Data Sheet (Cat.No.TMPY-06481)

TargetMol

CD3 zeta/CD247 Protein, Human, Recombinant

General Information

Synonyms:	CD3Q;IMD25;CD3H;T3Z;CD3-ζ;CD3 ζ/CD247;TCRZ;CD3Z;CD3-ZETA;CD247 molecule
Protein Construction:	A DNA sequence encoding the human CD247 (P20963-1) (Arg52-Arg164) was expressed. Predicted N terminal: Gly
Species:	Human
Expression Host:	E. coli
Accession:	P20963-1
Molecular Weight:	13.18 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:	> 90 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 150 mM NaCl, pH 7.5. 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

CD247, also known as CD3-ZETA, belongs to the CD3Z/FCER1G family. It contains 3 ITAM domains. As a -cell receptor zeta, CD247 forms the T-cell receptor-CD3 complex together with T-cell receptor alpha/beta and gamma/delta heterodimers, and with CD3-gamma, -delta and -epsilon. The zeta chain plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. Low expression of the antigen results in impaired immune response. Two alternatively spliced transcript variants encoding distinct isoforms have

been found for CD247 gene. Defects in CD247 can cause immunodeficiency due to defect in CD3-zeta. An immunological deficiency characterized by T-cells impaired immune response to alloantigens, tetanus toxoid and mitogens. CD247 may play a role in assembly and expression of the TCR complex as well as signal transduction upon antigen triggering.

Reference

Radstake TR, et al. (2010) Genome-wide association study of systemic sclerosis identifies CD247 as a new susceptibility locus. Nat Genet. 42(5):426-9.2.
Dieud P, et al. (2011) Independent replication establishes the CD247 gene as a genetic systemic sclerosis susceptibility factor. Ann Rheum Dis. 70(9):1695-6.3.
Li R, et al. (2012) Association of CD247 with systemic lupus erythematosus in Asian populations. Lupus. 21(1):75-83.