Data Sheet (Cat.No.TMPY-02357)

TargetMol

CLEC1B Protein, Human, Recombinant (His)

General Information

Synonyms:	C-type lectin domain family 1, member B;CLEC2B;1810061I13Rik;PRO1384;CLEC2;QDED721
Protein Construction:	A DNA sequence encoding the human CLEC1B (NP_057593.3) extracellular domain (Gln 58-Pro 229) with a N-terminal polyhistidine tag was expressed. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9P126-1
Molecular Weight:	22.7 kDa (predicted); 35-38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized human Podoplanin at 10 μg/mL (100 μl/well) can bind biotinylated human CLEC1B-His, The EC50 of biotinylated human CLEC1B-His is 0.71 μg/mL.
Purity:	> 76 % 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

CLEC1B, also known as CLEC2, is a C-type lectin-like receptor expressed in myeloid cells and NK cells. Natural killer (NK) cells express multiple calcium-dependent (C-type) lectin-like receptors, such as CD94 and NKG2D, that interact with major histocompatibility complex class I molecules and either inhibit or activate cytotoxicity and cytokine secretion. CLEC2 acts as a receptor for the platelet-aggregating snake venom protein rhodocytin.

Rhodocytin binding leads to tyrosine phosphorylation and this promotes the binding of spleen tyrosine kinase (Syk) and initiation of downstream tyrosine phosphorylation events and activation of PLC-gamma-2. CLEC2 contains 1 C-type lectin domain and is expressed preferentially in the liver. It acts as an attachment factor for human immunodeficiency virus type 1 (HIV-1) and facilitates its capture by platelets.

Reference

Suzuki-Inoue K,et al. (2007) Involvement of the snake toxin receptor CLEC-2, in podoplanin-mediated platelet activation, by cancer cells. J Biol Chem. 282(36):25993-6001.
Watson AA,et al. (2007) The crystal structure and mutational binding analysis of the extracellular domain of the platelet-activating receptor CLEC-2. J Biol Chem. 282(5):3165-72.
Chaipan C,et al. (2006) DC-SIGN and CLEC-2 mediate human immunodeficiency virus type 1 capture by platelets. J Virol. 80(18):8951-60.