Recombinant Human TIM-4 His-tag

Catalog Number: 2929-TM

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human TIM-4 protein Glu25-Leu315, with a C-terminal 10-His tag Accession # Q96H15
N-terminal Sequence Analysis	Glu25
Predicted Molecular Mass	32 kDa

SPECIFICATIONS

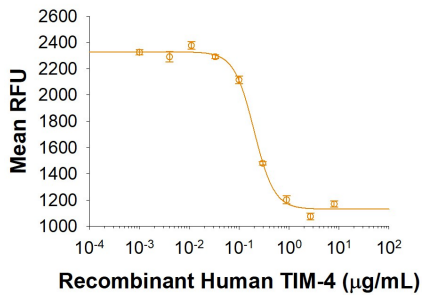
SDS-PAGE	50-80 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3-induced proliferation of stimulated human T cells. Human T cells cultured for 72 hours with PHA were incubated for an additional 3 days in 96 well plates coated with 500 ng/mL anti-CD3 and rhTIM-4. The ED_{50} for this effect is 0.05-0.2 µg/mL. **Optimal dilutions should be determined by each laboratory for each application.**
Endotoxin Level	<1.0 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 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 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

Bioactivity



Recombinant Human TIM-4 His-tag (Catalog # 2929-TM) inhibits anti-CD3-induced proliferation of stimulated human T cells. Human T cells cultured for 72 hours with PHA were incubated for an additional 3 days in 96 well plates coated with 500 ng/mL anti-CD3 and rhTIM-4. The ED_{50} for this effect is 0.05-0.2 µg/mL.

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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 - 3). The human TIM-4 cDNA encodes a 378 amino acid (aa) precursor that includes a 24 aa signal sequence, a 290 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 43 aa cytoplasmic tail (4). 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. The mucin domain in TIM-4 is larger than in TIM-1 or TIM-3. Within the ECD, human TIM-4 shares 35% and 23% aa sequence identity with TIM-1 and TIM-3, respectively. A TIM-2 ortholog has not been identified in human. The ECD of human TIM-4 shares 45% aa sequence identity with that of mouse and rat TIM-4. TIM-4 is expressed by macrophages and mature dendritic cells but not by lymphocytes (4, 5). TIM-4 binds specifically to TIM-1 which is also the cellular receptor for the hepatitis A virus, and has been implicated in the development of asthma (5-7). Among hematopoietic cells, TIM-1 is expressed on activated B and T cells, preferentially in the Th2 subset of $CD4^+$ T cells (5, 8). The interaction of TIM-4 with TIM-1 induces costimulatory and hyperproliferative signals in T cells (5).

References:

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