IL-27R alpha/TCCR Protein, Human (514a.a, HEK293, Fc)

Cat. No.:	HY-P77223
Synonyms:	Interleukin-27 receptor subunit alpha; IL-27R-alpha; TCCR; WSX-1; IL-27RA
Species:	Human
Source:	HEK293
Accession:	Q6UWB1 (Q33-R514)
Gene ID:	9466
Molecular Weight:	105-115 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4, 8% trehalose, 8% mannitol
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IL-27Rα is specific for IL-27 and is primarily expressed on the cell surface of inflammatory cells, including T, B, and NK lymphocytes, neutrophils, monocytes, and mast cells, although it is found at lower levels in macrophages, hepatocytes, keratinocytes, and endothelial cells[2].

The amino acid sequence of human IL-27R alpha protein has low homology for mouse IL-27R alpha protein.

IL-27Rα (WSX-1) and gp130 compose the IL-27 receptor-signaling complex. Binding of IL-27 to its heterodimeric receptor complex leads to the intracellular recruitment and activation of the Janus kinase (JAK)/STAT-1 and STAT-3 pathways, suppress the expression of inflammatory cytokines[3].

IL-27R alpha is a class I cytokine receptor with homology to gp130 of IL-6R and to IL-12R families. IL-27R alpha can be used as a natural IL-27 antagonist[1]. IL-27R alpha can be used as an independent prognostic aGVHD biomarker[4]. IL-27/IL-27R alpha also plays an important role in the down-regulation of airway hyper-reactivity and lung inflammation during the development of allergic asthma through its suppressive effect on cytokine production[5]. IL-27/IL-27RA signaling can suppress the expression of inflammatory cytokines, IL-6 and IL-8, induced by LPS stimulation, leading to phosphorylation of STAT1 and STAT3[6].

REFERENCES

[1]. Liu S, et al. Soluble interleukin-27 receptor alpha is a valuable prognostic biomarker for acute graft-versus-host disease after allogeneic haematopoietic stem cell transplantation. Sci Rep. 2018 Jul 9;8(1):10328.

[2]. Fabbi M, et al. Dual Roles of IL-27 in Cancer Biology and Immunotherapy. Mediators Inflamm. 2017;2017:3958069.

[3]. Rousseau F, et al. IL-27 structural analysis demonstrates similarities with ciliary neurotrophic factor (CNTF) and leads to the identification of antagonistic variants. Proc Natl Acad Sci U S A. 2010 Nov 9;107(45):19420-5.

[4]. Miyazaki Y, et al. Exacerbation of experimental allergic asthma by augmented Th2 responses in WSX-1-deficient mice. J Immunol. 2005 Aug 15;175(4):2401-7.

[5]. Lo HC, et al. IL-27/IL-27RA signaling may modulate inflammation and progression of benign prostatic hyperplasia via suppressing the LPS/TLR4 pathway. Transl Cancer Res. 2020 Aug;9(8):4618-4634.

Caution: Product has not been fully validated for medical applications. For research use only.

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