G; IL-1F9; IL-1H1
Species:	Human
Source:	E. coli
Accession:	Q9NZH8 (S18-D169)
Gene ID:	56300
Molecular Weight:	Approximately 19 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IL-36 gamma (IL-1F9), a subform of IL-36 family, belongs to IL-1 superfamily. IL-36 gamma is expressed in peripheral blood lymphocytes, keratinocytes, bronchial epithelial cells and THP-1 cells[3].

The sequence of amino acids in IL-36 gamma differs in different species. Human IL-36 gamma shares <55% aa sequence identity with mouse.

IL-36 gamma has β-trefoil structure. L-36 gamma binds to IL-36R and recruits the co-receptor IL-1RAcP. So that heterodimeric signaling complex brings Toll/IL-1R (TIR) domains of the 2 receptor chains in close proximity, and thereby activating NF-κB and MAPK signaling pathways[1]. But the activation requires N-terminal cleavage at $Val15^{18}$ by neutrophil granule-derived proteases, such as cathepsin G, elastase and proteinase-3[1][2]. IL-36 gamma is associated with chronic inflammation and cancers. IL-36 gamma is up-regulated in skin psoriatic lesions, inaganglionic and ganglionic areas of the colon in patients with Hirschsprung's disease, and inflamed mucosa of patients with inflammatory bowel disease (IBD)[1][4]. IL-36 gamma is a pro-inflammatory factor. IL-36 gamma mediates inflammatory response through the activation of NF-κB and MAPK signaling pathway[2].

REFERENCES

[1]. Bassoy EY, et al. Regulation and function of interleukin-36 cytokines. Immunol Rev. 2018 Jan;281(1):169-178.

[2]. Zhou L,et al. Interleukin-36: Structure, Signaling and Function. Adv Exp Med Biol. 2021;21:191-210.

[3]. Gresnigt MS, et al. Biology of IL-36 cytokines and their role in disease. Semin Immunol. 2013 Dec 15;25(6):458-65.

[4]. Neurath MF. IL-36 in chronic inflammation and cancer. Cytokine Growth Factor Rev. 2020 Oct;55:70-79.

[5]. Xu P, et al. The mechanism on Prevotella melaninogenica promoting the inflammatory progression of oral lichen planus. Clin Exp Immunol. 2022 Aug 19;209(2):215-224.

[6]. Le N, Luk I, et al. IL-36G promotes cancer-cell intrinsic hallmarks in human gastric cancer cells. Cytokine. 2022 Jul;155:155887.

Caution: Product has not been fully validated for medical applications. For research use only.

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