

IL-11R alpha/IL-11RA Protein, Human, Recombinant (His)

General Information

Synonyms:	interleukin 11 receptor subunit alpha;hCG_2011440;CRSDA;interleukin 11 receptor subunit α ; IL11RA;MGC2146
Protein Construction:	A DNA sequence encoding the extracellular domain of human IL11R α (NP_004503.1) (Met 1-Val 363) was expressed, with a fused polyhistidine tag at the C-terminus. Predicted N terminal: Ser 24
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q14626-1
Molecular Weight:	38.6 kDa (predicted); 47 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Loaded Human IL11RA Protein, His Tag on His1K Biosensor, can bind Human IL11 protein with an affinity constant of 0.353nM as determined in BLI assay (Routinely tested).
Purity:	$\geq 97\%$ as determined by SDS-PAGE $\geq 95\%$ as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C . For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin 11 receptor, alpha subunit (IL11RA/IL-11RA) is a subunit of the interleukin 11 receptor which is a member of the hematopoietic cytokine receptor family. IL11RA/IL-11RA is expressed in some cell lines, including the myelogenous leukemia cell line K562, the megakaryocytic leukemia cell line Mo7E, the erythroleukemia cell

line TF1, and the osteosarcoma cell lines, MG-63 and Saos-2. It is also expressed in normal and malignant prostate epithelial cell lines. Expression levels are increased in prostate carcinoma. This particular receptor is very similar to the ciliary neurotrophic factor since both contain an extracellular region with a 2-domain structure composed of an immunoglobulin-like domain and a cytokine receptor-like domain. Alternative splicing has been observed at this locus, and three variants encoding two different isoforms have been identified. IL11RA/IL-11RA is a receptor for interleukin-11. The receptor systems for IL6, LIF, OSM, CNTF, IL11, and CT1 can utilize IL6ST for initiating signal transmission. Defects in IL11RA/IL-11RA are a cause of craniosynostosis and dental anomalies (CRSDA). CRSDA is a disorder characterized by craniosynostosis, maxillary hypoplasia, and dental anomalies, including malocclusion, delayed and ectopic tooth eruption, and/or supernumerary teeth. Some patients also display minor digit anomalies, such as syndactyly and/or clinodactyly.

Reference

- Van Leuven F, et al. (1996) Molecular cloning and characterization of the human interleukin-11 receptor alpha-chain gene, IL11RA, located on chromosome 9p13. *Genomics*. 31 (1): 65-70.
- Yoshizaki A, et al. (2006) Expression of interleukin (IL)-11 and IL-11 receptor in human colorectal adenocarcinoma: IL-11 up-regulation of the invasive and proliferative activity of human colorectal carcinoma cells. *Int J Oncol*. 29 (4): 869-76.
- Karube K, et al. (2006) Gene expression profile of cytokines and chemokines in microdissected primary Hodgkin and Reed-Sternberg (HRS) cells: high expression of interleukin-11 receptor alpha. *Ann Oncol*. 17 (1): 110-6.

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