

CD3e Monoclonal Antibody (500A2), FITC

Catalog NumberHM3401

Product data sheet

Details		Species Reactivity	
Size	1 mL	Species reactivity	Mouse
Host/Isotope	Syrian hamster / IgG	Published species	Mouse, Not Applicable
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Flow Cytometry (Flow)	0.1-0.25 µg / 1x10^6 cells
Clone	500A2	Published Applications	
Immunogen	C6VL-BS cell lysate	Flow Cytometry (Flow)	See 8 publications below
Conjugate	FITC	Miscellaneous PubMed (Misc)	See 10 publications below
Form	Liquid	Neutralization (Neu)	See 1 publications below
Concentration	0.1 mg/mL	* 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.	
Storage Conditions	4° C, store in dark		

**Background/Target Information**

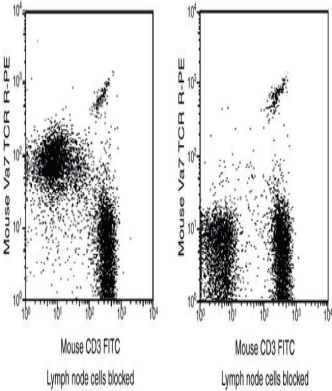
The CD3 subunit complex which is crucial in transducing antigen-recognition signals into the cytoplasm of T cells and in regulating the cell surface expression of the TCR complex. T cell activation through the antigen receptor (TCR) involves the cytoplasmic tails of the CD3 subunits CD3 gamma, CD3 delta, CD3 epsilon and CD3 zeta. These CD3 subunits are structurally related members of the immunoglobulins super family encoded by closely linked genes on human chromosome 11. The CD3 components have long cytoplasmic tails that associate with cytoplasmic signal transduction molecules and this association is mediated at least in part by a double tyrosine-based motif present in a single copy in the CD3 subunits. CD3 may play a role in TCR-induced growth arrest, cell survival and proliferation. The CD3 antigen is present on 68-82% of normal peripheral blood lymphocytes, 65-85% of thymocytes and Purkinje cells in the cerebellum. It is never expressed on B or NK cells. Decreased percentages of T lymphocytes may be observed in some autoimmune diseases. The genes encoding the CD3 epsilon, gamma and delta polypeptides are located on chromosome 11. Defects in the CD3 gene are associated with CD3 immunodeficiency.

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**CD3e Antibody (HM3401) in Flow**

Anti-mouse CD16/32 antibody helps to reduce non-specific binding by activity competing for the Fc gamma receptor III /II. Dot plot A. Anti-mouse Vb7 TCR-R-PE (Product # RM4404) and anti-mouse CD3-FITC (Product # HM3401) staining of mouse lymph node tissue, no blocking reagent added. Dot plot B. Anti-mouse Vb7 TCR anti-mouse CD3 antibody staining following incubation with a mouse CD16/32 antibody (clone: FCR-4G8).

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PubMed References For CD3e Monoclonal Antibody (500A2), FITC

8 Flow Cytometry References

Species / Dilution	Summary
	HM3401 was used in flow cytometry to study the kinetics of iNKT cell precursors
Not Applicable / Not Cited	PloS one ( 2013; 7: ) <b>"Developmental dynamics of post-selection thymic DN iNKT."</b> Author(s):Yassai M,Cooley B,Gorski J PubMed Article URL: <a href="http://dx.doi.org/10.1371/journal.pone.0043509">http://dx.doi.org/10.1371/journal.pone.0043509</a>
	HM3401 was used in flow cytometry to test if deficiency of p19 in the allogeneic donor transplant reduces the inflammation caused by acute GVHD
Not Applicable / Not Cited	Bone marrow transplantation ( 2010; 45: 712) <b>"Absence of IL-23p19 in donor allogeneic cells reduces mortality from acute GVHD."</b> Author(s):Thompson JS,Chu Y,Glass JF,Brown SA PubMed Article URL: <a href="http://dx.doi.org/10.1038/bmt.2009.215">http://dx.doi.org/10.1038/bmt.2009.215</a>
	HM3401 was used in flow cytometry to report that dectin-1 deficiency renders mice susceptible to infection with Candida albicans
Not Applicable / Not Cited	Nature immunology ( 2007; 8: 31) <b>"Dectin-1 is required for beta-glucan recognition and control of fungal infection."</b> Author(s):Taylor PR,Tsoni SV,Willment JA,Dennehy KM,Rosas M,Findon H,Haynes K,Steele C,Botto M,Gordon S,Brown GD PubMed Article URL: <a href="http://dx.doi.org/10.1038/ni1408">http://dx.doi.org/10.1038/ni1408</a>
	HM3401 was used in flow cytometry to indicate that defective DRF1 expression or mammalian diaphanous 1 function contributes to myeloid malignancies and suggest mammalian diaphanous 1 as an attractive therapeutic target in human myeloproliferative syndrom
Not Applicable / Not Cited	Cancer research ( 2007; 67: 7565) <b>"Myeloproliferative defects following targeting of the Drf1 gene encoding the mammalian diaphanous related formin mDia1."</b> Author(s):Peng J,Kitchen SM,West RA,Sigler R,Eisenmann KM,Alberts AS PubMed Article URL: <a href="http://dx.doi.org/10.1158/0008-5472.CAN-07-1467">http://dx.doi.org/10.1158/0008-5472.CAN-07-1467</a>
	HM3401 was used in flow cytometry to develop a system for the decoration of enveloped viruses with functionally active cytokines
Not Applicable / Not Cited	Journal of virology ( 2007; 81: 8666) <b>"General strategy for decoration of enveloped viruses with functionally active lipid-modified cytokines."</b> Author(s):Kueng HJ,Leb VM,Haiderer D,Raposo G,Thery C,Derdak SV,Schmetterer KG,Neunkirchner A,Sillaber C,Seed B,Pickl WF PubMed Article URL: <a href="http://dx.doi.org/10.1128/JVI.00682-07">http://dx.doi.org/10.1128/JVI.00682-07</a>
	HM3401 was used in flow cytometry to test if higher numbers of hematopoietic stem cells correlate with the speed of immune reconstitution in a congenic transplantation mouse model
Not Applicable / Not Cited	Blood ( 2004; 103: 4344) <b>"Hematopoietic stem cell dose correlates with the speed of immune reconstitution after stem cell transplantation."</b> Author(s):Chen BJ,Cui X,Sempowski GD,Domen J,Chao NJ PubMed Article URL: <a href="http://dx.doi.org/10.1182/blood-2003-07-2534">http://dx.doi.org/10.1182/blood-2003-07-2534</a>
	HM3401 was used in Flow cytometry/Cell sorting to study the role of Treg cells in Toxoplasma gondii induced suppression.
Mouse / Not Cited	European journal of immunology ( 2011; 41: 3529) <b>"CD4+ Foxp3+ regulatory T cells mediate Toxoplasma gondii-induced T-cell suppression through an IL-2-related mechanism but independently of IL-10."</b> Author(s):Tenorio EP,Fernández J,Castellanos C,Olgún JE,Saavedra R PubMed Article URL: <a href="http://dx.doi.org/10.1002/eji.201141507">http://dx.doi.org/10.1002/eji.201141507</a>
	HM3401 was used in flow cytometry to investigate how T cells regulate interleukin 4 expression.
Mouse / Not Cited	Nature immunology ( 2003; 4: 1183) <b>"Active recruitment of DNA methyltransferases regulates interleukin 4 in thymocytes and T cells."</b> Author(s):Makar KW,Pérez-Melgosa M,Shnyreva M,Weaver WM,Fitzpatrick DR,Wilson CB PubMed Article URL: <a href="http://dx.doi.org/10.1038/ni1004">http://dx.doi.org/10.1038/ni1004</a>

10 Miscellaneous PubMed References

Species / Dilution	Summary
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	HM3401 was used in flow cytometry to develop a mouse model to study the ability of a glycoprotein conjugate vaccine to induce immunologic memory for the polysaccharide moiety.
Mouse / Not Cited	Infection and immunity ( 1998; 66: 2026) <b>"Immunologic memory induced by a glycoconjugate vaccine in a murine adoptive lymphocyte transfer model."</b> Author(s):Guttormsen HK,Wetzler LM,Finberg RW,Kasper DL PubMed Article URL: <a href="http://dx.doi.org/10.1128/IAI.66.5.2026-2032.1998">http://dx.doi.org/10.1128/IAI.66.5.2026-2032.1998</a>
	HM3401 was used in flow cytometry to further characterize mice hemizygous for scurfy.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 1999; 162: 2546) <b>"Cellular and molecular characterization of the scurfy mouse mutant."</b> Author(s):Clark LB,Appleby MW,Brunkow ME,Wilkinson JE,Ziegler SF,Ramsdell F PubMed Article URL: <a href="http://www.ncbi.nlm.nih.gov/pubmed/10072494">http://www.ncbi.nlm.nih.gov/pubmed/10072494</a>
	HM3401 was used in flow cytometry to report that a non-peptidyl mimetic of MnSOD reduces total body irradiation-induced tissue damage
Mouse / Not Cited	Free radical research ( 2010; 44: 529) <b>"The manganese superoxide dismutase mimetic, M40403, protects adult mice from lethal total body irradiation."</b> Author(s):Thompson JS,Chu Y,Glass J,Tapp AA,Brown SA PubMed Article URL: <a href="http://dx.doi.org/10.3109/10715761003649578">http://dx.doi.org/10.3109/10715761003649578</a>
	HM3401 was used in flow cytometry to characterize in vitro-generated dendritic cells.
Mouse / Not Cited	Immunology ( 1999; 96: 569) <b>"Immunophenotypical and functional heterogeneity of dendritic cells generated from murine bone marrow cultured with different cytokine combinations: implications for anti-tumoral cell therapy."</b> Author(s):Masurier C,Pioche-Durieu C,Colombo BM,Lacave R,Lemoine FM,Klatzmann D,Guigon M PubMed Article URL: <a href="http://dx.doi.org/10.1046/j.1365-2567.1999.00728.x">http://dx.doi.org/10.1046/j.1365-2567.1999.00728.x</a>
	HM3401 was used in flow cytometry to assess experimental autoimmune encephalomyelitis in mice deficient in IL-6.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 1998; 161: 6480) <b>"IL-6-deficient mice are resistant to experimental autoimmune encephalomyelitis: roles of IL-6 in the activation and differentiation of autoreactive T cells."</b> Author(s):Samoilova EB,Horton JL,Hilliard B,Liu TS,Chen Y PubMed Article URL: <a href="http://www.ncbi.nlm.nih.gov/pubmed/9862671">http://www.ncbi.nlm.nih.gov/pubmed/9862671</a>
	HM3401 was used in flow cytometry to report that the inhibitor, p18(INK4c), modulates TCR-mediated T cell proliferation.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2001; 167: 3285) <b>"An important role of CDK inhibitor p18(INK4c) in modulating antigen receptor-mediated T cell proliferation."</b> Author(s):Kovalev GI,Franklin DS,Coffield VM,Xiong Y,Su L PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.167.6.3285">http://dx.doi.org/10.4049/jimmunol.167.6.3285</a>
	HM3401 was used in flow cytometry to characterize the immune responses of BALB/c mice infected with Ehrlichia muris.
Mouse / Not Cited	Microbiology and immunology ( 1997; 40: 575) <b>"Impaired antigen specific responses and enhanced polyclonal stimulation in mice infected with Ehrlichia muris."</b> Author(s):Kawahara M,Suto C,Shibata S,Futohashi M,Rikihisa Y PubMed Article URL: <a href="http://dx.doi.org/10.1111/j.1348-0421.1996.tb01111.x">http://dx.doi.org/10.1111/j.1348-0421.1996.tb01111.x</a>
	HM3401 was used in flow cytometry to report that naive T cells traffic to the central nervous system without prior activation.
Mouse / Not Cited	The Journal of experimental medicine ( 2000; 192: 871) <b>"In situ tolerance within the central nervous system as a mechanism for preventing autoimmunity."</b> Author(s):Brabb T,von Dassow P,Ordenez N,Schnabel B,Duke B,Goverman J PubMed Article URL: <a href="http://dx.doi.org/10.1084/jem.192.6.871">http://dx.doi.org/10.1084/jem.192.6.871</a>
	HM3401 was used in flow cytometry to report that TAN1 is an oncoprotein.
Mouse / Not Cited	The Journal of experimental medicine ( 1996; 183: 2283) <b>"Exclusive development of T cell neoplasms in mice transplanted with bone marrow expressing activated Notch alleles."</b> Author(s):Pear WS,Aster JC,Scott ML,Hasserjian RP,Soffer B,Sklar J,Baltimore D PubMed Article URL: <a href="http://dx.doi.org/10.1084/jem.183.5.2283">http://dx.doi.org/10.1084/jem.183.5.2283</a>
	HM3401 was used in flow cytometry to investigate the effect of IL-18 on NKT cells.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2001; 166: 945) <b>"IL-18 enhances IL-4 production by ligand-activated NKT lymphocytes: a pro-Th2 effect of IL-18 exerted through NKT cells."</b> Author(s):Leite-De-Moraes MC,Hameg A,Pacilio M,Koezuka Y,Taniguchi M,Van Kaer L,Schneider E,Dy M,Herbelin A PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.166.2.945">http://dx.doi.org/10.4049/jimmunol.166.2.945</a>

# 1 Neutralization References

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Species / Dilution	Summary
	HM3401 was used in blocking or activating experiment to evaluate if an antibody-CD28 co-stimulatory signal blocks anergy induction in T-cell clones in mice
Not Applicable / 0.5-10 µg/ml	Nature ( 1992; 356: 607) <b>"CD28-mediated signalling co-stimulates murine T cells and prevents induction of anergy in T-cell clones."</b> Author(s):Harding FA,McArthur JG,Gross JA,Raulet DH,Allison JP PubMed Article URL: <a href="http://dx.doi.org/10.1038/356607a0">http://dx.doi.org/10.1038/356607a0</a>

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