Technical Data Sheet

Purified NA/LE Rat Anti-Mouse CD137

Product Information

Material Number:	**553831**
Alternate Name:	4-1BB, Ly-63
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	1AH2
Immunogen:	Recombinant mouse 4-1BB
Isotype:	Rat (SD) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2μm sterile filtered. Endotoxin level is ≤0.01 EU/μg (≤0.001 ng/μg) of protein as determined by the LAL assay.

Description

The 1AH2 clone (subclone of 53A2) has been reported to react with CD137, a member of the TNFR/NGFR superfamily. The expression of CD137 has been reported to be detectable from day 3 and peaks around day 6 after activation with ConA, PMA plus ionomycin, or immobilized anti-CD3e (Cat. No. 553058). Monomers, dimers, or tetramers of the 4-1BB antigen are expressed, upon activation, on the surface of splenic T lymphocytes, thymocytes, intestinal intraepithelial T lymphocytes (IEL), and some T cell lines and clones. While stimulating T cells by IL-2, IL-4, or anti-CD28 alone does not result in the expression of CD137; addition of IL-2, IL-4, anti-CD28, or syngeneic accessory cells to splenic T cells stimulated via TCR/CD3 can result in a high level of CD137 expression. CD137 has also been reported to be observed on IL-2 activated NK cells, but not on freshly isolated NK cells. It has been demonstrated that 4-1BB physically associates with p56 [lck]through a Cys-Arg-Cys-Pro binding site in its cytoplasmic domain; the same motif in the cytoplasmic tail of the CD4 and CD8a molecules is responsible for association with p56 [lck]. A signaling function for the CD137 molecule in mouse T cells is indicated by reports in which cross-linking of CD137 with 1AH2 mAb resulted in enhanced proliferation of CD3e-activated splenic T cells and IEL and in enhanced cytolytic activity of IEL in response to immobilized anti-CD3e. In addition to extracellular matrix proteins which bind to CD137, a 97-kDa dimer of the TNF/NGF superfamily has been reported to be a ligand for 4-1BB (4-1BBL). This molecule has been detected on Con A-activated T cells, LPS-activated macrophages, and anti-μ-activated splenic B cells. Interaction between T and B cells through 4-1BB/4-1BBL is reported to play a role in antigen presentation, further supporting a costimulatory role for CD137 in the immune response of T lymphocytes.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested
(Co)-stimulation	Reported
Immunoprecipitation	Reported

Suggested Companion Products

Catalog Number	Name	Size	Clone
553921	Purified NA/LE Rat IgG1, κ Isotype Control	0.5 mg	R3-34

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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DeBenedette MA, Shahinian A, Mak TW, Watts TH. Costimulation of CD28- T lymphocytes by 4-1BB ligand. *J Immunol.* 1997; 158(2):551-559. (Biology)

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