Human VNN1 / Vanin-1 Protein (His Tag)

Catalog Number: **11662-H08H**

General Information

Gene Name Synonym:

HDLCQ8; Tiff66

Protein Construction:

A DNA sequence encoding the human VNN1 (NP_004657.2) without the propeptide (Met 1-Ser 490) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to hydrolyze pantetheine to pantothenate and cysteamine. The specific activity is >3000 pmol/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 22

Molecular Mass:

The recombinant human VNN1 consists of 480 amino acids and has a predicted molecular mass of 53.7 kDa. It migrates as an approximately 70-75 kDa band in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

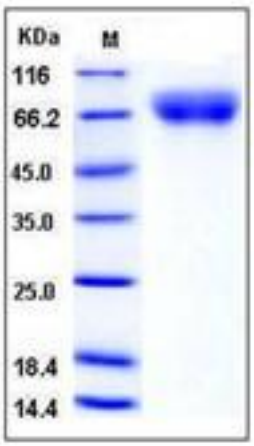
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1.Aurrand-Lions M, *et al.* (1996) Vanin-1, a Novel GPI-Linked Perivascular Molecule Involved in Thymus Homing. Immunity. 5 (5): 391-405. 2.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. 3.Meghari S, *et al.* (2007) Vanin-1 controls granuloma formation and macrophage polarization in Coxiella burnetii infection. Eur J Immunol. 37 (1): 24-32.