

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

<b>Catalog# / Size</b>	309823 / 25 tests 309824 / 100 tests
<b>Clone</b>	4B4-1
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	VI C-7
<b>Other Names</b>	4-1BB, ILA, CD137, TNFRSF9
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Chimpanzee, Baboon, Cynomolgus, Rhesus
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Ectodomain of recombinant human 4-1BB fusion protein
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . 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.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: immunoprecipitation <sup>1,4</sup> , inhibition of cytokine production <sup>2,3</sup> , 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)).
<b>Application References</b>	1. Garni-Wagner B, <i>et al.</i> 1996. <i>Cell. Immunol.</i> 169:91. (IP) 2. Salih HR, <i>et al.</i> 2000. <i>J. Immunol.</i> 165:2903. (FA) 3. Kienzie G, <i>et al.</i> 2000. <i>Int. Immunol.</i> 12:73. (FA)
<b>(PubMed link indicates BioLegend citation)</b>	

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

<b>Structure</b>	TNFR superfamily, type I transmembrane protein, 30 kD
<b>Distribution</b>	Activated T cells
<b>Function</b>	T cell costimulation
<b>Ligand/Receptor</b>	4-1BB ligand
<b>Cell Type</b>	T cells
<b>Biology Area</b>	Costimulatory Molecules, Immunology
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Gruss H, <i>et al.</i> 1995. <i>Blood</i> 85:3378.</li><li>2. Sica G, <i>et al.</i> 2000. <i>Adv. Exp. Med. Biol.</i> 465:355.</li><li>3. Alderson M, <i>et al.</i> 1994. <i>Eur. J. Immunol.</i> 24:2219.</li><li>4. Schwarz H, <i>et al.</i> 1996. <i>Blood</i> 87:2839.</li></ol>

## Gene ID

[3604](#)

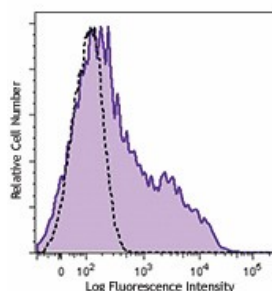
## Related Protocols

[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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