Data Sheet (Cat.No.TMPY-02388)

TargetMol

SIRP beta 1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	SIRP-beta;SIRP-β;99327N5Rik;Sirpb;Sirpb1;Sirpb1a;SIRP-β/Sirpb1a
Protein Construction:	A DNA sequence encoding the mouse SIRPB1A (BAD26610.1) (Met 1-Lys 363) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Ala 27
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q6F5F0
Molecular Weight:	39.1 kDa (predicted); 55-60 kDa (reducing condition, due to glycosylation)

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:	> 98 % 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

SIRPB1A (Signal-regulatory protein beta 1A), also known as SIRP beta 1, belongs to signal-regulatory-protein (SIRP) family, and immunoglobulin superfamily. Signal-regulatory proteins (SIRPs) are cell-surface glycoproteins expressed on myeloid and neural cells that have been shown to recruit SH2 domain-containing protein phosphatase 1 (SHP-1) and SHP-2 and to regulate receptor tyrosine kinase-coupled signaling. SIRP are classified as SIRP alpha molecules, containing 11- to 113-amino acid long, or SIRP beta molecules, with a 5-amino acid long

intracytoplasmic domain. SIRP beta 1 is a new DAP12-associated receptor involved in the activation of myeloid cells, which contains a short cytoplasmic domain that lacks sequence motifs capable of recruiting SHP-1 and SHP-2. SIRP beta 1 acts as an activating isoform of SIRP alpha molecules, confirming the co-existence of inhibitory ITIM-bearing molecules, recruiting SHP-1 and SHP-2 protein tyrosine phosphatases, and activating counterparts, whose engagement couples to protein tyrosine kinases via ITAM-bearing molecules.s

Reference

Gaikwad S, et al. (2009) Signal regulatory protein-beta1: a microglial modulator of phagocytosis in Alzheimer's disease. Am J Pathol. 175(6): 2528-39.

Dietrich J, et al. (2000) Cutting edge: signal-regulatory protein beta 1 is a DAP12-associated activating receptor expressed in myeloid cells. J Immunol. 164(1): 9-12.

Tomasello E, et al. (2000) Association of signal-regulatory proteins beta with KARAP/DAP-12. Eur J Immunol. 30(8): 2147-56.