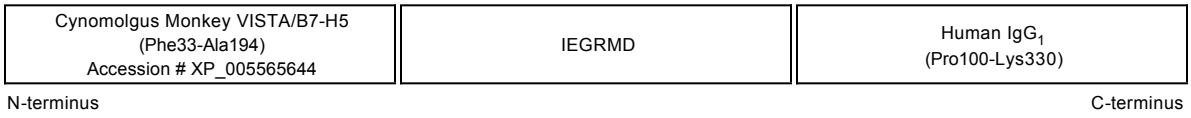
Recombinant Cynomolgus Monkey VISTA/B7-H5/PD-1H Fc Chimera

Catalog Number: 9408-B7

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived



N-terminal Sequence Analysis	Phe33
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	45 kDa

SPECIFICATIONS

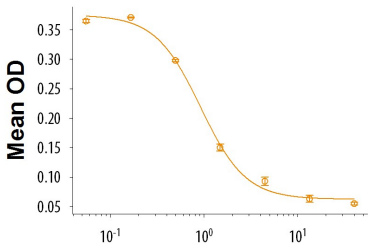
SDS-PAGE	62-71 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion in human T lymphocytes. The ED_{50} for this effect is 0.6-3 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 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



Recombinant Cynomolgus VISTA/B7-H5 Fc Chimera (Catalog # 9408-B7) inhibits anti-CD3 antibody-induced IL-2 secretion in human T lymphocytes. The ED_{50} for this effect is 0.6-3 µg/mL.

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BACKGROUND

V-domain Ig suppressor of T cell activation (VISTA), also known as platelet receptor Gi24, Dies1, SISP1, PD-1H, and B7-H5, is a 45-55 kDa transmembrane glycoprotein with homology to B7-like immune co-stimulatory molecules (1, 2). Mature cynomologus VISTA contains a 162 amino acid (aa) extracellular domain (ECD) with one V-type Ig-like domain, a 21 aa transmembrane segment, and a 96 aa cytoplasmic domain. Within the ECD, cynomologus VISTA shares 96% and 69% aa sequence identity with human and mouse VISTA, respectively. The 30 kDa ECD can be shed by MT1-MMP, with a 25-30 kDa fragment remaining in the membrane (3). VISTA promotes both MT1-MMP expression and the MT1-MMP mediated activation of MMP-2 (3). VISTA supports the differentiation of embryonic stem cells (ESC) and enhances BMP4 induced signaling in ESC, but is also down regulated following BMP4 exposure (4, 5). It binds to BMP4 directly, and also associates with the type I BMP receptor Activin RIB/ALK 4 (4, 5). VISTA is highly expressed on mature CD11b high myeloid-derived APCs and to a lesser extent on CD4+, CD8+, and T regs and is also found on tumor infiltrating lymphocytes (7). It is up regulated *in vivo* on activated monocytes and dendritic cells (5). VISTA inhibits $CD4^+$ and $CD8^+$ T cell proliferation, and their production of IL2 and IFN-γ (6). Its expression on tumor cells attenuates the antitumor immune response and enables more rapid tumor progression (6). In contrast, VISTA limits disease progression in the autoimmune disease model EAE (6). VISTA-Ig suppressed proliferation of T cells but not B cells and blunted the production of T cell cytokines and activation markers, suggesting that VISTA as a negative checkpoint regulator suppresses T cell activation (8, 9).

References:

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