Data Sheet (Cat.No.TMPY-03028)

TargetMol

TNFR1/CD120a/TNFRSF1A Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	tumor necrosis factor receptor superfamily member 1A
Protein Construction:	A DNA sequence encoding the rat TNFRSF1A (P22934) (Met1-Ala211) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ile 22
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	P22934
Molecular Weight:	47.9 kDa (predicted); 59 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its ability to inhibit TNFα-mediated cytotoxicity in L-929 mouse fibroblast cells in the presence of metabolic inhibitor actinomycin D. The ED50 for this effect is typically 3-30 ng/mL in the presence of 0.05 ng/mL of ratTNFα. 2. Immobilized mouse TNFa (80-235) at 10 μg/ml (100 μl/well) can bind rat TNFRSF1A-Fc, The EC50 of rat TNFRSF1A-Fc is 0.08-0.20 μg/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

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules which associating with the

immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion. CD120a (cluste of differentiation 120a), also known as TNFR1 / TNFRSF1A, is a member of CD family, tumor necrosis factor receptor superfamily. CD120a is one of the most primary receptors for the tumor necrosis factor-alpha. It has been shown to be localized to both plasma membrane lipid rafts and the trans golgi complex with the help of the death domain (DD). CD120a can activate the transcription factor NF-κB, mediate apoptosis, and regulate inflammation processes.

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5.
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35.
Matesanz-Isabel J,et al.(2011) New B-cell CD molecules. Immunology Letters.134 (2): 104-12.
Cottin V,et al.(2002) Restricted localization of the TNF receptor CD120a to lipid rafts: a novel role for the death domain. The journal of immunology. 168: 4095-102.