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Monoclonal Antibody to Siglec-H (286-304) - PE

Catalog No.: AM32892RP-N

Quantity: 0.1 mg

Concentration: 0.5 mg/ml

Background: Siglec-H, or sialic acid binding immunoglobulin-like lectin H, is a CD33 related protein expressed specifically by plasmacytoid dendritic cells or pDCs (1, 2). Antigen-mediated delivery by Siglec-H in pDCs inhibits Th cell proliferation and further antibody responses. This leads to lessened expansion and Th1/Th17 polarization (3). Constant and low density antigen presentation by Siglec-H is thought to lead to an exhaustive type lessening of the response in CD4+ cells but not tolerance. A number of pathways have been proposed for the Siglec-H induced T cell hyporesponsiveness. Ever decreasing activation cycles in the presence of low level but continuous antigen delivery, as that observed with Siglec-H, have also been demonstrated to impart FoxP3+ Tregs immunosuppressive tolerogen-like effects (4, 5). Ability to identify and control Siglec-H antigen mediated delivery activities with specific antibody provides a focal point for potential development of inflammation controls.

Uniprot ID: Q3Y597

NCBI: 10090

Host / Isotype: Rat / IgG2a

Recommended Isotype Controls: SM15P, SM15PX

Clone: IMG23M14A10

Immunogen: A portion of amino acids 275-325 of Mouse Siglec-H.

Format:
State: Liquid purified IgG fraction
Purification: Protein G Chromatography
Buffer System: PBS
Preservatives: 0.05% Sodium Azide
Stabilizers: 0.05% BSA
Label: PE

Applications:
Flow Cytometry (CS): Use at 1 µg/10^6 cells.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody recognizes Mouse Siglec-H.
Other species not tested.

Storage:

Store undiluted at 2-8°C.
DO NOT FREEZE!
This products is photosensitive and should be protected from light.
Shelf life: one year from despatch.

General Readings:

1. Blasius AL, Cella M, Maldonado J, Takai T, Colonna M. Siglec-H is an IPC-specific receptor that modulates type I IFN secretion through DAP12. Blood. 2006 Mar 15;107(6):2474-6. Epub 2005 Nov 17. PubMed PMID: 16293595.
2. Apostolou I, von Boehmer H. In vivo instruction of suppressor commitment in naive T cells. J Exp Med. 2004 May 17;199(10):1401-8. PubMed PMID: 15148338.
3. Kang HK, Liu M, Datta SK. Low-dose peptide tolerance therapy of lupus generates plasmacytoid dendritic cells that cause expansion of autoantigen-specific regulatory T cells and contraction of inflammatory Th17 cells. J Immunol. 2007 Jun 15;178(12):7849-58. PubMed PMID: 17548623.
4. Zhang J, Raper A, Sugita N, Hingorani R, Salio M, Palmowski MJ, et al. Characterization of Siglec-H as a novel endocytic receptor expressed on murine plasmacytoid dendritic cell precursors. Blood. 2006 May 1;107(9):3600-8. Epub 2006 Jan 5. PubMed PMID: 16397130.
5. Loschko, J et al. 2011 Antigen targeting to Plasmycotid Dendritic Cells via Siglec-H inhibits Th-Cell-Independent Autoimmunity. J. Immunol 187 doi: 10-4019/jimmunol. 11 02307.
6. http://www.copewithcytokines.de/cope.cgi?key=SIGLEC-H__REFERENCES
7. Lau-Kilby AW, Kretz CC, Pechhold S, Price JD, Dorta S, Ramos H, et al. Interleukin-2 inhibits FMS-like tyrosine kinase 3 receptor ligand (flt3L)-dependent development and function of conventional and plasmacytoid dendritic cells. Proc Natl Acad Sci U S A. 2011 Feb 8;108(6):2408-13. doi: 10.1073/pnas.1009738108. Epub 2011 Jan 24. PubMed PMID: 21262836.
8. Gregorio J, Meller S, Conrad C, Di Nardo A, Homey B, Lauerma A, et al. Plasmacytoid dendritic cells sense skin injury and promote wound healing through type I interferons. J Exp Med. 2010 Dec 20;207(13):2921-30. doi: 10.1084/jem.20101102. Epub 2010 Nov 29. PubMed PMID: 21115688.
9. Andrews DM, Estcourt MJ, Andoniou CE, Wikstrom ME, Khong A, Voigt V, et al. Innate immunity defines the capacity of antiviral T cells to limit persistent infection. J Exp Med. 2010 Jun 7;207(6):1333-43. doi: 10.1084/jem.20091193. Epub 2010 May 31. PubMed PMID: 20513749.

Pictures:

Staining of freshly isolated Balb C mouse splenocytes with B220 (clone RA3-6B2) Alexa Fluor 488 antibody and with Rat IgG2a PE (isotype control, left) or anti-mouse Siglec H PE antibody (Clone: IMG23M14A10, right).