Biotinylated Recombinant Human VISTA/B7-H5/PD-1H Fc Chimera

Catalog Number: BT7126

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human VISTA/B7-H5/PD-1H protein

Human VISTA/B7-H5/PD-1H (Phe33-Ala194) Accession # AAH20568	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus

N-terminal Sequence Analysis	Phe33
Structure / Form	Disufide-linked homodimer. Biotinylated via amines
Predicted Molecular Mass	45 kDa (unlabeled)

SPECIFICATIONS

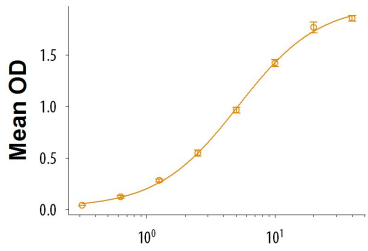
SDS-PAGE	64 - 75 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human VSIG-3 Fc Chimera (Catalog # 9229-VS) is immobilized at 5 µg/mL, 100 µL/well, the concentration of Biotinylated Recombinant VISTA/B7-H5/PD-1H Fc Chimera that produces 50% of the optimal binding response is 1-6 µg/mL. Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion in human T lymphocytes. The ED_{50} for this effect is typically 1-6 µg/m
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 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

Binding Activity



When Recombinant Human VSIG3 Fc Chimera (Catalog # 9229-VS) is coated at 5 µg/mL, Biotinylated Recombinant Human VISTA/B7-H5 Fc Chimera (Catalog # BT7126) binds with an ED_{50} of 1-6 µg/mL.

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BACKGROUND

Platelet receptor Gi24, also known as Dies1, VISTA, SISP1 and B7-H5, is a 55-65 kDa transmembrane glycoprotein with homology to B7-like immune co-stimulatory molecules (1, 2). Mature human Gi24 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, human Gi24 shares 70% and 67% aa sequence identity with mouse and rat Gi24, respectively (3). The 30 kDa ECD can be shed by MT1-MMP, with a 25-30 kDa fragment remaining in the membrane (3). Gi24 promotes both MT1-MMP expression and the MT1-MMP mediated activation of MMP-2 (3). Gi24 supports the differentiation of embryonic stem cells (ESC) and enhances BMP-4 induced signaling in ESC, but is also down-regulated following BMP-4 exposure (4, 5). It binds to BMP-4 directly, and also associates with the type I BMP receptor Activin RIB/ALK-4 (4, 5). Gi24 is expressed on the surface of naïve $CD4^+$ T cells and regulatory T cells (6). It is up-regulated in vivo on activated monocytes and dendritic cells (5). Gi24 inhibits $CD4^+$ and $CD8^+$ T cell proliferation, and their production of IL-2 and IFN-γ (6). Its expression on tumor cells attenuates the anti-tumor immune response and enables more rapid tumor progression (6). In contrast, Gi24 limits disease progression in the autoimmune disease model EAE (6).

References:

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5. Parisi, S. *et al.* (2012) FASEB J. **26**:3957.
6. Wang, L. *et al.* (2011) J. Exp. Med. **208**:577.

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