Data Sheet (Cat.No.TMPY-01571)

TargetMol

PVRL1/NECTIN1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	HV1S;ED4;poliovirus receptor-related 1 (herpesvirus entry mediator C);PVRR1;PVRR;SK-12;CD111;PRR;OFC7;PRR1;HIgR;nectin-1;HVEC;CLPED1
Protein Construction:	Gln31-Thr334
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q15223-1
Molecular Weight:	59.89 kDa (predicted); 70-80 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Human Nectin-3, His Tag at 2 μg/ml (100 μl/well) on the plate. Dose response curve for Human Nectin-1, hFc Tag with the EC50 of 14.7 ng/ml determined by ELISA (QC Test). Immobilized Human Nectin-4, His Tag at 2 μg/ml (100 μl/well) on the plate. Dose response curve for Human Nectin-1, hFc Tag with the EC50 of 73.1 ng/ml determined by ELISA.
Purity:	> 95% as determined by Bis-Tris PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22 μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

Poliovirus receptor-related 1 (herpesvirus entry mediator C; nectin-1; CD111), also known as PVRL1 is a cell adhesion molecule belonging to the immunoglobulin superfamily that can bind to virion glycoprotein D (gD) to

mediate entry of herpes simplex viruses (HSV) and pseudorabies virus (PRV). CD111/Nectin-1/PVRL1 colocalizes with E-cadherin at adherens junctions in epithelial cells. The disruption of cell junctions can result in the redistribution of nectin-1. To determine whether disruption of junctions by calcium depletion influenced the susceptibility of epithelial cells to viral entry, Madin-Darby canine kidney cells expressing endogenous nectin-1 or transfected human nectin-1 were tested for the ability to bind soluble forms of viral gD and to be infected by HSV and PRV, before and after calcium depletion. It has been revealed that binding of HSV and PRV gD was localized to adherens junctions in cells maintained in normal medium but was distributed, along with nectin-1, over the entire cell surface after calcium depletion. Both the binding of gD and the fraction of cells that could be infected by HSV-1 and PRV were enhanced by calcium depletion. Taken together, CD111/Nectin-1/PVRL1 confined to adherens junctions in epithelial cells is not very accessible to virus, whereas dissociation of cell junctions releases nectin-1 to serve more efficiently as an entry recptor.

Reference

Yoon M,et al.(2002) Disruption of adherens junctions liberates nectin-1 to serve as receptor for herpes simplex virus and pseudorabies virus entry. J Virol. 76(14): 7203-8.

Mata M,et al.(2001) HveC (nectin-1) is expressed at high levels in sensory neurons, but not in motor neurons, of the rat peripheral nervous system. J Neurovirol. 7(5): 476-80.

HAarr L,et al.(2001) Transcription from the gene encoding the herpesvirus entry receptor nectin-1 (HveC) in nervous tissue of adult mouse. Virology. 287(2): 301-9.