

CD122 Monoclonal Antibody (TM-b1 (TM-beta1)), PE, eBioscience™

Catalog Number 12-1222-82

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Mouse
Host/Isotope	Rat / IgG2b, kappa	Published species	Human, Mouse
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Flow Cytometry (Flow)	0.125 µg/test
Clone	TM-b1 (TM-beta1)	Published Applications	
Conjugate	PE	Flow Cytometry (Flow)	See 10 publications below
Form	Liquid	* 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.	
Concentration	0.2 mg/mL		
Purification	Affinity chromatography		
Storage buffer	PBS, pH 7.2		
Contains	0.09% sodium azide		
Storage Conditions	4° C, store in dark, DO NOT FREEZE!		

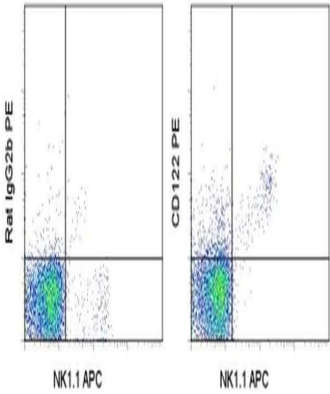
Product specific information

Description: The TM-b1 monoclonal antibody reacts with mouse CD122, the 90-110 kDa interleukin-2 receptor beta chain (IL-2R beta). CD122 is expressed by NK cells and some T cells in the periphery, and is upregulated by activation. CD122 associates with CD25 and CD132 (common gamma chain) to form the high affinity IL-2 receptor. High affinity binding of IL-2 to the IL-2 receptor is inhibited by the TM-b1 antibody. Applications Reported: The TM-b1 antibody has been reported for use in flow cytometric analysis. Applications Tested: This TM-b1 (TM-beta1) antibody has been tested by flow cytometric analysis of mouse splenocytes. 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 cells /test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. 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

CD122 (Interleukin 2 receptor) is involved in T cell-mediated immune responses, primarily expressed in the hematopoietic system and is present in 3 forms. The low affinity form of CD122 is a monomer of the alpha subunit and is not involved in signal transduction. The intermediate affinity form consists of an alpha/beta subunit heterodimer, while the high affinity form consists of an alpha/beta/gamma subunit heterotrimer. Both the intermediate and high affinity forms of the receptor are involved in receptor-mediated endocytosis and transduction of mitogenic signals from CD122. The protein encoded by the CD122 gene represents the beta subunit and is a type I membrane protein. Diseases associate with CD122 protein dysfunction include oligoarticular juvenile idiopathic arthritis and rheumatoid factor negative juvenile idiopathic arthritis.

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CD122 Antibody (12-1222-82) in Flow

Staining of C57BL/6 splenocytes with Anti-Mouse NK1.1 APC (Product # 17-5941-82) and 0.06 µg of Rat IgG2b K Isotype Control PE (Product # 12-4031-82) (left) or 0.06 µg of Anti-Mouse CD122 PE (right). Total viable cells were used for analysis.

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10 Flow Cytometry References

Species / Dilution	Summary
	12-1222 was used in Flow cytometry/Cell sorting to study IL-7 and IL-15 regulation of CD8+ T-cell subsets during contraction of the immune response.
Mouse / Not Cited	Blood (2008; 112: 3704) "IL-7 and IL-15 differentially regulate CD8+ T-cell subsets during contraction of the immune response." Author(s):Rubinstein MP,Lind NA,Purton JF,Filippou P,Best JA,McGhee PA,Surh CD,Goldrath AW PubMed Article URL:http://dx.doi.org/10.1182/blood-2008-06-160945
	12-1222 was used in Flow cytometry/Cell sorting to find that thymoproteasomes are essential for positive selection but that the subsequent change in peptide repertoire in the medulla is also crucial for thymic selection and that 5t-derived peptide must be confined to the thymus to avoid autoimmunity in peripheral tissues.
Mouse / Not Cited	Cell reports (2019; 26: 639) "Restricted Expression of the Thymoproteasome Is Required for Thymic Selection and Peripheral Homeostasis of CD8<sup>+</sup> T Cells." Author(s):Tomaru U,Konno S,Miyajima S,Kimoto R,Onodera M,Kiuchi S,Murata S,Ishizu A,Kasahara M PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2018.12.078
	12-1222 was used in Flow cytometry/Cell sorting to study circular RNA-mediated maintenance of hematopoeitic stem cell homeostasis.
Mouse / Not Cited	Immunity (2018; 48: 688) "A Circular RNA Protects Dormant Hematopoietic Stem Cells from DNA Sensor cGAS-Mediated Exhaustion." Author(s):Xia P,Wang S,Ye B,Du Y,Li C,Xiong Z,Qu Y,Fan Z PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2018.03.016
	12-1222 was used in Flow cytometry/Cell sorting to investigate the effects of IL-2R on the sensitivity of primary mouse T lymphocytes to cytokines that signal through receptors that have the common chain.
Mouse / Not Cited	Science signaling (2013; 6:) "Cell-to-cell variability analysis dissects the plasticity of signaling of common chain cytokines in T cells." Author(s):Cotari JW,Voisinne G,Dar OE,Karabacak V,Altan-Bonnet G PubMed Article URL:http://dx.doi.org/10.1126/scisignal.2003240
	12-1222 was used in Flow cytometry/Cell sorting to compare the functions of T cells derived from double-negative 2 and double-negative 3 cells in the murine fetal thymus.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2014; 192: 2210) "IFN--producing and IL-17-producing T cells differentiate at distinct developmental stages in murine fetal thymus." Author(s):Shibata K,Yamada H,Nakamura M,Hatano S,Katsuragi Y,Kominami R,Yoshikai Y PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1302145
	12-1222 was used in Flow cytometry/Cell sorting to reveal a protective homozygous effect that defined a signalling optimum between autoimmunity and immunodeficiency and identified TYK2 as a potential drug target for autoimmune disorders.
Mouse / Not Cited	Science translational medicine (2016; 8:) "Resolving TYK2 locus genotype-to-phenotype differences in autoimmunity." Author(s):Dendrou CA,Cortes A,Shipman L,Evans HG,Attfield KE,Jostins L,Barber T,Kaur G,Kuttikkatte SB,Leach OA,Desel C,Faergeman SL,Cheeseman J,Neville MJ,Sawcer S,Compston A,Johnson AR,Everett C,Bell JI,Karpe F,Ultsch M,Eigenbrot C,McVean G,Fugger L PubMed Article URL:http://dx.doi.org/10.1126/scitranslmed.aag1974
	12-1222 was used in Flow cytometry/Cell sorting to elucidate the consequences of neonatal Fc receptor down-regulation in the anti-tumour immune response.
Mouse / Not Cited	Frontiers in immunology (2019; 9:) "Lack of FcRn Impairs Natural Killer Cell Development and Functions in the Tumor Microenvironment." Author(s):Castaneda DC,Dhommée C,Baranek T,Dalloneau E,Lajoie L,Valayer A,Arnoult C,Demattéi MV,Fouquenot D,Parent C,Heuzé-Vourc'h N,Gouilleux-Gruart V PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.02259
	12-1222 was used in Flow cytometry/Cell sorting to improve developability of the growing family of IL-2-derived immunotherapeutic agents, which could have a broader impact on the engineering of structurally related four-alpha-helix bundle cytokines.
Human / Not Cited	Scientific reports (2019; 9:) "Directed evolution of super-secreted variants from phage-displayed human Interleukin-2." Author(s):Rojas G,Carmenate T,Santo-Tomás JF,Valiente PA,Becker M,Pérez-Riverón A,Tundidor Y,Ortiz Y,Fernandez de Cossio-Diaz J,Graça L,Dübel S,León K PubMed Article URL:http://dx.doi.org/10.1038/s41598-018-37280-5

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12-1222 was used in Flow cytometry/Cell sorting to provide genetic evidence supporting that NKG2A and the inhibitory members of Ly49 family receptors synergize to regulate NK cell education.

Mouse / 1:200

Nature communications (2019; 10:)
"Synergized regulation of NK cell education by NKG2A and specific Ly49 family members."
Author(s):Zhang X,Feng J,Chen S,Yang H,Dong Z
PubMed Article URL:<http://dx.doi.org/10.1038/s41467-019-13032-5>

12-1222-82 was used in Flow Cytometry to define the receptor repertoire and phenotype of uterine NK cells at mid-gestation in mice.

Mouse / Not Cited

Journal of immunology (Baltimore, Md. : 1950) (2008; 181: 6140)
"Unique receptor repertoire in mouse uterine NK cells."
Author(s):Yadi H,Burke S,Madeja Z,Hemberger M,Moffett A,Colucci F
PubMed Article URL:<http://dx.doi.org/10.4049/jimmunol.181.9.6140>