



LD Biopharma, Inc.
7384 Trade Street, Suite B
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Tel: 858-876-8266
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IL31 Protein
Catalog Number: hRP-1974
Manufacturer: LD Biopharma, Inc.

Introduction

Human Interleukin-31 (IL31), which is made principally by activated Th2-type T cells, interacts with a heterodimeric receptor consisting of IL31RA and OSMR that is constitutively expressed on epithelial cells and keratinocytes. IL31 may be involved in the promotion of allergic skin disorders and in regulating other allergic diseases, such as asthma. It also enhances myeloid progenitor cell survival in vitro. IL31 also induces RETNLA and serum amyloid A protein expression in macrophage.

Full-length mature form of human IL31 cDNA (24 – 164 aa) 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 FAP 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: IL31
Accession Number: NP_001014358
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.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Hanel KH, et al., *Control of the Physical and Antimicrobial Skin Barrier by an IL-31-IL-1 Signaling Network*. J. Immunol. 196 (8), 3233-3244 (2016)



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Maier E, et al., *Prerequisites for Functional Interleukin 31 Signaling and Its Feedback Regulation by Suppressor of Cytokine Signaling 3 (SOCS3)*. J. Biol. Chem. 290 (41), 24747-24759 (2015)

Guarneri F, et al., *IL-31 and IL-33 circulating levels in allergic contact dermatitis*. Eur Ann Allergy Clin Immunol 47 (5), 156-158 (2015)

Applications

1. May be used for in vitro IL31 mediated signaling pathway regulation study for epithelial cells and keratinocytes with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential anti- skin / respiratory inflammatory response target protein for treatment of asthma or skin diseases using IL31 blocking antibodies.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKF IYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHGSENLYFQSHTLPVRLLRPSDDVQKIVEELQSLSKMLLKDVVEEEKGVL
VSQNYTLPCLSPDAQPPNNIHSPAIRAYLKTIRQLDNKSVIDEIEHLDKLIQDAPETNISVP
TDTHECKRFILTISQQFSECMDLALKSLTSGAQQATT