Recombinant Canine TIM-3 Fc Chimera

Catalog Number: 10719-TM

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived canine TIM-3 protein

Canine TIM-3 (Ala24-Arg189) Accession # NP_001241644.1	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Ala24
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	45 kDa

SPECIFICATIONS

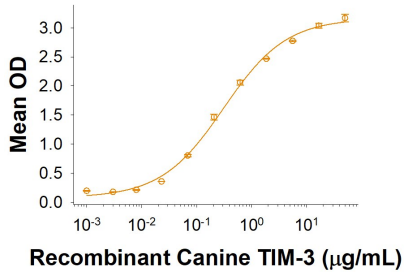
SDS-PAGE	58-69 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Galectin-9 (Catalog # 2045-GA) is immobilized at 1 µg/mL (100 µL/well), the concentration of Recombinant Canine TIM-3 Fc Chimera (Catalog # 10719-TM) that produces 50% of the optimal binding response is found to be approximately 0.15-0.90 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 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.

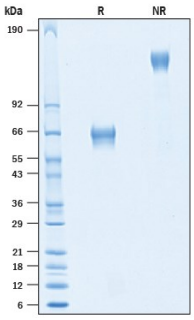
DATA

Binding Activity



Recombinant Canine TIM-3 Fc Chimera Protein Binding Activity. When Recombinant Human Galectin-9 (Catalog # 2045-GA) is immobilized at 1 µg/mL (100 µL/well), the concentration of Recombinant Canine TIM-3 Fc Chimera (Catalog # 10719-TM) that produces 50% of the optimal binding response is found to be approximately 0.15-0.90 µg/mL.

SDS-PAGE



Recombinant Canine TIM-3 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Canine TIM-3 Fc Chimera (Catalog # 10719-TM) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 58-69 kDa and 116-138 kDa, respectively.

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BACKGROUND

TIM-3 (T cell immunoglobulin and mucin domain-3), also known as HAVCR2, is a 60 kDa member of the TIM family of immune regulating molecules. TIMs are type I transmembrane glycoproteins with one Ig-like V-type domain and a Ser/Thr-rich mucin stalk region (1, 2). Mature canine TIM-3 consists of a 171 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 67 aa cytoplasmic tail. Within the ECD, canine TIM-3 shares 66% aa sequence identity with human TIM-3. 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 (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.

References:

1. Sakuishi, K. *et al.* (2011) Trends Immunol. **32**:345.
2. Anderson, A.C. (2012) Curr. Opin. Immunol. **24**:213.
3. Monney, L. *et al.* (2002) Nature **415**:536.
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.

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