Recombinant Rat TIM-3 Fc Chimera

Catalog Number: 10489-TM

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived rat TIM-3 protein

Rat TIM-3 (Leu22-Ala194) Accession # P0C0K5.2	IEGRMD	Mouse IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Leu22
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	46 kDa

SPECIFICATIONS

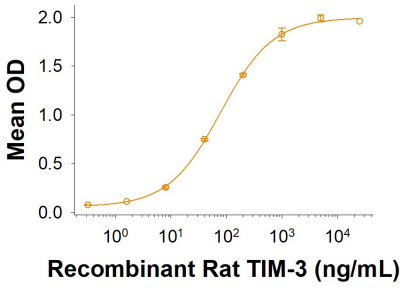
SDS-PAGE	60-75 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Galectin-9 Protein (Catalog # 2045-GA) is immobilized at 1.0 µg/mL (100 µL/ well), Recombinant Rat TIM-3 Fc Chimera (Catalog # 10489-TM) that produces a 50% optimal binding response is found to be 20-120 ng/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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in 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.

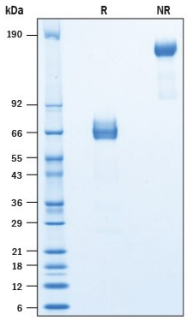
DATA

Bioactivity



When Recombinant Human Galectin-9 Protein (Catalog # 2045-GA) is immobilized 1.0 µg/mL (100 µL/well), Recombinant Rat TIM-3 Fc Chimera (Catalog # 10489-TM) that produces a 50% optimal binding response is found to be 20-120 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Rat TIM-3 Fc Chimera Protein (Catalog # 10489-TM) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-75 kDa and 120-150 kDa, respectively.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Recombinant Rat TIM-3 Fc Chimera

Catalog Number: 10489-TM

BACKGROUND

T cell immunoglobulin and mucin domain-3 (TIM-3) also known as HAVCR2, is a member of the TIM family of immune regulating molecules. TIMs are type I transmembrane glycoproteins with one Ig-like V-type domain, a Ser/Thr-rich mucin stalk region (1, 2). While lacking a specific immunoreceptor tyrosine-based inhibition motif (ITIM), the cytoplasmic domain of TIM-3 contains a conserved region of five tyrosine residues important for downstream signaling (3). A soluble form of TIM-3 lacking the mucin stalk and transmembrane domains is formed as either a result of alternative splicing or metalloproteinase-dependent cleavage. Within the ECD, mature rat TIM-3 shares 60% and 69% amino acid sequence identity with human and mouse TIM-3, respectively. TIM-3 is up-regulated on several populations of activated myeloid cells (macrophage, monocyte, dendritic cell, microglia, mast cell) and T cells (Th1, CD8+, NK, Treg) (3-10). Its binding to Galectin-9 induces a range of immunosuppressive functions which enhance immune tolerance and inhibit anti-tumor immunity (3,11). TIM-3 ligation attenuates CD8+ and Th1 cell responses (11-13) and promotes the activity of Treg and myeloid derived suppressor cells (8, 11, 13, 14). In addition, dendritic cell-expressed TIM-3 dampens inflammation by enabling the phagocytosis of apoptotic cells and the cross-presentation of apoptotic cell antigens (4). It also binds the alarmin HMGB1, thereby preventing the activation of TLRs in response to released tumor cell DNA (7). TIM-3 interactions with Galectin-9 can alternatively trigger immune stimulatory effects, such as the coactivation of NK cell cytotoxicity (10).

References:

1. Sakuishi, K. *et al.* (2011) Trends Immunol. **32**:345.
2. Anderson, A.C. (2012) Curr. Opin. Immunol. **24**:213.
3. Wolf, Y. *et al.* (2020) Nature Reviews Immunology **20**:173.
4. Nakayama, M. *et al.* (2009) Blood **113**:3821.
5. Anderson, A.C. *et al.* (2007) Science **318**:1141.
6. Wiener, Z. *et al.* (2007) J. Invest. Dermatol. **127**:906.
7. Chiba, S. *et al.* (2012) Nat. Immunol. **13**:832.
8. Sanchez-Fueyo, A. *et al.* (2003) Nat. Immunol. **4**:1093.
9. Ndhlovu, L.C. *et al.* (2012) Blood **119**:3734.
10. Gleason, M.K. *et al.* (2012) Blood **119**:3064.
11. Zhu, C. *et al.* (2005) Nat. Immunol. **6**:1245.
12. Sakhdari, A. *et al.* (2012) PLoS ONE **7**:e40146.
13. Sabatos, C.A. *et al.* (2003) Nat. Immunol. **4**:1102.
14. Dardalhon, V. *et al.* (2010) J. Immunol. **185**:1383.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449