

TCCR Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Tccr;Wsx1;CRL1;WSX-1;interleukin 27 receptor, alpha;zcytor1;interleukin 27 receptor, α ;IL-27R
Protein Construction:	A DNA sequence encoding the mouse IL27RA (AAC40121.1) (Gly29-Lys510) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gly 29
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	AAC40121.1
Molecular Weight:	54.6 kDa (predicted)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	$\geq 95\%$ as determined by SDS-PAGE. $\geq 90\%$ 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 $0.22\ \mu\text{m}$ 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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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 $\beta 2$ 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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