



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IL36A Protein
Catalog Number: hRP-1972
Manufacturer: LD Biopharma, Inc.

Introduction

Human Interleukin-33 (IL36A) is a cytokine that binds to and signals through the IL1RL2/IL-36R receptor, which in turn activates NF-kappa-B and MAPK signaling pathways in target cells linked to a pro-inflammatory response. Part of the IL-36 signaling system that is thought to be present in epithelial barriers and to take part in local inflammatory response; similar to the IL-1 system with which it shares the coreceptor IL1RAP. It seems to be involved in skin inflammatory response by acting on keratinocytes, dendritic cells and indirectly on T-cells to drive tissue infiltration, cell maturation and cell proliferation. In cultured keratinocytes induces the expression of macrophage, T-cell, and neutrophil chemokines, such as CCL3, CCL4, CCL5, CCL2, CCL17, CCL22, CL20, CCL5, CCL2, CCL17, CCL22, CXCL8, CCL20 and CXCL1, and the production of proinflammatory cytokines such as TNF-alpha, IL-8 and IL-6. In cultured monocytes upregulates expression of IL-1A, IL-1B and IL-6. In myeloid dendritic cells involved in cell maturation by upregulating surface expression of CD83, CD86 and HLA-DR. In monocyte-derived dendritic cells facilitates dendritic cell maturation and drives T-cell proliferation. It may play a role in pro-inflammatory effects in the lung.

Full-length mature form of human IL36A cDNA (6 – 158aa) was constructed with codon optimization gene synthesis and expressed with a human Alpha Fetal protein N-terminal-His-TEV cleavage site Tag (217aa) fusion at AFP N-terminal. This protein was expressed in E. coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: IL36A (FIL1E; IL1E; IL1F6)
Accession Number: NP_055255
Species: Human
Size: 50 µg / Vial
Composition: 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.



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Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Ciccia F, et al., *Interleukin-36alpha axis is modulated in patients with primary Sjogren's syndrome*. Clin. Exp. Immunol. 181 (2), 230-238 (2015)

Higgins J, et al., *IL-36alpha induces maturation of Th1-inducing human MDDC and synergises with IFN-gamma to induce high surface expression of CD14 and CD11c*. Hum. Immunol. 76 (4), 245-253 (2015)

Conde J, et al., *IL-36alpha: a novel cytokine involved in the catabolic and inflammatory response in chondrocytes*. Sci Rep 5, 16674 (2015)

Applications

1. May be used for in vitro IL36A mediated NF-kappa-B and MAPK signaling pathways regulation study in various cells with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential anti- immune response target protein for treatment of various immuno-related diseases using IL36A blocking antibodies.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKF IYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSENLYFQGHDSSITGISPITEYLASLSTYNDQSITFALEDES YEIYV
EDLKKDEKKDKVLLSYYESQHPSNESGDGVDGKMLMVTLSPTKDFWLHANNKEHSVELHKCEKP
LPDQAFFVLHNMHSNCVSVFECKTDPGVFIGVKDNHLALIKVDSSSENLC TENILFKLSET