

CURRICULUM VITAE

Name: Steven Anthony Porcelli

Date of Birth: March 2, 1957

Education:

Columbia University	1975 - 1979	B.A.
Yale University	1979 - 1984	M.D.

Post-graduate Training:

Internship and Residencies:

1984-1985	Intern in Medicine, Temple University Hospital, Philadelphia
1985-1986	Junior Assistant Resident, Internal Medicine, Temple University Hospital
1986-1987	Senior Assistant Resident, Internal Medicine, Temple University Hospital

Clinical and Research Fellowships:

1987-1991	Clinical/Research Fellow, Dept. of Rheumatology/Immunology, Brigham and Women's Hospital, Boston
1987-1990	Postdoctoral Research Fellow, Laboratory of Immunochemistry, Dana-Farber Cancer Institute, Boston

Professional Employment and Hospital Appointments:

1987-1991	Fellow in Rheumatology, Brigham and Women's Hospital, Boston, MA
1987-1991	Clinical/Research Fellow in Medicine, Harvard Medical School, Boston, MA
1991-1999	Associate Physician, Department of Medicine, Brigham and Women's Hospital
1991-1999	Associate Rheumatologist, Ambulatory Arthritis Center, Brigham and Women's Hospital
1991-1999	Attending Physician, Inpatient Rheumatology Consultation Service, Brigham and Women's Hospital (approximately 3 weeks/year)
1992	Instructor in Medicine, Harvard Medical School
1993-1999	Assistant Professor of Medicine, Harvard Medical School
1999-2004	Associate Professor, Department of Microbiology and Immunology, and Department of Medicine. Albert Einstein College of Medicine, Bronx, NY
2003-2006	Attending Physician, Inpatient Rheumatology Consultation Service, Jacobi Medical Center, Bronx, NY (1-2 month/year)
2004-	Professor, Department of Microbiology and Immunology, and Department of Medicine. Albert Einstein College of Medicine, Bronx, NY (tenured July 1, 2005)
2004-	Murray and Evelyne Weinstock Professor of Microbiology and Immunology, Albert Einstein College of Medicine

2004-	Director of Flow Cytometry Shared Resource Laboratories, Albert Einstein College of Medicine Cancer Center and Center for AIDS Research
2012-	Director, Unified AECC/CFAR Flow Cytometry Core Facility, Albert Einstein College of Medicine
2015-	Chair, Department of Microbiology & Immunology, Albert Einstein College of Medicine

Board Certification:

1985	Diplomate, National Board of Medical Examiners
1987	Board Certified, American Board of Internal Medicine (permanent)
1990	Board Certified in Rheumatology (recertified 2002)

Professional Society Membership:

1994-	Fellow, American College of Rheumatology
2000-	Member, Infectious Diseases Society of America
2003-	Member, American Society for Clinical Investigation (ASCI)

Awards and Honors:

1978	Phi Beta Kappa, Columbia University Chapter
1979	Summa cum Laude, Columbia College
1984	Elected Alpha Omega Alpha
1984	Giarman Prize for Outstanding Thesis, Yale University School of Medicine
1987	NIH Individual National Research Service Award
1990	Medical Foundation Fellowship Award
1990	NIH Clinical Investigator Award
1995	Hilda Irene Duggan Arthritis Investigator, The Arthritis Foundation
1996	NIH FIRST Award
1999	Mizotani Foundation for Glycoscience Award
1999	Irene Diamond Foundation Professors in Immunology Award
2001	Burroughs Wellcome Fund Award in Translational Research
2002	Irma T. Hirschl Career Scientist Award
2003	Elected Member, American Society for Clinical Investigation
2004	Weinstock Professor of Microbiology and Immunology
2014	Fellow, American Academy of Microbiology

Other Professional Activities:

1990-	<i>Ad Hoc</i> Reviewer, Arthritis & Rheumatism
1993-	<i>Ad Hoc</i> Reviewer, Journal of Immunology, Nature, Science, Journal of Clinical Investigation, Journal of Exp. Medicine, Immunity, Journal of Infectious Diseases, International Immunology
1997	NIH <i>Ad Hoc</i> Study Section Member, NIH/NIAMS Rheumatoid Arthritis SCOR Grant Review
1998	Workshop on Pathogenesis of <i>M. avium</i> Infections; organizer and convener; NIH/DAIDS
1998	Basic Immunology of Vaccines Workshop; panelist; NIH/NIAID
1998-2000	Consultant and Scientific Advisory Board Member, Aquila

	Biopharmaceuticals, Inc., Framingham, MA
2000-2003	Consultant, Antigenics, Inc., Woburn, MA
2000	NIH <i>Ad Hoc</i> Study Section Member, RFP for NIH/NIAID Basic Vaccine Immunology Research Centers
2001	NIH <i>Ad Hoc</i> Study Section Member, Hyper-ID Scientific Review, Special Emphasis Panel (ZRG1 SSS-J 02 R)
2002	Chief meeting organizer, Second International Workshop on NKT Cells and CD1, Woods Hole, MA
2002-	Editorial Advisory Board, <i>Tissue Antigens</i>
2003-	Editorial Board, <i>Immunology Letters</i>
2004-2007	Member, American College of Rheumatology Annual Meeting Planning Committee
2004-	Editorial Advisory Board, <i>Journal of Experimental Medicine</i>
2004-	Scientific Advisory Board Member, PO-1 Grant "HIV, TB and Malaria Vaccine Development for Africa", (Barton Haynes, Program Leader; Duke University).
2005	Site visit team member, Cancer Research UK Program at Oxford University, UK.
2005-	Consultant, Vaccinex Inc., Rochester, NY
2007	Organizing committee member and session chair, Fifth International Conference on NKT Cells and CD1, Abbazia Spineto, Italy
2008	Juvenile Diabetes Research Foundation, <i>Ad Hoc</i> Study Section Member, RFA for Innate Immunity
2009	Organizing committee member and session chair, Fifth International Conference on NKT Cells and CD1, Kamakura, Japan
2011	Organizing committee member and session chair, Sixth International Conference on NKT Cells and CD1, Chicago, USA
2009-2013	NIH Study Section (3 <i>Ad Hoc</i> sessions), Shared Instrumentation Grant Program
2013	Organizing committee member, Seventh International Conference on NKT Cells and CD1, Tours, France
2014	International Scientific Committee member, CD1-MR1 International Meeting, Mantra Lorne, Victoria, Australia
2014-	NIH <i>Ad Hoc</i> Study Section Member, Allergy, Immunology and Transplantation Research Committee (AITC)

Einstein Committee and Administrative Positions:

2000 – 2006	Sue Golding Graduate Division Qualifying Exam Committee (Co-chair, 2001; Chair, 2002)
2000 -	Medical Scientist Training Program, Steering Committee
2000 – 2005	<i>Ad Hoc</i> Committee Member, Promotions Committee (approx. 1-2 promotion requests reviewed per year)
2003 – 2014	Director, Flow Cytometry Core Facility, AECOM Center for AIDS Research
2003 – 2014	Member, Einstein Center for AIDS Research (CFAR) Steering Committee
2004 -	Director, Main Flow Cytometry Core Facility, AECOM Cancer Center (appointed 7/1/04)
2004 – 2012	Associate Director and Member of Steering Committee,

Immuno-oncology Training Grant (5 T32 CA09173, S. Nathenson, PI).

2004	Member of Ad hoc Awards Committee for selection of recipients for "Outstanding Postdoctoral Scholar Awards"
2005 -	Member, Einstein Committee on Patents
2005 – 2007	Member, Committee on Promotions to Professor
2007 – 2009	Member, Committee on Quality of Life
2008 -	Member, Advisory Committee of the Belfer Institute for Advanced Postdoctoral Studies
2009 -	Member, Tenure Award Review Committee
2009 -	Senator and voting member representing Dept. of M&I in the Einstein Faculty, Student & Postdoc Senate
2013 -	Pfizer CTI, Joint Steering Committee Member (Chair since 2014)
2014-	Member, Senate Legal Committee

Research:

A. Grant Support Over the Past Five Years (Grants currently active are in **bold**):

1999-2014	NIH/NIAID; RO1 AI45889 Research Grant (S. Porcelli, PI); "Binding and Presentation of Lipid Antigens by CD1" (in no cost extension; renewal application under review)
2011-2016	NIH/NIAID; RO1 AI093649 Research Grant (S. Porcelli, PI): Construction of Safe and Effective Live Tuberculosis Vaccines"
2005-2016	NIH/NIAID; PO1 Research Grant (S. Porcelli, PI, Project 2 and Core C); "Molecular analysis of tuberculosis immunity"
2008-2012	Co-Principal Investigator (with W. R. Jacobs, Jr., PhD), "Genetic modification of mycobacterial vaccines for improved immunogenicity". Sponsored Research Award, Aeras Global Tuberculosis Foundation
2011 -2012	NIH/NIAID; R21 AI092448 Research grant (S. Porcelli, PI); "Defining the Correlates of Bactericidal Immunity in Tuberculosis"
2007-2015	Subcontract PI, "Generation of improved mycobacterial vectors for HIV vaccines", Bill and Melinda Gates Foundation (Joern Schmitz, Harvard/BIDMC, overall consortium PI)
2012-2017	NIH/NIAID; R01 AI098925 (PI: Jacobs; S. Porcelli, Co-PI); "Vaccines for Extensively Drug Resistant Tuberculosis"
2014-2018	NIH/NIGMS; 1U01 GM111849 (PI: A. Howell; S. Porcelli, Co-PI); "Glycolipid Design for Controlling NKT Cell Response"
2007-2018	NIH/NCI; CA13330; Einstein Cancer Center (Program Director: I. David Goldman) "Flow Cytometry Core" (Core Director: S. Porcelli), salary support only
2010-2015	NIH/NIDDK; 3P60DK020541; Einstein Diabetes Training and Research Center, PI: J. Pessin) "Flow Cytometry Core" (Core Director: S. Porcelli), salary support only
2013-2015	NIH/NIAID; 3P30AI051519-10S1; Einstein CFAR (Center for Aids Research) (Program Director: H. Goldstein); "Flow

Cytometry Core” (Core Director: S. Porcelli)

Invited Presentations (non-AECOM) for Past Five Years:

2009	Speaker and session chair, "The Other T Cells; Nonconventional T Cells in Immunity and Disease"; Royal Society of Medicine, London, UK
2009	Invited Speaker and session chair; Fifth International Conference on NKT cells and CD1; Kamakura, Japan
2009	Yale University, Human Translational Immunology Seminar Series, invited speaker
2010	Invited speaker, World Tuberculosis Day Symposium, Public Health Research Institute, Newark, NJ.
2011	Speaker and session chair, "Sixth International Conference on NKT cells and CD1, Chicago, USA
2011, 2013	Seminars in Analytical Biotechnology ("Flow Cytometry and Cell Sorting), Stevens Institute of Technology, Hoboken, NJ
2013	Invited Speaker, Seventh International Conference on NKT Cells and CD1, Tours, France
2014	Seminar, "The Guinea Pig as a Model System of Group 1 CD1", Brigham and Women's Hospital, Boston, MA
2014	World TB Day, Invited Presentation, NY Academy of Sciences

BIBLIOGRAPHY

Peer-reviewed publications:

1. Kaye J, Porcelli S, Tite J, Jones B, Janeway CA Jr. Both a monoclonal antibody and antisera specific for determinants unique to individual cloned helper T cell lines can substitute for antigen and antigen presenting cells in the activation of T cells. *J Exp Med*; 158:836-856 (1983).
2. Groh V, Porcelli S, Fabbi M, Lanier LL, Picker LJ, Anderson T, Warnke R, Bhan A, Strominger JL, Brenner MB. Human lymphocytes bearing T cell receptor γ/δ are phenotypically diverse and evenly distributed throughout the lymphoid system. *J Exp Med*; 169:1277-1294 (1989).
3. Porcelli S, Brenner MB, Greenstein JL, Balk SP, Terhorst C and Bleicher PA. Recognition of cluster of differentiation 1 antigens by human CD4⁺8⁺ cytolytic T lymphocytes. *Nature*; 341: 447-450 (1989).
4. Parker CM, Groh VG, Band H, Porcelli SA, Morita C, Fabbi M, Glass D, Strominger JL, and Brenner MB. Evidence for extrathymic changes in the TCR $\gamma\delta$ repertoire. *J Exp Med*; 171: 1597-1612 (1990).
5. Porcelli S, Morita CT, Brenner MB. CD1b restricts the response of human CD4⁺8⁺ T lymphocytes to a microbial antigen. *Nature*; 360: 593-597 (1992).

6. Porcelli S, Yockey CE, Brenner MB, Balk SP. Analysis of T cell antigen receptor expression by human peripheral blood CD4⁺ $\alpha\beta$ T cells demonstrates preferential use of several V β genes and an invariant TCR α chain. *J Exp Med* ; 178: 1-16 (1993).
7. Balk SP, Burke S, Polischuk JE, Frantz ME, Yang L, Porcelli S, Colgan SP, Blumberg RS. β 2-Microglobulin-independent MHC class Ib molecule expressed by human intestinal epithelium. *Science*; 253:1411-1415 (1994).
8. Beckman EM, Porcelli S, Morita CT, Behar SM, Furlong ST, Brenner MB. Recognition of a lipid antigen by CD1-restricted $\alpha\beta$ ⁺ T cells. *Nature*; 372:691-694 (1994).
9. Sieling PA, Chatterjee D, Porcelli SA, Prigozy T, Mazzaccaro RJ, Soriano T, Bloom B.R., Brenner MB, Kronenberg M, Brennan PJ, Modlin RL. CD1-restricted T cell recognition of microbial lipoglycan antigens. *Science*; 269:227-230 (1995).
10. Subauste CS, Chung JY, Do D, Koniaris AH, Hunter CA, Montoya JG, Porcelli S, Remington JS. Preferential activation and expansion of human peripheral blood $\gamma\delta$ T cells in response to *Toxoplasma gondii* *in vitro* and their cytokine production and cytotoxic activity against *Toxoplasma gondii* infected cells. *J Clin Invest*; 96:610-619 (1995).
11. Behar SM, Porcelli SA, Beckman EM, Brenner MB. A pathway of costimulation that prevents anergy in CD28⁺ T cells: B7-independent costimulation of CD1 restricted T cells. *J Exp Med*; 182:2007-2018 (1995).
12. Beckman EM, Melian A, Behar SM, Sieling PA, Chatterjee D, Furlong ST, Matsumoto R, Rosat JP, Modlin RL, Porcelli SA. Restriction of mycobacterial antigen specific and autoreactive T cells by CD1c. *J Immunol* ;157:2795-2803 (1996).
13. Sugita MS, Jackman RM, van Donselaar E, Behar SM, Rogers RA, Peters PJ, Brenner MB, Porcelli SA. Cytoplasmic tail mediated delivery of CD1b antigen presenting molecules to MHC class II compartments. *Science*; 273:349-352 (1996).
14. Porcelli S, Gerdes D, Fertig A, Balk SP. Human T cells expressing an invariant V α 24-J α Q TCR α are CD4⁺ and heterogeneous with respect to TCR β expression. *Human Immunol*; 48:63-67 (1996).
15. Prigozy TI, Sieling PA, Clemens D, Porcelli S, Behar S, Stewart P, Brenner MB, Modlin RL, Kronenberg M. CD1-mediated presentation of a lipoglycan to T cells requires uptake by the mannose receptor and transport to a late endosome. *Immunity*; 6:187-197 (1997).
16. Exley M, Garcia J, Balk SP, Porcelli S. Requirements for CD1d recognition by human invariant V α 24⁺ CD4⁺CD8⁺ T cells. *J Exp Med*; 186:109-120 (1997).
17. Stenger S, Mazzaccaro RJ, Uyemura K, Cho S, Barnes PF, Rosat JP, Brenner MB, Porcelli SA, Bloom BR, Modlin RL. Differential effects of cytolytic T cell subsets on intracellular infection. *Science*; 276:1684-1687 (1997).

18. Moody DB, Reinhold BB, Guy MR, Beckman EM, Furlong ST, Ye S, Reinhold VN, Besra GS, Porcelli SA. Structural requirements for glycolipid antigen recognition by CD1b-restricted T cells. *Science*; 278:283-286 (1997).
19. Sugita M, Porcelli SA, Brenner MB. Assembly and retention of CD1b heavy chains in the endoplasmic reticulum. *J. Immunol.* 159:2358-2365 (1997).
20. Tentori L, Graziani G, Porcelli SA, Sugita M, Brenner MB, Madaio R, Bonmassar E, Giuliani A, Aquino A. Rifampin increases cytokine-induced expression of the CD1b molecule in human peripheral blood monocytes. *Antimicrobial Agents and Chemotherapy*; 42:550-554 (1998).
21. Giuliani A, Tentori L, Pepponi R, Porcelli SA, Aquino A, Orlando L, Sugita M, Brenner MB, Bonmassar E, Graziani G. Cytokine-induced expression of CD1b molecules by peripheral blood monocytes: influence of 3'-azido-3'-deoxythymidine. *Pharmacol Res*; 35:135-140 (1998).
22. Jackman RM, Stenger S, Lee A, Moody DB, Rogers RA, Niazi KR, Sugita M, Modlin RL, Peters PJ, Porcelli SA. The tyrosine-containing cytoplasmic tail of CD1b is essential for its efficient presentation of bacterial lipid antigens. *Immunity*; 8:341-351 (1998).
23. Ernst WA, Maher J, Cho S, Niazi KR, Chatterjee D, Moody DB, Besra GS, Watanabe Y, Jensen PE, Porcelli SA, Kronenberg M, Modlin RL. Molecular interaction of CD1b with lipoglycan antigens. *Immunity*; 8:331-340 (1998).
24. Wilson SB, Kent SC, Patton KT, Orban T, Jackson RA, Exley M, Porcelli S, Schatz DA, Atkinson MA, Balk SP, Strominger JL, Hafler DA. Extreme Th1 bias of invariant V α 24J α Q T cells in type 1 diabetes. *Nature*; 391:177-181 (1998).
25. Spada FM, Koezuka Y, Porcelli SA. CD1d-restricted recognition of synthetic glycolipid antigens by human NK T cells. *J Exp Med*; 188:1529-1534 (1998).
26. Giuliani A, Porcelli SA, Tentori L, Graziani G, Testorelli C, Prete SP, Bussini S, Cappelletti D, Brenner MB, Bonmassar E, Aquino A. Effect of rifampin on CD1b expression and double-negative T cell responses against mycobacteria-derived glycolipid antigen. *Life Sciences*; 63:985-994 (1998).
27. Exley M, Porcelli S, Furman M, Garcia J, Balk S. CD161 (natural killer cell receptor P1A) costimulation of CD1d-dependent activation of human T cells expressing invariant V α 24J α Q T cell receptor α chains. *J Exp Med*; 188:867-876 (1998).
28. Stenger S, Hanson DA, Teitelbaum R, Dewan P, Niazi KR, Froelich CJ, Ganz T, Thoma-Uszynski S, Melián A, Bogdan C, Porcelli SA, Bloom BR, Krensky AM, Modlin RL. An antimicrobial activity of cytolytic T cells mediated by granulysin. *Science*; 282:121-125 (1998).
29. Couedel C, Peyrat M-A, Brossay L, Koezuka Y, Porcelli SA, Davodeau F, Bonneville M. Diverse CD1d-restricted reactivity patterns of human T cells bearing "invariant" AV24BV11 T cell receptors. *Eur J Immunol*; 28:4391-4397 (1998).

30. Moody DB, Reinhold BB, Reinhold VN, Besra GS, Porcelli SA. Uptake and processing of glycosylated mycolates for presentation to CD1b-restricted T cells. *Immunol. Letters*; 65:85-92 (1998).
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32. Grant EP, Degano M, Rosat J-P, Stenger S, Modlin RL, Wilson IA, Porcelli SA, Brenner MB. Molecular recognition of lipid antigens by T cell receptors. *J Exp Med*; 189:195-205 (1999).
33. Sieling PA, Jullien D, Dahlem M, Tedder TF, Rea TH, Modlin RL, Porcelli SA. CD1 expression by dendritic cells in human leprosy lesions: correlation with effective host immunity. *J Immunol*; 162:1851-1858 (1999).
34. Nickoloff BJ, Wrone-Smith T, Bonish B, Porcelli SA. Response of murine and normal human skin to injection of allogeneic blood-derived psoriatic immunocytes: Detection of T cells expressing receptors typically present on natural killer cells including CD94, CD158 and CD161. *Arch Dermatol* ; 135:546-552 (1999).
35. Melian A, Geng Y-J, Sukhova GK, Libby P, and Porcelli SA. CD1 expression in human atherosclerosis: a mechanism for T cell activation by foam cells. *American Journal of Pathology*, 155:775-786 (1999).
36. Dascher CC, Hiromatsu K, Naylor J, Brauer P, Brown K, Storey J, Behar SM, Kawasaki E, Porcelli SA, Brenner MB, LeClair K. Conservation of a CD1 multigene family in the guinea pig. *J. Immunol.*; 163:5478-5488 (1999).
37. Kawai T, Seki M, Hiromatsu K, Eastcott JW, Watts GF, Sugai M, Smith DJ, Porcelli SA, Taubman MA. Selective diapedesis of Th1 cells induced by endothelial cell RANTES. *J. Immunol.*; 163:3269-3278 (1999).
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39. Exley M, Garcia J, Wilson SB, Spada F, Gerdes D, Tahir SMA, Patton KT, Blumberg RS, Porcelli S, Chott A, and Balk SP. CD1d structure and regulation on human thymocytes, peripheral blood T cells, B cells and monocytes. *Immunology* 100: 37-47 (2000).
40. Briken V, Jackman RM, Watts G, Rogers RA, and Porcelli SA. Human CD1 isoforms survey different intracellular compartments for the presentation of lipid antigens from *Mycobacterium tuberculosis*. *J. Exp. Med.* 192:281-287 (2000).
41. Nicol A, Nieda M, Koezuka Y, Porcelli S, Suzuki K, Tadokoro K, Durrant S, and Juji T. Dendritic cells are targets for human invariant V α 24⁺ NKT cell cytotoxic activity - an important immune regulatory function. *Experimental Haematology* 28:276-282 (2000).

42. Nicol A J, Nieda M, Koezuka Y, Porcelli S, Suzuki K, Tadokoro K, Durrant S and Juji T. Human invariant V α 24+ NKT cells activated by α -galactosylceramide (KRN7000) have cytotoxic antitumour activity through mechanisms distinct from T cells and natural killer cells. *Immunology* 99:229-34 (2000).
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44. Sieling PA, Ochoa MT, Jullien D, Leslie DS, Sabet S, Rosat JP, Burdick AE, Rea TH, Brenner MB, Porcelli SA, Modlin RL. Evidence for human CD4+ T cells in the CD1-restricted repertoire: derivation of mycobacteria-reactive T cells from leprosy lesions. *J. Immunol.* 164:4790-4796 (2000).
45. Takahashi T, Nieda M, Koezuka Y, Nicol A, Porcelli SA, Ishikawa Y, Tadokoro K, Hirai H, Juji T. Analysis of human V alpha 24+ CD4+ NKT cells activated by alpha-glycosylceramide-pulsed monocyte-derived dendritic cells. *J. Immunol.* 164:4458-4464 (2000).
46. Ishihara S, Nieda M, Kitayama J, Osada T, Yabe T, Kikuchi A, Koezuka Y, Porcelli SA, Tadokoro K, Nagawa H, Juji T. Alpha-glycosylceramides enhance the antitumor cytotoxicity of hepatic lymphocytes obtained from cancer patients by activating CD3-CD56+ NK cells in vitro. *J. Immunol.* 165:1659-1664 (2000).
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50. Moody DB, Guy MR, Grant E, Cheng TY, Brenner MB, Besra GS, Porcelli SA. CD1b-mediated T cell recognition of a glycolipid antigen generated from mycobacterial lipid and host carbohydrate during infection. *J. Exp. Med.*, 192:965-976 (2000).
51. Sieling PA, Porcelli SA, Duong BT, Spada F, Brenner MB, Bloom BR, Diamond B, Hahn BH. Human double negative T cells in SLE provide help for IgG and are restricted by CD1c. *J. Immunol.*, 165:5338-5344 (2000).
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57. Nickoloff B, Bonish B, Huang BB, Porcelli SA. Characterization of a T cell line bearing natural killer receptors and capable of creating psoriasis in a SCID mouse model system. *J. Dermatol. Sci.* 24:212-225 (2000).
58. Ulanova M, Torebring M, Porcelli SA, Bengtsson U, Magnusson J, Magnusson O, Lin XP, Hanson LA, Telemo E. Expression of CD1d in the duodenum of patients with cow's milk hypersensitivity. *Scand. J. Immunol.* 52:609-617 (2000).
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62. Giuliani A, Prete SP, Graziani G, Aquino A, Balduzzi A, Sugita M, Brenner MB, Iona E, Fattorini L, Orefici G, Porcelli SA, Bonmassar E. Influence of *Mycobacterium bovis* bacillus Calmette-Guerin on *in vitro* induction of CD1 molecules in human adherent mononuclear cells. *Infection and Immunity* 69:7461-7470 (2001).
63. Kukreja A, Costi G, Sun Z, Zhang C, Exley M, Wilson B, Porcelli S, Maclaren N. Multiple Immunoregulatory Defects Underlie Immune Mediated (Type 1) diabetes. *J Clin Investigation* 109:131-40 (2001).
64. Grant EP, Beckman EM, Behar SM, Degano M, Frederique D, Besra GS, Wilson IA, Porcelli SA, Furlong ST, Brenner MB. Fine specificity of T cell receptor CDR residues

and lipid antigen hydrophilic moieties in the recognition of a CD1-lipid complex. *J Immunol.* 168:3933-40 (2002).

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68. Hiromatsu K, Dascher CC, LeClair KP, Furlong ST, Brenner MB, Porcelli SA. Induction of CD1 restricted immune responses in guinea pigs by immunization with mycobacterial lipid antigens. *J. Immunol.* 169:330-339 (2002).

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