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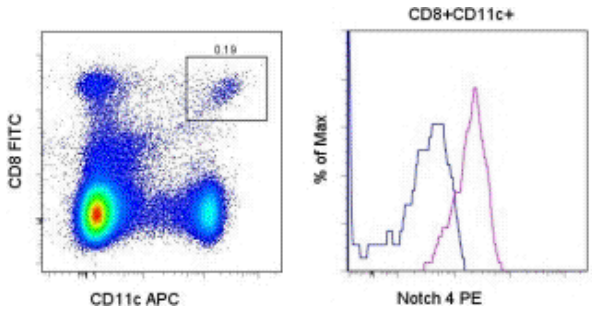
Anti-Mouse Notch4 PE

Catalog Number: 12-5764
Also Known As: Notch-4, oncogene INT3
RUO: For Research Use Only. Not for use in diagnostic procedures.



Staining of CD8+CD11c+ C57BL/6 splenocytes with 0.25 ug of Armenian Hamster IgG Isotype Control PE (cat. 12-4888) (blue histogram) or 0.5 ug of Anti-Mouse Notch4 PE (purple histogram). Total viable cells were used for analysis.

Product Information

Contents: Anti-Mouse Notch4 PE
REF Catalog Number: 12-5764
Clone: HMN4-14
Concentration: 0.2 mg/mL
Host/Isotype: Armenian Hamster IgG

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.
LOT Batch Code: Refer to Vial
Use By: Refer to Vial
Contains sodium azide

Description

This HMN4-14 monoclonal antibody reacts with mouse Notch4, one of four members of the Notch family of receptors. Notch receptors are 300-kDa single-pass transmembrane proteins. While the extracellular domain contains numerous epidermal growth factor-like repeats for ligand binding, the intracellular domain is involved in cell signaling. Upon binding its membrane-bound ligand (either Delta or Jagged), the Notch receptor undergoes proteolytic cleavage, first by ADAM-family metalloproteases and then by γ-secretase. The second cleavage event releases the Notch intracellular domain (NICD), which subsequently translocates into the nucleus, forms a ternary complex with the DNA-binding transcription factor CSL (CBF-1, Su(H), Lag-1) and the coactivator Mastermind, and ultimately activates transcription.

Notch 4 has been shown to be expressed in CD8+ splenic dendritic cells, endothelial cells (e.g. vascular smooth muscle cells), and macrophages. A truncated, constitutively active form of Notch 4 designated Int3 also exists in mice as a result of the mouse mammary tumor virus (MMTV) insertion into the Notch 4 gene. Composed of the transmembrane and intracellular domains of Notch 4, Int3 has been reported to be involved in mammary gland development and tumorigenesis in the mouse. Finally, studies have shown Notch 4 involvement in myeloid proliferation, hematopoiesis, and embryonic endothelial development.

The HMN4-14 antibody is reported to also crossreact to rat and have activating properties.

Applications Reported

This HMN4-14 antibody has been reported for use in flow cytometric analysis.

Applications Tested

This HMN4-14 antibody has been tested by flow cytometric analysis of mouse splenocytes and Notch-4-transfected cells. 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 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Sekine C, Moriyama Y, Koyanagi A, Koyama N, Ogata H, Okumura K, Yagita H. Differential regulation of splenic CD8- dendritic cells and marginal zone B cells by Notch ligands. Int Immunol. 2009 Jan 30. [Epub ahead of print] (HMN4-14, FC, Pubmed)

Borggrefe T, Oswald F. The Notch signaling pathway: Transcriptional regulation at Notch target genes. Cell Mol Life Sci. 2009 Jan 21.

Raafat A, Lawson S, Bargo S, Klauzinska M, Strizzi L, Goldhar AS, Buono K, Salomon D, Vonderhaar BK, Callahan R. Rbpj conditional knockout

reveals distinct functions of Notch4/Int3 in mammary gland development and tumorigenesis. Oncogene. 2009 Jan 15;28(2):219-30.

Moriyama Y, Sekine C, Koyanagi A, Koyama N, Ogata H, Chiba S, Hirose S, Okumura K, Yagita H. Delta-like 1 is essential for the maintenance of marginal zone B cells in normal mice but not in autoimmune mice. Int Immunol. 2008 Jun;20(6):763-73. (HMN4-14, FC, Pubmed)

Related Products

11-0081 Anti-Mouse CD8a FITC (53-6.7)
12-4888 Armenian Hamster IgG Isotype Control PE (eBio299Arm)
17-0114 Anti-Mouse CD11c APC (N418)