

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse TIM-4 protein
Ala22-Thr279, with a C-terminal 6-His tag
Accession # Q6U7R4

N-terminal Sequence Analysis Ala22

Predicted Molecular Mass 28.7 kDa

SPECIFICATIONS

SDS-PAGE 70-80 kDa, reducing conditions

Activity Measured by its ability to inhibit anti-CD3-induced proliferation of stimulated human T cells.
Human T lymphocytes 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 rmTIM-4.
The ED₅₀ for this effect is 0.25-1 µg/mL.
Optimal dilutions should be determined by each laboratory for each application.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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.

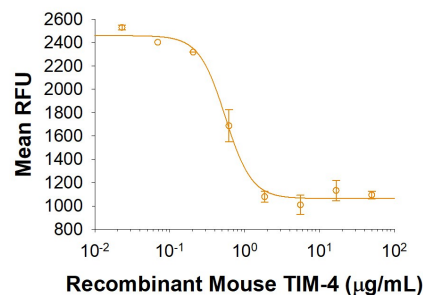
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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 Mouse TIM-4 (Catalog # 2826-TI) inhibits anti-CD3-induced proliferation of stimulated human T cells. Human T cells cultured for 72 hours with PHA are incubated for an additional 3 days in 96 well plates coated with 500 ng/mL anti-CD3 and rmTIM-4. The ED₅₀ for this effect is 0.25-1 µg/mL.

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 mouse TIM-4 cDNA encodes a 343 amino acid (aa) precursor that includes a 22 aa signal sequence, a 257 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, -2, or -3. Within the ECD, mouse TIM-4 shares 27 - 33% aa sequence identity with mouse TIM-1, -2, and -3. The ECD of mouse TIM-4 shares 45% aa sequence identity with that of human 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 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 co-stimulatory and hyperproliferative signals in T cells (5).

References:

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5. Meyers, J.H. *et al.* (2005) *Nat. Immunol.* **6**:455.
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