

PE/Cyanine5 anti-human CD137 (4-1BB) Antibody

Catalog# / Size	309808 / 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 PE/Cyanine5 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	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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)).
Additional Product Notes	BioLegend is in the process of converting the name PE/Cy5 to PE/Cyanine5. The dye molecule remains the same, so you should expect the same quality and performance from our PE/Cyanine5 products. Please contact Technical Service if you have any questions.
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

1. Bialer G, *et al.* 2010. J Immunol. 184:6232. [PubMed](#)
2. Lozano-Ojalvo D, *et al.* 2021. Cell Rep. 36:109570. [PubMed](#)
3. Graciotti M, *et al.* 2020. Vaccines (Basel). 8:00. [PubMed](#)
4. Hurov K, *et al.* 2021. J Immunother Cancer. 9: [PubMed](#)
5. Rydzynski Moderbacher C, *et al.* 2022. J Clin Invest. :. [PubMed](#)

RRID

AB_830670 (BioLegend Cat. No. 309808)

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

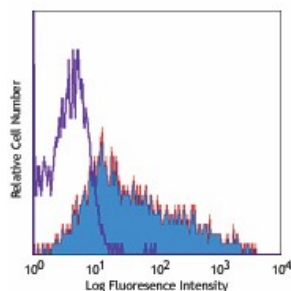
Related Protocols

[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 (2 days) human peripheral blood mononuclear cells stained with 4B4-1 PE/Cyanine5

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