

# Recombinant Human Interleukin-31/IL-31 Protein

Catalog Number:PKSH032640



**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

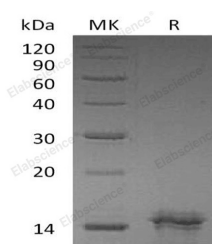
## Description

<b>Synonyms</b>	Interleukin-31;IL-31;IL31
<b>Species</b>	Human
<b>Expression Host</b>	E.coli
<b>Sequence</b>	Ser24-Thr164
<b>Accession</b>	Q6EBC2
<b>Calculated Molecular Weight</b>	16.8 kDa
<b>Observed molecular weight</b>	18 kDa
<b>Tag</b>	C-His
<b>Bioactivity</b>	Measured by its ability to induce A549 cells proliferation. The ED <sub>50</sub> for this effect is < 40 ng/mL

## Properties

<b>Purity</b>	> 98 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 0.1 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS,pH 8.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



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## Background

Human Interleukin 31 (IL-31) is a cytokine containing a four-helix bundle structure. It shares several structural and functional characteristics with IL-6, Oncostatin M, LIF, and Cardiotrophin-1. Human IL-31 cDNA encodes a 164 amino acid precursor that contains a 23 amino acid signal peptide and a 141 amino acid mature protein. Human and mouse IL-31 share 24% sequence identity in the mature region. IL-31 is mainly associated with activated T cells and is preferentially expressed by type 2 helper T cells (Th2). IL-31 signals via a heterodimeric receptor complex composed of a gp130 related molecule termed IL-31RA (also GPL and GLMR) and an Oncostatin M receptor (OSM R $\beta$ ). The IL-31 receptor is

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constitutively expressed by keratinocytes and upregulated by IFN $\gamma$  on monocytes. GPL/OSMR signaling is a strong activator of STAT3 and STAT5, and can also activate STAT1, Jak1, and Jak2 signaling pathways. IL-31 regulated immune responses have been implicated in skin physiology and inflammatory skin diseases. Studies have shown that IL31 induces severe pruritis (itching) and dermatitis in transgenic mice.

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