Purified anti-human CD137 (4-1BB) Antibody

Catalog# / Size	309802 / 100 µg
Clone	4B4-1
Regulatory Status	RUO
Workshop	VI C-7
Other Names	4-1BB, ILA, CD137, TNFRSF9
Isotype	Mouse IgG1, κ
Description	CD137 is a 39 kD transmembrane protein also known as 4-1BB. It is expressed on activated T cells. CD137 is a type I membrane protein and a member of the tumor necrosis factor receptor superfamily. CD137 appears to be important for T cell proliferation and survival, and induces monocyte activation through its interaction with 4-1BB ligand.

Product Details

Verified Reactivity	Human
Reported Reactivity	Chimpanzee, Baboon, Cynomolgus, Rhesus
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Ectodomain of recombinant human 4-1BB fusion protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - Quality tested IP, ELISA - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤ 0.5 µg per million cells in 100 µl volume or 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	Additional reported applications (for the relevant formats) include: immunoprecipitation[1,4], inhibition of cytokine production[2,3], and ELISA. For most successful immunofluorescent staining results, it may be important to maximize signal over background by using a relatively bright fluorochrome-antibody conjugate (Cat. No. 309804) or by using a high sensitivity, three-layer staining technique (e.g., including a biotinylated anti-mouse IgG second step (Cat. No. 405303), followed by Streptavidin-PE (Cat. No. 405204)).

Application References

(PubMed link indicates BioLegend citation)

1. Garni-Wagner B, *et al.* 1996. *Cell. Immunol.* 169:91. (IP)
2. Salih HR, *et al.* 2000. *J. Immunol.* 165:2903. (FA)
3. Kienzle G, *et al.* 2000. *Int. Immunol.* 12:73. (FA)
4. Langstein J, *et al.* 1998. *J. Immunol.* 160:2488. (IP)

Product Citations

1. Friebel E, *et al.* 2020. Cell. 181(7):1626-1642.e20. PubMed
2. Gadalla R, *et al.* 2022. STAR Protoc. 3:101643. PubMed
3. Rodriguez L, *et al.* 2020. Cell Reports Medicine. 1(5):100078. PubMed
4. Sun R, *et al.* 2022. Cells. 11:. PubMed
5. Heesters BA, *et al.* 2021. J Exp Med. 218:. PubMed
6. Liu F, *et al.* 2020. J Immunother Cancer. 8:. PubMed
7. Speir M,*et al.* 2017. Sci Rep.. 10.1038/s41598-017-14690-5. PubMed

8. Tang JS, *et al.* 2020. Food Funct. 11:5782. PubMed
9. Loo Yau H, *et al.* 2021. Molecular Cell. 81(7):1469-1483.e8. PubMed
10. Ichikawa J, *et al.* 2020. Clin Cancer Res. 26:3384. PubMed
11. Lavin Y *et al.* 2017. Cell. 169(4):750-765 . PubMed
12. Chiou SH, *et al.* 2021. Immunity. 54:586. PubMed

RRID AB_314781 (BioLegend Cat. No. 309802)

Antigen Details

Structure	TNFR superfamily, type I transmembrane protein, 30 kD
Distribution	Activated T cells
Function	T cell costimulation
Ligand/Receptor	4-1BB ligand
Cell Type	T cells
Biology Area	Costimulatory Molecules, Immunology
Molecular Family	CD Molecules
Antigen References	1. Gruss H, *et al.* 1995. *Blood* 85:3378. 2. Sica G, *et al.* 2000. *Adv. Exp. Med. Biol.* 465:355. 3. Alderson M, *et al.* 1994. *Eur. J. Immunol.* 24:2219. 4. Schwarz H, *et al.* 1996. *Blood* 87:2839.
Gene ID	3604

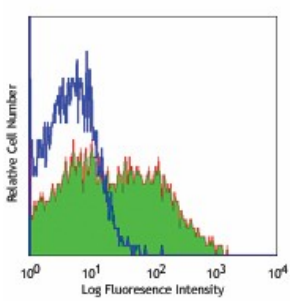
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

Other Formats

Purified anti-human CD137 (4-1BB), PE anti-human CD137 (4-1BB), Biotin anti-human CD137 (4-1BB), PE/Cyanine5 anti-human CD137 (4-1BB), APC anti-human CD137 (4-1BB), PerCP/Cyanine5.5 anti-human CD137 (4-1BB), Alexa Fluor® 700 anti-human CD137 (4-1BB), PE/Cyanine7 anti-human CD137 (4-1BB), Brilliant Violet 421™ anti-human CD137 (4-1BB), APC/Cyanine7 anti-human CD137 (4-1BB), Brilliant Violet 605™ anti-human CD137 (4-1BB), Alexa Fluor® 647 anti-human CD137 (4-1BB), PE/Dazzle™ 594 anti-human CD137 (4-1BB), Brilliant Violet 650™ anti-human CD137 (4-1BB), Brilliant Violet 711™ anti-human CD137 (4-1BB), APC/Fire™ 750 anti-human CD137 (4-1BB), TotalSeq™-A0355 anti-human CD137 (4-1BB), TotalSeq™-B0355 anti-human CD137 (4-1BB), TotalSeq™-C0355 anti-human CD137 (4-1BB), Ultra-LEAF™ Purified anti-human CD137 (4-1BB), Brilliant Violet 750™ anti-human CD137 (4-1BB), TotalSeq™-D0355 anti-human CD137 (4-1BB)

Product Data



PHA-stimulated (3 days) human peripheral blood mononuclear cells stained with purified 4B4-1, followed by biotinylated anti-mouse IgG and Sav-PE

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