Human TIM4 / TIMD4 Protein (His Tag)

Catalog Number: **12161-H08H**

General Information

Gene Name Synonym:

SMUCKLER; TIM4

Protein Construction:

A DNA sequence encoding the human TIMD4 (AAH08988.1) extracellular domain (Met 1-Leu 315) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

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: Glu 25

Molecular Mass:

The recombinant human TIMD4 consists of 302 amino acids and has a predicted molecular mass of 32.7 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhTIMD4 is approximately 60-65 kDa 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:

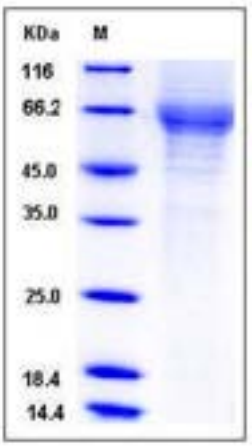
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

A type I transmembrane protein called TIM4 (T-cell immunoglobulin- and mucin-domain-containing molecule; also known as TIMD4), which belongs to the immunoglobulin superfamily and TIM family. TIM4 is involved in regulating T-cell proliferation and lymphotoxin signaling. It is a ligand for HAVCR1/TIMD1. Recent reports indicate that dendritic cell (DC)-derived T-cell immunoglobulin and mucin domain molecule (TIM)-4, which is expressed on dendritic cells and macrophages, plays an important role in the initiation of T(H)2 polarization. TIM4 bound apoptotic cells by recognizing phosphatidylserine via its immunoglobulin domain. The expression of TIM4 in fibroblasts enhanced their ability to engulf apoptotic cells. TIM4 is phosphatidylserine receptor for the engulfment of apoptotic cells, and may also be involved in intercellular signalling in which exosomes are involved. Modulation of TIM4 production in dendritic cells (DCs) represents a novel therapeutic approach for the treatment of peanut allergy. The interaction of TIM1/TIM4 played a critical role in sustaining the polarization status of Th2 cells in allergic rhinitis (AR) patients. Cross-linking FcgammaRI by antigen/IgG complexes increased the production of TIM4 by dendritic cells via upregulating tumor necrosis factor-alpha in DCs. Specific immunotherapy (SIT) suppresses the skewed Th2 responses via disrupting the interaction of TIM1/TIM4 in antigen-specific Th2 cells.

References

1.Miyanishi M, *et al.* (2007) Identification of Tim4 as a phosphatidylserine receptor. Nature. 450(7168): 435-9. 2.Feng BS, *et al.* (2008) Disruption of T-cell immunoglobulin and mucin domain molecule (TIM)-1/TIM4 interaction as a therapeutic strategy in a dendritic cell-induced peanut allergy model. J Allergy Clin Immunol. 122(1): 55-61. 3.Cai PC, *et al.* (2009) Association of TIM4 promoter polymorphism -1419GA with childhood asthma in a Chinese Han population. Tissue Antigens. 74(1): 11-6.