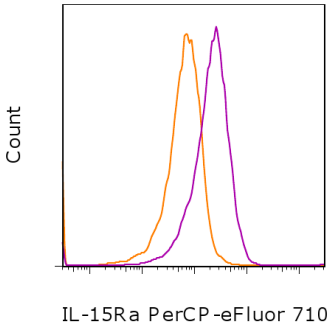
Anti-Mouse IL-15 Receptor alpha PerCP-eFluor® 710

Catalog Number: 46-7149
Also known as: Interleukin-15 Receptor alpha, CD215
RUO: For Research Use Only. Not for use in diagnostic procedures.



Staining of Fc-blocked (cat. 14-0161) mouse bone marrow derived dendritic cells unstimulated (orange histogram) or stimulated with LPS overnight (purple histogram) with 0.06 ug of Anti-Mouse IL-15 Receptor alpha PerCP-eFluor® 710. Total viable cells, as determined by Fixable Viability Dye eFluor® 450, were used for analysis.

Product Information

Contents: Anti-Mouse IL-15 Receptor alpha PerCP-eFluor® 710
REF **Catalog Number:** 46-7149
Clone: DNT15Ra
Concentration: 0.2 mg/mL
Host/Isotype: Rat IgG1, 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.
LOT **Batch Code:** Refer to vial
Use By: Refer to vial
Contains sodium azide

Description

This DNT15Ra antibody reacts with the alpha subunit of the Mouse IL-15 Receptor. The IL-15 Receptor alpha subunit is unique to IL-15, while the other two subunits of the receptor, beta and gamma, are shared with IL-2. IL-15R signaling is mediated by Jak/STAT pathways, and results in the activation of neutrophils, dendritic cells, and macrophages. IL-15 has also been found to play a critical role in the development and survival of NK cells and CD8+ T cells.

Although high levels of mouse IL-15 mRNA have been observed in many cell types, free IL-15 is rarely detectable in biological samples. Recent research suggests that IL-15 is retained inside the cell and only secreted in complex with IL-15 Receptor alpha. This chaperoning is necessary from the ER to the Golgi, through secretion. The cytokine/receptor complex may stay bound to the cell surface, where it can be trans-presented to cells expressing the beta-gamma subunits of the receptor, or can be secreted in a soluble form lacking the transmembrane domain of IL-15 Receptor alpha. IL-15 and IL-15 Receptor alpha are expressed by dendritic cells and macrophages in response to inflammatory stimuli.

Our testing suggests that there may be strain differences in expression and staining of the Mouse IL-15 Receptor alpha. This DNT15Ra antibody has been tested on cells from C57Bl/6 mice. Staining has also been observed with this antibody after pre-incubation of NK cells with exogenous Mouse IL-15/IL-15R Complex, suggesting that DNT15Ra will recognize both Mouse IL-15 Receptor alpha and the Mouse IL-15/IL-15R Complex.

Applications Reported

This DNT15Ra antibody has been reported for use in flow cytometric analysis, and intracellular staining followed by flow cytometric analysis.

Applications Tested

This DNT15Ra antibody has been tested flow cytometric analysis of mouse bone marrow derived dendritic cells. This can be used at less than or equal to 0.125 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

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cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

PerCP-eFluor® 710 can be used in place of PE-Cy5, PE-Cy5.5 or PerCP-Cy5.5. PerCP-eFluor® 710 emits at 710 nm and is excited with the blue laser (488 nm). Please make sure that your instrument is capable of detecting this fluorochrome. For a filter configuration, we recommend using the 685 LP dichroic mirror and 710/40 band pass filter, however the 695/40 band pass filter is an acceptable alternative.

Our testing indicates that PerCP-eFluor® 710 conjugated antibodies are stable when stained samples are exposed to freshly prepared 2% formaldehyde overnight at 4°C, but please evaluate for alternative fixation protocols.

Click here or contact eBioscience Technical Support for more information on eFluor™ Organic Dyes including PerCP-eFluor® 710.

References

Zhang H and Meadows GG. Exogenous IL-15 in combination with IL-15R alpha rescues natural killer cells from apoptosis induced by chronic alcohol consumption. Alcohol Clin Exp Res. 2009 Mar;33(3):419-27

Khawam K, Giron-Michel J, Gu Y, Perier A, Giuliani M, Caignard A, Devocelle A, Ferrini S, Fabbi M, Charpentier B, Ludwig A, Chouaib S, Azzarone B, Eid P. Human renal cancer cells express a novel membrane-bound interleukin-15 that induces, in response to the soluble interleukin-15 receptor a chain, epithelial-to-mesenchymal transition. Cancer Res. 2009 Feb 15;69(4):1561-9

Duitman EH, Orinska Z, Bulanova E, Paus R, Bulfone-Paus S. How a cytokine is chaperoned through the secretory pathway by complexing with its own receptor: lessons from interleukin-15 (IL-15)/IL-15 receptor alpha. Mol Cell Biol. 2008 Aug;28(15):4851-61

Rubinstein M, Kovar M, Purton JF, Cho JH, Boyman O, Surh CD, Sprent J. Converting IL-15 to a superagonist by binding to soluble IL-15Ra. Proc Acad Nat Sci USA. 2006 Jun 13;103(24):9166-71

Liu T, Nishimura H, Matsuguchi T, Yoshikai Y. Differences in interleukin-12 and -15 production by dendritic cells at the early stage of Listeria monocytogenes infection between BALB/c and C57 BL/6 mice. Cell Immunol. 2000 May 25;202(1):31-40.

Related Products

00-8222 IC Fixation Buffer
00-8333 Permeabilization Buffer (10X)
14-0161 Anti-Mouse CD16/CD32 Purified (93)
46-4301 Rat IgG1 K Isotype Control PerCP-eFluor® 710
65-0863 Fixable Viability Dye eFluor® 450
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