

1P-143-T025

## Monoclonal Antibody to CD137 / 4-1BB Phycoerythrin (PE) conjugated (25 tests)

<b>Clone:</b>	4B4-1
<b>Isotype:</b>	Mouse IgG1
<b>Specificity:</b>	The mouse monoclonal antibody 4B4-1 recognizes CD137, an approximately 40 kDa type I transmembrane protein of the TNFR family expressed mainly on activated T cells. HLDA VI; WS Code C-7
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Recombinant human CD137 ectodomain
<b>Species Reactivity:</b>	Human, Non-Human Primates
<b>Preparation:</b>	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis of human blood cells using 10 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.25 ml) is sufficient for 25 tests.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	CD137, also known as TNFRSF9 or 4-1BB, is an inducible costimulatory molecule expressed mainly on activated T cells. Its ligand, known as 4-1BBL, is expressed on activated macrophages, mature B cells, hematopoietic stem cells, and myeloid progenitor cells. CD137 signaling leads to maintaining the survival of activated T cells and CD8+ memory T cells, and clonal expansion of T cells, but also to suppressing myelopoiesis and dendritic cell development. Triggered CD137 induces a cytokine release profile regulating peripheral monocyte survival. Soluble forms of CD137 may provide negative control mechanism for some immune responses.

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**Antibodies**

**References:**

\*Chan SL, Voskens CJ, Lin W, Schindler DG, Azimzadeh A, Wang LX, Taylor RJ, Strome SE, Schulze DH: Epitope mapping of a chimeric CD137 mAb: a necessary step for assessing the biologic relevance of non-human primate models. *J Mol Recognit.* 2009 May-Jun;22(3):242-9. doi: 10.1002/jmr.937.

\*Yi L, Zhao Y, Wang X, Dai M, Hellström KE, Hellström I, Zhang H: Human and mouse CD137 have predominantly different binding CRDs to their respective ligands. *PLoS One.* 2014 Jan 21;9(1):e86337.

\*Fernández Do Porto DA, Jurado JO, Pasquinelli V, Alvarez IB, Aspera RH, Musella RM, García VE: CD137 differentially regulates innate and adaptive immunity against *Mycobacterium tuberculosis*. *Immunol Cell Biol.* 2012 Apr;90(4):449-56.

\*Bellarosa D, Bressan A, Bigioni M, Parlani M, Maggi CA, Binaschi M: SAHA/Vorinostat induces the expression of the CD137 receptor/ligand system and enhances apoptosis mediated by soluble CD137 receptor in a human breast cancer cell line. *Int J Oncol.* 2012 Oct;41(4):1486-94.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic  
Tel: +420 261 090 666 | Fax: +420 261 090 660 | [orders@exbio.cz](mailto:orders@exbio.cz) | [www.exbio.cz](http://www.exbio.cz)