

TCCR Protein, Human, Recombinant (hFc)

General Information

Synonyms:	WSX1;interleukin 27 receptor, α ;IL27R;TCCR;IL-27RA;interleukin 27 receptor, alpha;zcytor1; CRL1
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Arg 514) of human IL27R α (NP_004834.1) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 33
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q6UWB1
Molecular Weight:	79 kDa (predicted); 105-115 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized human IL27 at 20 μ g/ml (100 μ l/well) can bind human IL27Ra with a linear range of 0.064-1.6 μ g/ml.
Purity:	> 95 % as determined by SDS-PAGE
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, 8% trehalose, 8% mannitol. 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

The interleukin-27 receptor is a type I cytokine receptor for interleukin-27. It is a heterodimer composed of the interleukin 27 receptor, alpha subunit, and glycoprotein 130. WSX-1/IL-27R, a class I cytokine receptor that is homologous to the β 2 chain of the IL-12R in both sequence and structure, is highly expressed by resting/naive

CD4+ T cells and CD8+ T cells. WSX-1/IL-27R belongs to the IL-6/IL-12 family of cytokines and induced proliferation of naive CD4(+) T cells and the generation of a Th1-type adaptive immune response. WSX-1/IL-27R functions as a receptor for IL27. IL-27 not only contributes to the development of an adaptive immune response through its action on CD4(+) T cells, it also directly acts on cells of the innate immune system. WSX-1/IL-27R requires IL6ST/gp130 to mediate signal transduction in response to IL27. This signaling system acts through STAT3 and STAT1. It is involved in the regulation of Th1-type immune responses. IL-27R also appears to be involved in innate defense mechanisms. IL27RA is essential for transcriptional activation of STAT1 and for augmenting the induction of T-bet expression during initiation of Th1 cell differentiation.

Reference

- Pflanz S, et al.. (2004) WSX-1 and glycoprotein 130 constitute a signal-transducing receptor for IL-27. *J Immunol.* 172(4): 2225-31.
- Yoshida H, et al.. (2001) WSX-1 is required for the initiation of Th1 responses and resistance to L. major infection. *Immunity.* 215(4): 569-78.
- Villarino A, et al.. (2003) The IL-27R (WSX-1) is required to suppress T cell hyperactivity during infection. *Immunity.* 19(5): 645-55.

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