Data Sheet (Cat.No.TMPY-01640)

TargetMol

IFNAR2 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	interferon (α, β and ω) receptor 2;IFNABR;IFN-R;IFN-alpha-REC;IFNARB;IFN-α-REC;interferon (alpha, beta and omega) receptor 2
Protein Construction:	A DNA sequence encoding the extracellular domain of human IFNAR2 isoform a (NP_997468.1) (Met 1-Lys 243) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ile 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P48551-1
Molecular Weight:	51.8 kDa (predicted); 65-75 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its ability to inhibit rh IFNβ mediated protection of WISH Human amnion cells infected with vesicular stomatitis virus (VSV) to viral lysis. The EC50 for this effect is typically 0.2-1.2 μg/mL. 2. Measured by its binding ability in a functional ELISA. Immobilized PPICZa-IFNA2 at 10 μg/mL (100 μL/well) can bind IFNaR2-Fc , the EC50 of IFNaR2-Fc is 60-200 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
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:

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

Interferon-alpha/beta receptor beta chain (IFNAR2) is a type I membrane protein that forms one of the two chains of a receptor for interferons alpha and beta. Binding and activation of the receptor stimulate Janus protein kinases, which in turn phosphorylate several proteins, including STAT1 and STAT2. Initial cell-surface IFNAR2 expression at diagnosis assessed by flow cytometry was widely distributed but showed overall significantly higher expression in CML patients when compared with normal controls. In 15 fresh patients who subsequently received IFNα therapy, IFNAR2 expression at diagnosis was significantly higher in cytogenetic good responders than in poor responders. Down-regulation of IFNAR2 expression during IFNα therapy was observed only in good responders but not in poor responders. The encoded protein also functions as an antiviral factor. IFNAR2 may associate with IFNAR1 to form the type I interferon receptor. This protein serves as a receptor for interferons alpha and beta. IFNAR2 is also involved in IFN-mediated STAT1, STAT2, and STAT3 activation. Isoform 1 and isoform 2 are directly involved in signal transduction due to their association with the TYR kinase, JAK1. Isoform 3 is a potent inhibitor of type I IFN receptor activity. Following binding of IFNα2, IFNAR2 is internalized, but, instead of being routed towards degradation as it is when complexed to IFNβ, it recycles back to the cell surface.

Reference

Ito K, et al. (2004) Initial expression of interferon alpha receptor 2 (IFNAR2) on CD34-positive cells and its down-regulation correlate with clinical response to interferon therapy in chronic myelogenous leukemia. Eur J Haematol. 73(3): 191-205.

Kim SH, et al. (1997) Mammalian type I interferon receptors consists of two subunits: IFNaR1 and IFNaR2. Gene. 196(1-2): 279-86.

Saleh AZ, et al. (2004) Regulated proteolysis of the IFNaR2 subunit of the interferon-alpha receptor. Oncogene. 23 (42): 7076-86.