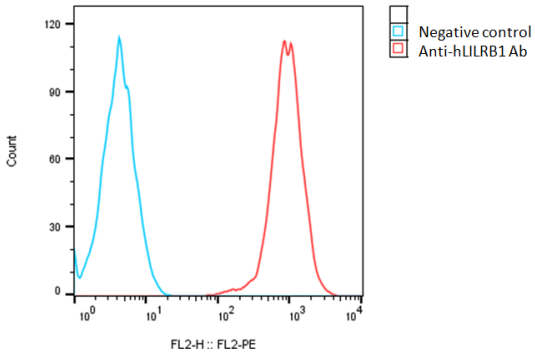
Human LILRB1-CHO-K1 Stable Cell Line
Catalog Number: C3027

SPECIFICATIONS

Catalog Number	C3027
Cell Line Name	Human LILRB1-CHO-K1 stable cell line
Accession Number	Q8NHL6 (Full-length cDNA)
Host Cell	Adherent CHO-K1
Quantity	Two vials of frozen cells ($1x10^6$ per vial)
Culture Medium	DMEM with 10% FBS, 4μg/ml puromycin
Freezing Medium	90% FBS and 10% DMSO
Storage	Liquid nitrogen

DATA

Detection of human LILRB1 expression on CHO-K1 cells using PE-anti human LILRB1 antibody (BioLegend #333708)



BACKGROUND

Leukocyte immunoglobulin-like receptor B1 (LILRB1), also known as leukocyte immunoglobulin-like receptor 8 (LIR-8), is a type I transmembrane protein belonging to the immunoglobulin superfamily. It is expressed on the surface of various immune cells, including monocytes, macrophages, dendritic cells, and natural killer (NK) cells. LILRB1 is characterized by its extracellular domain, which contains four immunoglobulin-like domains and two cytoplasmic immunoreceptor tyrosine-based inhibitory motifs (ITIMs). Through its ITIMs, LILRB1 recruits tyrosine phosphases to inhibit the activity of immune cells like NK cells, monocytes, macrophages, and T and B cells. LILRB1 has been shown to play a role in various biological processes, including phagocytosis, cytokine production, and immune tolerance. In cancer, LILRB1 expression is increased leading to tumor progression, immune evasion and metastasis. Specifically, LILRB1 binds to tumor cells expressing beta 2 microglobulin complexed with MHC class I, allowing an escape from T cell recognition. Given its natural inhibitory function, LILRB1 is immunosuppressive and indirectly tumor supporting. Therefore studies suggest that targeting LILRB1 or disrupting the MHC class I-LILRB1 signaling axis can stop tumor progression in cancer, making LILRB1 a focus as a therapeutic target for cancer treatment.

References

Barkal AA, Weiskopf K, Kao KS, Gordon SR, Rosental B, Yiu YY, George BM, Markovic M, Ring NG, Tsai JM, McKenna KM, Ho PY, Cheng RZ, Chen JY, Barkal LJ, Ring AM, Weissman IL, Maute RL. Engagement of MHC class I by the inhibitory receptor LILRB1 suppresses macrophages and is a target of cancer immunotherapy. *Nat Immunol.* **19(1)**:76-84. 2017

Deng M, Chen H, Liu X, Huang R, He Y, Yoo B, Xie J, John S, Zhang N, An Z, Zhang CC. Leukocyte immunoglobulin-like receptor subfamily B: therapeutic targets in cancer. *Antib Ther.* **4(1)**:16-33. 2021.

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