

## Alexa Fluor<sup>®</sup> 700 anti-human CD137 (4-1BB) Antibody

<b>Catalog# / Size</b>	309816 / 100 µg
<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

---

<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.
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor <sup>®</sup> 700 under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<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>	<p>Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a>. The suggested use of this reagent is ≤0.5 µg per million cells in 100 µl volume. It is highly recommended that the reagent be titrated for optimal performance for each application.</p> <p>* Alexa Fluor<sup>®</sup> 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor<sup>®</sup> 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.</p> <p>Alexa Fluor<sup>®</sup> and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p><a href="#">View full statement regarding label licenses</a></p>
<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>	<ol style="list-style-type: none"><li>1. Garni-Wagner B, <i>et al.</i> 1996. <i>Cell. Immunol.</i> 169:91. (IP)</li><li>2. Salih HR, <i>et al.</i> 2000. <i>J. Immunol.</i> 165:2903. (FA)</li><li>3. Kienzle G, <i>et al.</i> 2000. <i>Int. Immunol.</i> 12:73. (FA)</li></ol>
<b>(PubMed link indicates BioLegend citation)</b>	

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

## Product Citations

1. Gyurdieva A, *et al.* 2022. *Nat Commun.* 13:5296. [PubMed](#)
2. Gannon PO, *et al.* 2020. *Cytotherapy.* 22(12):780-791. [PubMed](#)
3. Trivedi S, *et al.* 2020. *Elife.* 9:00. [PubMed](#)

## RRID

AB\_2207742 (BioLegend Cat. No. 309816)

## 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>
<b>Gene ID</b>	<a href="#">3604</a>

## Related Protocols

---

[Cell Surface Flow Cytometry Staining Protocol](#)

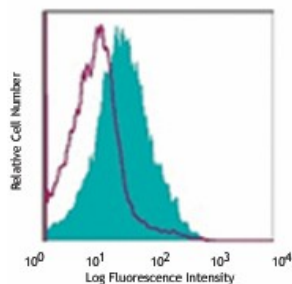
## Other Formats

---

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 4B4-1 A700

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

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