Recombinant Cynomolgus Monkey HVEM/TNFRSF14 Fc Chimera

Catalog Number: 9197-HV

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived

Cynomolgus Monkey HVEM/TNFRSF14 (Pro37-Val203) Accession # XP_005545061	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Pro37
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	44 kDa

SPECIFICATIONS

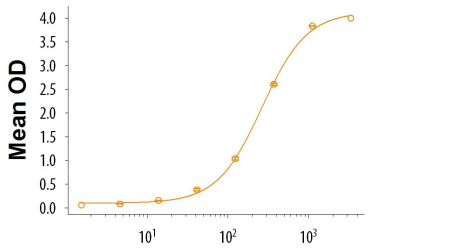
SDS-PAGE	56-63 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Cynomolgus Monkey HVEM/TNFRSF14 Fc Chimera is coated at 2 µg/mL (100 µL/well), biotinylated recombinant mouse BTLA Fc Chimera binds with a typical ED_{50} of 150-750 ng/mL.
Endotoxin 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. 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	**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 Cymomologus HVEM/TNFRSF14 Fc Chimera (Catalog # 9197-HV) is coated at 2 µg/mL, Recombinant Biotinylated Mouse BTLA Fc Chimera binds with a typical ED_{50} of 150-750 ng/mL.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Recombinant Cynomolgus Monkey HVEM/TNFRSF14 Fc Chimera

Catalog Number: 9197-HV

BACKGROUND

HVEM (herpesvirus entry mediator), also known as TNFRSF14 and CD270, is a type I membrane protein in the TNF receptor superfamily, and it can both promote and inhibit T cell activity (1). Mature cynomolgous HVEM consists of a 171 amino acid (aa) extracellular domain (ECD) with three cysteine-rich domains (CRD), a 24 aa transmembrane segment, and a 42 aa cytoplasmic tail with a TRAF interaction domain (2, 3). Within the ECD, cynomolgous HVEM shares 88%, 54%, and 54% aa sequence identity with human, mouse, and rat HVEM, respectively. HVEM is highly expressed on naïve $CD4^+$ T cells, $CD8^+$ T memory cells, regulatory T cells, dendritic cells, monocytes, and neutrophils (4-8). Its expression declines during effector T cell activation but is up-regulated during Treg activation (4, 5). HVEM functions as a receptor for BTLA, CD160, LIGHT/TNFSF14, and Lymphotoxin-a (4, 9-12). Ligation of HVEM by LIGHT triggers T cell, monocyte, and neutrophil activation (8, 10) and contributes to Th1 inflammation and cardiac allograft rejection (13, 14). In contrast, HVEM binding to CD160 or BTLA suppresses T cell and dendritic cell activation (4, 7, 9, 10) and dampens intestinal inflammation (15). HVEM enhances the development of $CD8^+$ T cell memory and Treg function (5, 6). It is additionally expressed on intestinal epithelial cells, where its binding by intraepithelial lymphocyte (IEL) expressed CD160 promotes epitheilal integrity and host defense (16). The herpesvirus envelope glycoprotein gD, which binds HVEM to initiate membrane fusion, can antagonize both BTLA and LIGHT binding (2, 9, 11).

References:

1. del Rio, M.L. *et al.* (2010) J. Leukoc. Biol. **87**:223.
2. Montgomery, R.I. *et al.* (1996) Cell **87**:427.
3. Hsu, H. *et al.* (1997) J. Biol. Chem. **272**:13471.
4. Sedy, J. R. *et al.* (2005) Nat. Immunol. **6**:90.
5. Tao, R. *et al.* (2008) J. Immunol. **180**:6649.
6. Steinberg, M.W. *et al.* (2013) PLoS One **8**:e77992.
7. de Trez, C. *et al.* (2008) J. Immunol. **180**:238.
8. Heo, S.K. *et al.* (2006) J. Leukoc. Biol. **79**:330.
9. Gonzalez, L.C. *et al.* (2005) Proc. Natl. Acad Sci. USA **102**:1116.
10. Cai, G. *et al.* (2008) Nat. Immunol. **9**:176.
11. Mauri, D.N. *et al.* (1998) Immunity **8**:21.
12. Harrop, J.A. *et al.* (1998) J. Biol. Chem. **273**:27548.
13. Wang, J. *et al.* (2005) J. Immunol. **174**:8173.
14. Ye, Q. *et al.* (2002) J. Exp. Med. **195**:795.
15. Steinberg, M.W. *et al.* (2008) J. Exp. Med. **205**:1463.
16. Shui, J.W. *et al.* (2012) Nature **488**:222.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956