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CD161 Monoclonal Antibody (HP-3G10), PE, eBioscience™

Catalog Number 12-1619-41

Product data sheet

Details	
Size	25 Tests
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	HP-3G10
Conjugate	PE
Form	Liquid
Concentration	5 µL/Test
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Human
Published species	Human, Rhesus monkey

Tested Applications	Dilution *
Flow Cytometry (Flow)	5 µL (0.5 µg)/test

Published Applications	
Flow Cytometry (Flow)	See 4 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Description: This HP-3G10 monoclonal antibody reacts with CD161 (also known as NKR-P1A), a member of the C-type lectin superfamily. The human homologue of NK1.1 in C57BL/6 mice, CD161 is expressed on natural killer cells and is upregulated in response to IL-12. CD161 can also be detected on various T cell subsets, including memory/effector CD4+ T cells, CD8+ T cells, gamma delta TCR T cells, and a subset of CD3+ thymocytes. Finally, CD161 expression has been demonstrated on human Th17 CD4+ T cells. The function of this receptor is unclear although studies suggest a possible stimulatory role. Nevertheless, Lectin-like transcript-1 (LLT1), which is also known as osteoclast inhibitory lectin, has been identified as the ligand for CD161. Applications Reported: This HP-3G10 antibody has been reported for use in flow cytometric analysis. Applications Tested: This HP-3G10 antibody has been pre-titrated and tested by flow cytometric analysis on CD4+ human peripheral T cells cultured under Th17 polarizing conditions. This can be used at 5 µL (0.5 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. Excitation: 488-561 nm; Emission: 578 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

KLRB1 (Killer cell lectin like receptor subfamily B, member 1, CD-161) protein is classified as a type II membrane protein because it has an external C terminus. KLRB1 cell surface antigen is expressed by almost all NK cells and in a small subset of CD3+ve T cells. KLRB1 is a homodimeric cell surface protein, comprising two chains with molecular weights ranging from 40-44kDa. KLRB1 plays an inhibitory role on natural killer (NK) cells. Activation of KLRB1 leads to acid sphingomyelnase/SMPD1 stimulation and an increase in intracellular ceramide. Moreover, there is also an activation of AKT1/PKB and RPS6KA1/RSK1 kinase stimulation, and T cell proliferation by anti-CD3. KLRB1 acts as a lectin that binds to the terminal carbohydrate Gal-alpha (1,3)Gal epitope and to the N-acetyllactosamine epitope. KLRB1 also binds to CLEC2D/LLT1 as a ligand, and inhibits NK cell-mediated cytotoxicity as well as interferon-gamma secretion in target cells. The KLRB1 protein contains an extracellular domain with several motifs characteristic of C-type lectins, a transmembrane domain, and a cytoplasmic domain.

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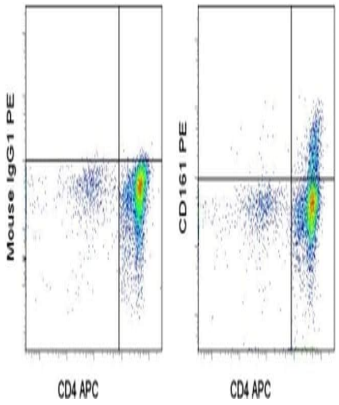
Product Images For CD161 Monoclonal Antibody (HP-3G10), PE, eBioscience™



CD161 Antibody (12-1619-41) in Flow

Staining of Th17-polarized normal human peripheral blood cells with Anti-Human CD4 APC (Product # 17-0049-42) and Mouse IgG1 K Isotype Control PE (Product # 12-4714-81) (left) or Anti-Human CD161 PE (right). Total viable cells were used for analysis.

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PubMed References For CD161 Monoclonal Antibody (HP-3G10), PE, eBioscience™

4 Flow Cytometry References

Species / Dilution	Summary
Human / Not Cited	12-1619 was used in Flow cytometry/Cell sorting to identify a human TH2 cell signature in allergic diseases that could be used for response-monitoring and designing appropriate immunomodulatory strategies. Science translational medicine (2017; 9:) **"A phenotypically and functionally distinct human T_H2 cell subpopulation is associated with allergic disorders."** Author(s):Wambre E,Bajzik V,DeLong JH,O'Brien K,Nguyen QA,Speake C,Gersuk VH,DeBerg HA,Whalen E,Ni C, Farrington M,Jeong D,Robinson D,Linsley PS,Vickery BP,Kwok WW PubMed Article URL:http://dx.doi.org/10.1126/scitranslmed.aam9171
Human / Not Cited	12-1619 was used in Flow cytometry/Cell sorting to demonstrate that rapamycin secures ex vivo-expanded human T-regulatory cells and provides justification for their clinical use in cell therapy-based trials. Haematologica (2011; 96: 1357) **"Stability of human rapamycin-expanded CD4+CD25+ T regulatory cells."** Author(s):Tresoldi E,Dell'Albani I,Stabilini A,Jofra T,Valle A,Gagliani N,Bondanza A,Roncarolo MG,Battaglia M PubMed Article URL:http://dx.doi.org/10.3324/haematol.2011.041483
Human / Not Cited	12-1619 was used in Flow cytometry/Cell sorting to demonstrate that innate lymphoid cells (ILCs) undergo conversion from ILC3s into ILC1-like cells in human tissues in vivo, requiring tissue factors and Aiolos in the process. Nature immunology (2019; 20: 980) **"Subsets of ILC3-ILC1-like cells generate a diversity spectrum of innate lymphoid cells in human mucosal tissues."** Author(s):Cella M,Gamini R,Sécca C,Collins PL,Zhao S,Peng V,Robinette ML,Schettini J,Zaitsev K,Gordon W,Bando JK, Yomogida K,Cortez V,Fronick C,Fulton R,Lin LL,Gilfillan S,Flavell RA,Shan L,Artyomov MN,Bowman M,Oltz EM,Jelinsky SA,Colonna M PubMed Article URL:http://dx.doi.org/10.1038/s41590-019-0425-y
Rhesus monkey / Not Cited	12-1619 was used in Flow cytometry/Cell sorting to emphasize the importance of maintaining CCR6(+) and CD161(+) CD4 (+) T-cell homeostasis, particularly in the mucosa, to prevent disease progression during pathogenic HIV/SIV infection. Mucosal immunology (2017; 10: 1082) **"The loss of CCR6⁺ and CD161⁺ CD4⁺ T-cell homeostasis contributes to disease progression in SIV-infected rhesus macaques."** Author(s):McGary CS,Alvarez X,Harrington S,Cervasi B,Ryan ES,Iriele RI,Paganini S,Harper JL,Easley K,Silvestri G, Ansari AA,Lichterfeld M,Micci L,Paiardini M PubMed Article URL:http://dx.doi.org/10.1038/mi.2016.116

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