Data Sheet (Cat.No.TMPY-02730)

TargetMol

VNN1 Protein, Mouse, Recombinant (hFc)

General Information

Synonyms:	V-1;vanin 1
Protein Construction:	A DNA sequence encoding the mouse VNN1 (Q9Z0K8) (Met 1-Ser 487), without the pro peptide, was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Leu 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q9Z0K8
Molecular Weight:	79 kDa (predicted); 85-90 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:	> 96 % 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

Pantetheinase, also known as Pantetheine hydrolase, Vascular non-inflammatory molecule 1, Vanin-1, and VNN1, is a cell membrane protein which belongs to the CN hydrolase family and BTD/VNN subfamily. Vanin-1 contains one CN hydrolase domain. It is widely expressed with higher expression in spleen, kidney and blood. It is overexpressed in lesional psoriatic skin. Vanin-1 is also a member of the Vanin family of proteins which share

extensive sequence similarity with each other, and also with biotinidase. The family includes secreted and membrane-associated proteins, a few of which have been reported to participate in hematopoietic cell trafficking. No biotinidase activity has been demonstrated for any of the vanin proteins, however, they possess pantetheinase activity, which may play a role in oxidative-stress response. Vanin-1 is an epithelial pantetheinase that provides cysteamine to tissue and regulates response to stress. Vanin-1 is expressed by enterocytes, and its absence limits intestinal epithelial cell production of proinflammatory signals. Vanin-1 regulates late adhesion steps of thymus homing under physiological, noninflammatory conditions. The early impact of vanin-1 deficiency on tumor induction was directly correlated to the amount of inflammation and subsequent epithelial proliferation rather than cell death rate. Vanin-1 molecule was shown to be involved in the control of thymus reconstitution following sublethal irradiation.

Reference

Aurrand-Lions M, et al. (1996) Vanin-1, a Novel GPI-Linked Perivascular Molecule Involved in Thymus Homing. Immunity. 5 (5): 391-405.

Grimmond S, et al. (2000) Sexually dimorphic expression of protease nexin-1 and vanin-1 in the developing mouse gonad prior to overt differentiation suggests a role in mammalian sexual development. Hum Mol Genet. 9 (10): 1553-60.

Meghari S, et al. (2007) Vanin-1 controls granuloma formation and macrophage polarization in Coxiella burnetii infection. Eur J Immunol. 37 (1): 24-32.