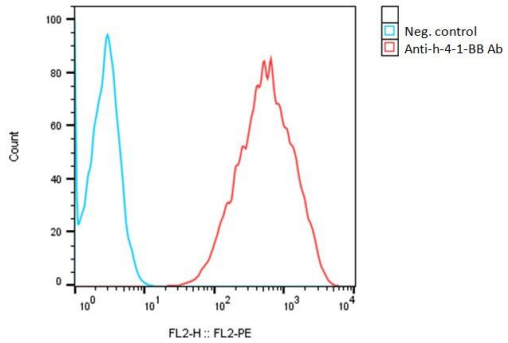
Human 4-1-BB-CHO-K1 Stable Cell Line
Catalog Number: C3084

SPECIFICATIONS

Catalog Number	C3084
Cell Line Name	Human 4-1-BB-CHO-K1 stable cell line
Accession Number	NM_001561.6
Host Cell	Adherent CHO-K1
Quantity	Two vials of frozen cells ($2x10^6$ 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 4-1-BB expression on human 4-1-BB-CHO-K1 stable cells using a monoclonal antibody specific for human 4-1-BB (BioLegend, Cat #309803)



BACKGROUND

4-1BB, also known as CD137 or TNFRSF9, is a type I transmembrane protein belonging to the tumor necrosis factor receptor (TNFR) superfamily. It is a costimulatory molecule that plays a critical role in the regulation of immune responses, particularly within the context of T cell activation and survival. Upon binding its ligand, 4-1BBL (CD137L), which is expressed on antigen-presenting cells (APCs) like dendritic cells, macrophages, and B cells, 4-1BB transmits signals that promote T cell proliferation, cytokine production and enhanced survival. Additionally, 4-1BB signaling is crucial for the formation and maintenance of memory T cells, making it vital for long-term immunity. 4-1BB expression has been found in various tumor-infiltrating lymphocytes (TILs) within the tumor microenvironment. Its presence is particularly notable in certain cancers, such as melanoma, lung cancer, and ovarian cancer. In these cancers, 4-1BB expression on TILs can reflect an ongoing immune response against the tumor, although the efficacy of this response can be impaired by the immunosuppressive tumor microenvironment. 4-1BB is considered a promising therapeutic target for cancer immunotherapy due to its role in enhancing T cell responses. These therapies aim to boost the immune system's ability to attack and destroy cancer cells, either as monotherapies or in combination with other immune checkpoint inhibitors.

References

Chester, C., Sanmamed, M. F., Wang, J., & Melero, I. Immunotherapy targeting 4-1BB: mechanistic rationale, clinical results, and future strategies. *Blood*. ***131*(1)**:49–57. 2018.

Vinay DS, Kwon BS. 4-1BB signaling beyond T cells. *Cell Mol Immunol*. **8(4)**:281-284. 2011.

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