

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived		
	Human TIM-4 (Glu25-Gln314) Accession # Q96H15	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Glu25		
Predicted Molecular Mass	58 kDa		

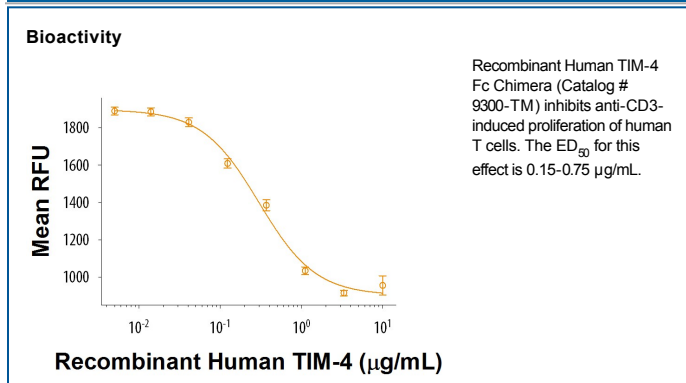
SPECIFICATIONS

SDS-PAGE	95-113 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3-induced proliferation of stimulated human T cells. The ED ₅₀ for this effect is 0.15-0.75 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

TIM-4 (T cell; immunoglobulin; mucin-4), also known as SMUCKLER, is a 60 kDa member of the TIM family of immune regulating proteins. TIMs are type I transmembrane proteins with one Ig-like V domain and one Ser/Thr-rich mucin domain (1). Mature human TIM-4 consists of a 290 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 43 aa cytoplasmic tail (2). Structurally, TIM-4 is distinguished from other TIMs by the presence of an RGD motif in its Ig domain and the lack of a site for tyrosine phosphorylation in its cytoplasmic tail. Within the ECD human TIM-4 shares 45% aa sequence identity with mouse and rat TIM-4. TIM-4 is expressed by macrophages and mature dendritic cells but not by lymphocytes (2, 3). It binds specifically to TIM-1 which is also the cellular receptor for hepatitis A virus and has been implicated in the development of asthma (3-5). Among hematopoietic cells, TIM-1 is expressed on activated B and T cells, preferentially in the Th2 subset of CD4⁺ T cells (3, 6). The interaction of TIM-4 with TIM-1 induces co-stimulatory and hyperproliferative signals in T cells (3). TIM-4 also binds to phosphatidylserine (PS) on the surface of apoptotic cells (7). It enhances the clearance of apoptotic cells including T cells in the contraction phase of immune responses, apoptotic macrophages that accumulate in atherosclerosis, and dying neurons in the brain (7-10). TIM-4 is upregulated on some tumor cells and tumor-associated myeloid cells where it binds Integrin α V β 3, contributes to tumor progression, and inhibits tumor-specific cellular immunity (11, 12).

References:

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