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IL-31

Catalog # PVGS1065

Product Information

Primary Accession	Q6EBC2
Species	Human
Sequence	Ser24-Thr164
Purity	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
Endotoxin Level	
Biological Activity	Fully biologically active when compared to standard. The specific activity is determined by inducing STAT3 activation using human U-87 MG cells. 5.0 ng/ml of rHuIL-31 can effectively induce STAT3 activation.
Expression System	E. coli
Theoretical Molecular Weight	15.8 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.4.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	386653
Other Names	Interleukin-31, IL-31, IL31
Target Background	Human IL-31 is a T-cell derived cytokine that shares several structural and functional characteristics with IL-6, Oncostatin M, LIF, and Cardiotrophin-1. It signals through a receptor complex comprised of GPL (GP130-like, IL-31RA) and OSMR (Oncostatin M receptor). 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.

Protein Information

Name	IL31 (HGNC:19372)
Function	Functions as a cytokine that binds to IL31RA, a membrane- bound signal-transducing subunit of the IL31 receptor complex (heterodimer composed of OSMR and IL31RA) (PubMed:15184896, PubMed:15627637). Functionally, IL31 signaling via OSMR/IL31RA is particularly important in skin immunity (PubMed:15184896). Mechanistically, ligand binding to IL31RA, induces heterodimerization with OSMR, activating JAK1 and JAK2 (and to a lesser extent TYK2) associated with the intracellular domains of IL31RA and OSMR (PubMed:15627637). These kinases phosphorylate tyrosine residues on IL31RA and OSMR, creating docking sites for STAT1, STAT3, and STAT5B, which are then phosphorylated and activated (PubMed:15184896, PubMed:15627637). In addition, the IL31 receptor complex activates the MAPK pathway (MAPK3/ERK1-MAPK1/ERK2) via recruitment of the adapter protein SHC1 (PubMed:15627637). Enhances myeloid progenitor cell survival in vitro (By similarity). Induces RETNLA and serum amyloid A protein expression in macrophages (By similarity).
Cellular Location	Secreted.
Tissue Location	Detected at low levels in testis, bone marrow, skeletal muscle, kidney, colon, thymus, small intestine and trachea

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.