4-1BB/TNFRSF9 Protein, Human (Biotinylated, HEK293, His-Avi)

Cat. No.:	HY-P78067
Synonyms:	CD137; TNFRSF9; 4-1BB ligand receptor; 41BB; 4-1BB; CDw137; FLJ43501; ILA; T cell antigen ILA
Species:	Human
Source:	HEK293
Accession:	Q07011 (L24-Q186)
Gene ID:	3604
Molecular Weight:	35-45 kDa

PROPERTIES

Biological Activity	Immobilized Human 4-1BB Ligand Trimer, hFc Tag at 0.5μg/ml (100μl/well) on the plate. Dose response curve for Biotinylated Human 4-1BB, His Tag with the EC_{50} of 0.58μg/ml determined by ELISA.
Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	4-1BB, is encoded by TNFRSF9 (CD137, ILA), belongs to tumor necrosis factor (TNF) receptor superfamily. 4-1BB is a surface glycoprotein, expressed in a variety of cells, for example, T cells, B cells, natural killer (NK) cells, dendritic (DCs), eosinophils, and mast cells; even a variety of tumor cells such as human leukemia cells. It is widely spread in vascular smooth muscles, tumor vessel walls, and liver tissue of hepatocellular carcinoma. 4-1BB has a preference on CD8+ cells rather than CD4+ cells. It provides co-stimulatory signals and activates cytotoxic effects of CD8+ T cells and helps to form memory T cells. Finally, it promotes the immune system fighting against tumors. Moreover, CD137 binds CD137L to signal monocytes, increase their survival, proliferation and stimulate their migration and extravasation. In addition, it induces the release of various proinflammatory factors, leads to the influx of inflammatory monocytes into tissues and form an inflammatory environment[1]. Specifically, CD137 promotes the migration of monocytes/macrophages to tumor microenvironment by upregulating the expression of Fra1. It also promoted the differentiation of monocytes/macrophages into osteoclasts at the same time, thus providing a favorable microenvironment for the colonization and growth of breast cancer cells in bone. It provides a promising therapeutic strategy for metastasis of breast cancer[2]. Furthermore, CD137 signaling promotes endothelial cells (ECs) apoptosis through prooxidative and proinflammatory mechanisms, mediated by Nrf2 and NF-κB

pathways, respectively[3]. The homology of 4-1BB protein in human and mouse was low, and the sequence similarity was 56.75%.

REFERENCES

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