PRODUCT INFORMATION

VISTA (human, recombinant)

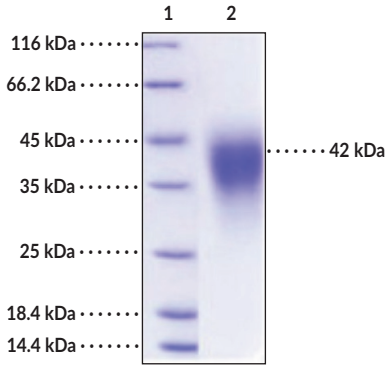
Item No. 32086

Overview and Properties

Synonyms:	DD1α, Death Domain 1α, PD-1H, Programmed Cell Death 1 Homolog, SISP1, Stress-Induced Secreted Protein 1, V-domain Ig Suppressor of T cell activation, V-set Domain-Containing Immunoregulatory Receptor, V-set Immunoregulatory Receptor
Source:	Recombinant human C-terminal His-tagged VISTA expressed in HEK293 cells
Amino Acids:	33-194
Uniprot No.:	Q9H7M9
Molecular Weight:	19.6 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: VISTA

SDS-PAGE Analysis of VISTA. This protein has a calculated molecular weight of 19.6 kDa. It has an apparent molecular weight of approximately 38 to 42 kDa by SDS-PAGE under reducing conditions due to apparent post-translational modifications.

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Description

V-Domain immunoglobulin (Ig) suppressor of T cell activation (VISTA) is a type I transmembrane receptor and negative checkpoint regulator encoded by *VSIR* in humans.[1] It is composed of an N-terminal extracellular domain, containing a signaling sequence, Ig V domain, and stalk region, a transmembrane domain, and a cytoplasmic tail that contains a conserved Src homology 2 (SH2) binding motif. It is expressed in myeloid cells, monocytes, macrophages, dendritic cells, naïve $CD4^+$ and $FoxP3^+$ regulatory T cells, and natural killer (NK) cells.[2] VISTA arrests cell division and suppresses early T cell receptor activation when expressed on $CD4^+$ T cells, and suppresses antigen-specific T cell activation when expressed on antigen presenting cells.[3] *Vsir*$^{-/-}$ mice are resistant to tumor induction compared with wild-type mice in a GL261 mouse glioma model.[2,3] Monocyte levels of VISTA are increased in patients with HIV compared with healthy controls.[4] *VSIR* expression is increased in the circulating immune cells of patients with systemic lupus erythematosus (SLE) and in skin biopsies from patients with discoid lupus erythematosus (DLE). Cayman's VISTA (human, recombinant) protein consists of 173 amino acids, has a calculated molecular mass of 19.6 kDa, and a predicted N-terminus of Phe33 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the molecular mass of the protein is 38-42 kDa due to apparent post-translational modifications.

References

1. Nowak, E.C., Lines, J.L., Varn, F.S., *et al.* Immunoregulatory functions of VISTA. *Immunol. Rev.* **276(1)**, 66-79 (2017).
2. ElTanbouly, M.A., Croteau, W., Noelle, R.J., *et al.* VISTA: A novel immunotherapy target for normalizing innate and adaptive immunity. *Semin. Immunol.* **42**, 101308 (2019).
3. Ni, L. and Dong, C. New checkpoints in cancer immunotherapy. *Immunol. Rev.* **276(1)**, 52-65 (2017).
4. Wang, G., Tai, R., Wu, Y., *et al.* The expression and immunoregulation of immune checkpoint molecule VISTA in autoimmune diseases and cancers. *Cytokine Growth Factor Rev.* **52**, 1-14 (2020).

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