Data Sheet (Cat.No.TMPY-01219)

TargetMol

IL-18R alpha Protein, Human, Recombinant (His)

General Information

Synonyms:	CDw218a;interleukin 18 receptor 1;IL1RRP;IL-1Rrp;CD218a;IL18RA
Protein Construction:	A DNA sequence encoding the extracellular domain of human IL18R1 (NP_003846.1) (Met 1-Arg 329) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q13478
Molecular Weight:	37.2 kDa (predicted); 59.8 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Loaded Recombinant Human IL-18R beta / IL-18RAP Protein, Fc Tag on ProA Biosensor, can bind Recombinant Human IL-18Rα Protein, His Tag (Premixed with Human IL-18, Tag Free) with an affinity constant of 7.7nM as determined in BLI assay (QC tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm 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-18 receptor 1 (IL18R1) also known as CD218 antigen-like family member A, CDw218a, IL1 receptor-related protein, and CD218a, is an interleukin receptor of the immunoglobulin superfamily. IL18R1 is found expressed in the lung, leukocytes, spleen, liver, thymus, prostate, small intestine, colon, placenta, and heart, and

is absent from the brain, skeletal muscle, pancreas, and kidney. A high level of expression is found in Hodgkin disease cell lines. This receptor is specifically bound to interleukin 18 (IL18) and is essential for IL18 mediated signal transduction. IL18R1 contains 3 Ig-like C2-type (immunoglobulin-like) domains and 1 TIR domain. It is a single-pass type I membrane protein. IFN-alpha and IL12 are reported to induce the expression of this receptor in NK and T cells. The increased expression of IL18R1 may contribute pathogenically to disease and is therefore a potential therapeutic target. The absence of a genetic association in the IL18R1 gene itself suggests regulation from other parts of the genome, or as part of the inflammatory cascade in multiple sclerosis without a prime genetic cause.

Reference

Nadif R,et al.. (2006) IL18 and IL18R1 polymorphisms, lung CT and fibrosis: A longitudinal study in coal miners. Eur Respir J. 28(6): 1100-5.

Haralambieva IH,et al.. (2011) Common SNPs/haplotypes in IL18R1 and IL18 genes are associated with variations in hum oral immunity to smallpox vaccination in Caucasians and African Americans. J Infect Dis. 204(3): 433-41.

Hulin-Curtis SL,et al.. (2012) Evaluation of IL18 and IL18R1 polymorphisms: genetic susceptibility to knee osteoarthritis. Int J Immunogenet. 39(2): 106-9.

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