

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-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		C-terminus
N-terminal Sequence	Phe33		
Analysis			
Structure / Form	Disulfide-linked homodimer, biotinylated protein via Avi-tag		
Predicted Molecular Mass	47 kDa		

SPECIFICATIONS

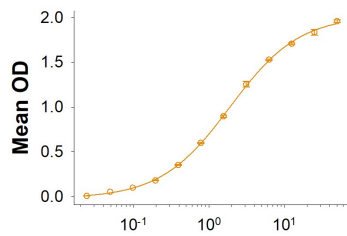
SDS-PAGE	64-75 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human VSIG3 Fc Chimera (Catalog # 9229-VS) is immobilized at 5 µg/mL (100 µL/well), Biotinylated Recombinant Human VISTA/B7-H5/PD-1H Fc Chimera Avi-tag (Catalog # AVI7126) binds with an ED ₅₀ of 0.5-3 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 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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

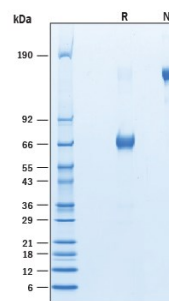
Binding Activity



Biotinylated Recombinant Human VISTA/B7-H5/PD-1H Fc Chimera Avi-tag (µg/mL)

When Recombinant Human VSIG3 Fc Chimera (Catalog # 9229-VS) is coated at 5 µg/mL, Biotinylated Recombinant Human VISTA/B7-H5/PD-1H Fc Chimera Avi-tag (Catalog # AVI7126) binds with an ED₅₀ of 0.5-3 µg/mL.

SDS-PAGE



2 µg/lane of Biotinylated Recombinant Human VISTA/B7-H5/PD-1H Fc Chimera Avi-tag (Catalog # AVI7126) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 64-75 kDa and 130-150 kDa, respectively.

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:

1. Flajnik, M.F. *et al.* (2012) *Immunogenetics* **64**:571.
2. Wilcox, R.A. *et al.* (2012) *Eur. J. Haematol.* **88**:465.
3. Sakr, M.A. *et al.* (2010) *Cancer Sci.* **101**:2368.
4. Aloia, L. *et al.* (2010) *J. Biol. Chem.* **285**:7776.
5. Parisi, S. *et al.* (2012) *FASEB J.* **26**:3957.
6. Wang, L. *et al.* (2011) *J. Exp. Med.* **208**:577.