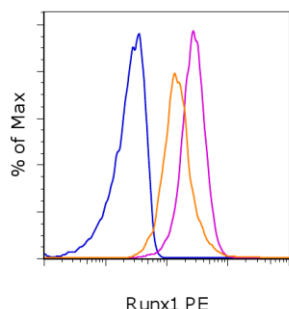


Anti-Human/Mouse Runx1 PE

Catalog Number: 12-9816

Also known as: AML1

RUO: For Research Use Only. Not for use in diagnostic procedures.



C57Bl/6 thymocytes were stained with Anti-Mouse CD4 APC (cat. 17-0041) and Anti-Mouse CD8a FITC (cat. 11-0081), followed by intracellular staining with 0.5 ug of Rat IgG2a K Isotype Control PE (cat. 12-4321) (blue histogram) or 0.5 ug of Anti-Human/Mouse Runx1 PE using the Foxp3 Staining Buffer Set and protocol (cat. 00-5523). The histogram demonstrates Runx1 staining of CD4 SP (purple histogram) and CD8 SP (orange histogram) thymocytes.

Product Information



Contents: Anti-Human/Mouse Runx1 PE

Catalog Number: 12-9816

Clone: RXDMC

Concentration: 0.2 mg/mL

Host/Isotype: Rat IgG2a, kappa



Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

Temperature Limitation: Store at 2-8°C. Do not freeze. Light-sensitive material.



Batch Code: Refer to vial



Use By: Refer to vial

Contains sodium azide

Description

This RXDMC monoclonal antibody reacts with human and mouse Runx1, which is also known as AML1. This 50-kDa transcription factor is expressed in hematopoietic cells such as myeloid, T, and B cells, but not erythroid cells. Furthermore, Runx1 can be detected in nearly all non-hematopoietic tissues except the brain and heart. Runx1 is involved in several stages of T cell development, including the CD4-CD8- double negative (DN) to CD4+CD8+ double positive (DP) transition and commitment to the CD4 lineage. In addition to its role in thymocyte development, Runx1 has also been implicated in Th2 differentiation and immune homeostasis via direct interaction with Foxp3 in CD4+CD25+ regulatory T cells. Runx1 also affects Th2 differentiation by negatively regulating Gata-3 expression. Finally, the *AML1* gene, which encodes Runx1, is a frequent target of translocations in acute myeloid leukemia.

In humans, alternative splicing results in the generation of eleven isoforms. In mice, five isoforms exist as a result of alternative splicing; isoform 4 (aka AML1-C) is the most highly expressed in hematopoietic cells. Sequence analysis indicates that the RXDMC antibody recognizes isoform 4 in mouse and all human isoforms except AML-1FA, AML-1FB, and AML-1FC.

Applications Reported

This RXDMC antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested

This RXDMC antibody has been tested by intracellular staining and flow cytometric analysis of mouse thymocytes using the Foxp3 Buffer Set (cat. 00-5523) and protocol. This can be used at less than or equal to 1 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10⁵ to 10⁸ cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Wong WF, Kurokawa M, Satake M, Kohu K. Down-regulation of Runx1 expression by TCR signal involves an autoregulatory mechanism and contributes to IL-2 production. *J Biol Chem.* 2011 Apr 1;286(13):11110-8.

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Collins A, Hewitt SL, Chaumeil J, Sellars M, Micsinai M, Allinne J, Parisi F, Nora EP, Bolland DJ, Corcoran AE, Kluger Y, Bosselut R, Ellmeier W, Chong MM, Littman DR, Skok JA. RUNX transcription factor-mediated association of Cd4 and Cd8 enables coordinate gene regulation. *Immunity*. 2011 Mar 25;34(3):303-14.

Klunker S, Chong MM, Mantel PY, Palomares O, Bassin C, Ziegler M, Rückert B, Meiler F, Akdis M, Littman DR, Akdis CA. Transcription factors RUNX1 and RUNX3 in the induction and suppressive function of Foxp3+ inducible regulatory T cells. *J Exp Med*. 2009 Nov 23;206(12):2701-15.

Egawa T, Tillman RE, Naoe Y, Taniuchi I, Littman DR. The role of the Runx transcription factors in thymocyte differentiation and in homeostasis of naive T cells. *J Exp Med*. 2007 Aug 6;204(8):1945-57.

Okuda T, van Deursen J, Hiebert SW, Grosveld G, Downing JR. AML1, the target of multiple chromosomal translocations in human leukemia, is essential for normal fetal liver hematopoiesis. *Cell*. 1996 Jan 26;84(2):321-30.

Related Products

00-5523 Foxp3 / Transcription Factor Staining Buffer Set

11-0081 Anti-Mouse CD8a FITC (53-6.7)

12-4321 Rat IgG2a K Isotype Control PE (eBR2a)

17-0041 Anti-Mouse CD4 APC (GK1.5)