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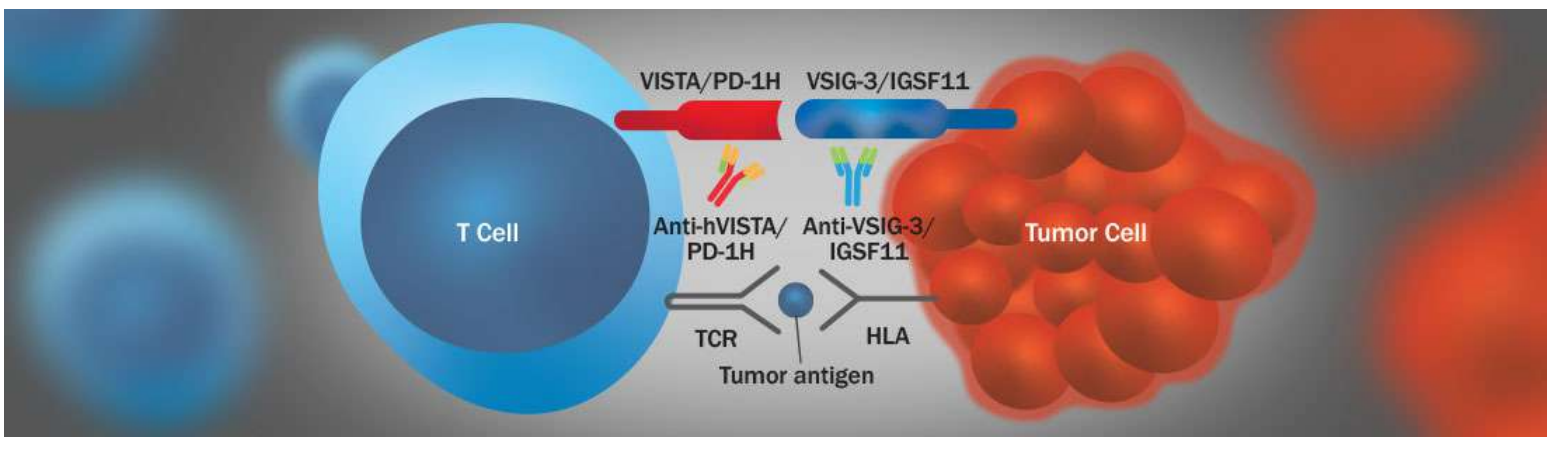
VSIG IgG Superfamily Members: Potential New Immunotherapeutic Drug Targets



B7 계열과 다른 T 세포 공동 자극/공동 억제 분자는 암 면역 요법의 치료 대상으로 널리 알려져 있습니다. VSIG(V-Set) 단백질을 포함하는 V-Set 및 면역글로불린 영역은 면역글로불린 단백질 Superfamily로서 점점 더 잠재적인 Immuno-oncology 대상으로 인식되고 있습니다.

VSIG-3 as a ligand of VISTA inhibits human T-cell function

B7 family members and their receptors play a central role in the regulation of T-cell responses through T-cell co-stimulation and co-inhibition pathways that constitute attractive targets for the development of immunotherapeutic drugs. In this study, we report that VSIG-3/IGSF11 is a ligand of B7 family member VISTA/PD-1H and inhibits human T-cell functions through a novel VSIG-3/VISTA pathway. An extensive functional ELISA binding screening assay reveals that VSIG-3 binds to the new B7 family member VISTA but does not interact with other known members of the B7 family. Under the same experimental conditions, we did not observe any significant interaction between VSIG-8 and VISTA. In addition, VSIG-3 inhibits human T-cell proliferation in the presence of T-cell receptor signaling. Furthermore, VSIG-3 significantly reduces cytokine and chemokine production by human T cells including IFN-γ, IL-2, IL-17, CCL5/Rantes, CCL3/MIP-1α, and CXCL11/I-TAC. Anti-VISTA neutralization antibodies attenuate the binding of VSIG-3 and VISTA, as well as VSIG-3-induced T-cell inhibition. Hence, we have identified a novel ligand for VISTA that is able to inhibit human T-cell proliferation and cytokine production. This unique VSIG-3/VISTA co-inhibitory pathway may provide new strategies for the treatment of human cancers, autoimmune disorders, infection, and transplant rejection and may aid in the design of better vaccines

Protein	Species	Source	Tag	Catalog #	Activity
VSIG1	Human	NS0	Fc	9708-VS	Suppresses IL-17 secretion
	Mouse	NS0	Fc	9645-VS	
VSIG2	Human	NS0	Fc	9815-VS	Suppresses IL-17 secretion
	Mouse	NS0	Fc	9598-VS	
VSIG3	Human	NS0	Fc	9229-VS	Binds VISTA/PD-1H (Catalog # 7126-B7)
	Human	CHO	Fc, C-term	10075-VS	Suppresses IL-17 secretion
	Human	CHO	Fc, N-term	10074-VS	
	Mouse	NS0	Fc	9367-VS	

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