

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

Catalog# / Size	309809 / 25 tests 309810 / 100 tests
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 and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography, and conjugated with APC under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.
Excitation Laser	Red Laser (633 nm)
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	<ol style="list-style-type: none"> Garni-Wagner B, <i>et al.</i> 1996. <i>Cell. Immunol.</i> 169:91. (IP) Salih HR, <i>et al.</i> 2000. <i>J. Immunol.</i> 165:2903. (FA) Kienzle G, <i>et al.</i> 2000. <i>Int. Immunol.</i> 12:73. (FA) Langstein J, <i>et al.</i> 1998. <i>J. Immunol.</i> 160:2488. (IP)
Product Citations	<ol style="list-style-type: none"> Nuffel A, <i>et al.</i> 2012. <i>J Immunol Methods.</i> 377:23. PubMed Ohue Y, <i>et al.</i> 2014. <i>Clin Cancer Res.</i> 20:5052. PubMed Fujigaki J, <i>et al.</i> 2015. <i>PLoS One.</i> 10: 0132521. PubMed

4. Grifoni A, *et al.* 2020. *J Virol.* 94:00:00. [PubMed](#)
5. Tarke A, *et al.* 2021. *Cell Reports Medicine.* 2(2):100204. [PubMed](#)
6. Motozono C, *et al.* 2021. *Cell Host Microbe.* . [PubMed](#)
7. Martin SD, *et al.* 2018. *Oncoimmunology.* 7:e1371895. [PubMed](#)
8. Cirelli KM *et al.* 2019. *Cell.* 177(5):1153-1171 . [PubMed](#)
9. Pahl JHW, *et al.* 2018. *Cancer Immunol Res.* 0.609027778. [PubMed](#)
10. Luo X, *et al.* 2020. *Front Immunol.* 11:623. [PubMed](#)
11. Grifoni A, *et al.* 2020. *Cell.* 181(7):1489-1501.e15.. [PubMed](#)

RRID AB_830671 (BioLegend Cat. No. 309809)
 AB_830672 (BioLegend Cat. No. 309810)

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	<ol style="list-style-type: none"> 1. Gruss H, <i>et al.</i> 1995. <i>Blood</i> 85:3378. 2. Sica G, <i>et al.</i> 2000. <i>Adv. Exp. Med. Biol.</i> 465:355. 3. Alderson M, <i>et al.</i> 1994. <i>Eur. J. Immunol.</i> 24:2219. 4. Schwarz H, <i>et al.</i> 1996. <i>Blood</i> 87:2839.
Gene ID	3604

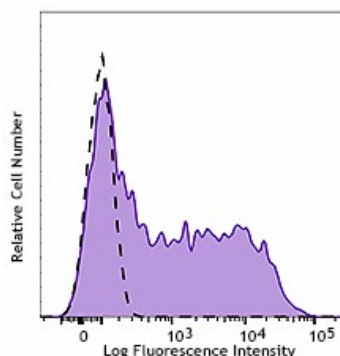
Related Protocols

[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 CD137 (clone 4B4-1) APC (filled histogram) or mouse IgG1, κ APC isotype control (open histogram).

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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587