Datasheet for ABIN6253503

TIMD4 Protein (AA 22-279) (Fc Tag,Biotin)

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Overview

Quantity:	3 x 10 µg
Target:	TIMD4
Protein Characteristics:	AA 22-279
Origin:	Human, Mouse
Source:	CHO Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This TIMD4 protein is labelled with Fc Tag,Biotin.

Product Details

Purpose:	Tim-4 (mouse):Fc (human) (rec.) (Biotin)
Specificity:	The extracellular domain of mouse Tim-4 (aa 22-279) is fused to the N-terminus of the Fc region of human IgG1.
Cross-Reactivity:	Human, Mouse
Characteristics:	The extracellular domain of mouse Tim-4 (aa 22-279) is fused to the N-terminus of the Fc region of human IgG1.
Purity:	>95 % (SDS-PAGE)
Endotoxin Level:	<0.05EU/µg protein (LAL test).
Biological Activity Comment:	Measured by its ability to inhibit anti-CD3-induced proliferation of stimulated human T cells. The Tim-4 (mouse):Fc (human) (rec.) (Biotin) is used with magnetic beads to isolate extracellular vesicles. 120ng of the protein is sufficient to isolate 1010 particles in a calcium-dependent manner.

Target Details

Target:	TIMD4
Alternative Name:	Tim-4 (TIMD4 Products)
Background:	TIM4, TIMD4, T Cell Immunoglobulin and Mucin Domain-containing Protein 4 Extracellular vesicles (EVs) are released by a variety of cells into the cellular microenvironment and have the natural ability of delivering different cargos and carry bioactive molecules such as non-coding RNA, miRNAs, genomic DNA, lipids, growth factors and signaling molecules. EVs can be divided into exosomes (30-100nm), microvesicles (100-1000nm) and apoptotic bodies (>1000nm). EVs play substantial roles not only in the regulation of normal physiological processes but also in disease pathogenesis and their cargo reflects the status of parental cells at the time of secretion. Various studies are currently being conducted to develop therapeutic and diagnostic methods targeting or utilizing EVs. Therefore, developing ideal methods for isolating and quantifying EVs is an active area of research. EVs express phosphatidylserine (PS) on their outer lipid bilayer. Tim-4 (T cell immunoglobulin and mucin domain-containing protein 4) is a single-pass type I membrane protein which belongs to the immunoglobulin superfamily and TIM family. Tim-4 contains one Ig-like V-type (immunoglobulin-like) domain. It is expressed on dendritic cells and macrophages. Tim-4 plays an important role in the proliferation of T helper type 2 (Th2) cells. Tim-4 binds to phosphatidylserine (PS) on the surface of apoptotic cells in a calcium-dependent manner and mediates phagocytosis of apoptotic cells. EV membranes are rich in phosphatidylserine (PS) and Tim-4 binds to PS on the surface of EVs. A new protocol from the group of Prof. Rikinari Hanayama describes an affinity-based method for isolating EVs using streptavidin magnetic beads conjugated with Tim-4-biotin to capture EVs in a calcium-dependent manner [2]. This new protocol could replace ultracentrifugation, that is the most commonly used method for purifying EVs. This new Tim-4-dependent method gives good yield, high purity and allows isolation of all populations of EVs compared to other approaches (ultracentrifugation, PEG precipitation or selected antibodies immunoprecipitation). See Reference 2 for a complete protocol (Download available).
Molecular Weight:	~95kDa (SDS-PAGE)
NCBI Accession:	NP_848874
Pathways:	Cancer Immune Checkpoints

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Concentration:	0.1 mg/mL
Buffer:	Contains PBS.
Handling Advice:	Avoid freeze/thaw cycles. Centrifuge lyophilized vial before opening and reconstitution.
Storage:	4 °C,-20 °C
Storage Comment:	Short Term Storage: +4°C Long Term Storage: -20°C Use & Stability: Stable for at least 6 months after receipt when stored at -20°C. Working aliquots are stable for up to 3 months when stored at -20°C.
Expiry Date:	6 months