

Alexa Fluor® 647 anti-human CD137 (4-1BB) Antibody

Catalog# / Size	309823 / 25 tests 309824 / 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 Alexa Fluor® 647 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. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
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) Kienzie G, <i>et al.</i> 2000. <i>Int. Immunol.</i> 12:73. (FA)

4. Langstein J, et al. 1998. *J. Immunol.* 160:2488. (IP)

Product Citations

1. Geuijen C, et al. 2021. *Nat Commun.* 12:4445. [PubMed](#)
2. Goletz C, et al. 2018. *Front Immunol.* 9:1614. [PubMed](#)
3. Charmetant X, et al. 2022. *Sci Transl Med.* :eabl6141. [PubMed](#)
4. Meckiff BJ, et al. 2020. *Cell.* 183(5):1340-1353.e16. [PubMed](#)
5. Nguyen J, et al. 2021. *Mol Syst Biol.* 17:e10560. [PubMed](#)
6. Franchini DM et al. 2019. *Cell reports.* 26(1):94-107 . [PubMed](#)

RRID

AB_2566257 (BioLegend Cat. No. 309823)
AB_2566258 (BioLegend Cat. No. 309824)

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, et al. 1995. <i>Blood</i> 85:3378.2. Sica G, et al. 2000. <i>Adv. Exp. Med. Biol.</i> 465:355.3. Alderson M, et al. 1994. <i>Eur. J. Immunol.</i> 24:2219.4. Schwarz H, et al. 1996. <i>Blood</i> 87:2839.

Gene ID

[3604](#)

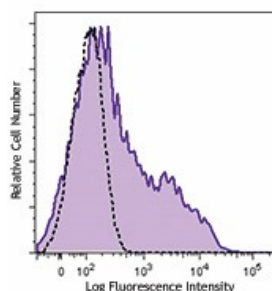
Related Protocols

[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 (three days) human peripheral blood lymphocytes were stained with CD137 (clone 4B4-1) Alexa Fluor® 647 (filled histogram) or mouse IgG1, κ Alexa Fluor® 647 isotype control (open histogram).

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