

5. Literaturverzeichnis

1. Silverstein AM. 2002. The Clonal Selection Theory: what it really is and why modern challenges are misplaced. *3*: 793-6
2. Rajewsky K. 1996. Clonal selection and learning in the antibody system. *Nature* 381: 751-8
3. Steinman RM, Nussenzweig MC. 2002. Avoiding horror autotoxicus: the importance of dendritic cells in peripheral T cell tolerance. *Proc Natl Acad Sci U S A* 99: 351-8
4. Weigle WO. 1980. Analysis of autoimmunity through experimental models of thyroiditis and allergic encephalomyelitis. *Adv Immunol* 30: 159-273
5. Guerder S, Picarella DE, Linsley PS, Flavell RA. 1994. Costimulator B7-1 confers antigen-presenting-cell function to parenchymal tissue and in conjunction with tumor necrosis factor alpha leads to autoimmunity in transgenic mice. *Proc Natl Acad Sci U S A* 91: 5138-42
6. Pernis B, Chiappino G, Kelus AS, Gell PG. 1965. Cellular localization of immunoglobulins with different allotypic specificities in rabbit lymphoid tissues. *J Exp Med* 122: 853-76
7. von Boehmer H, Aifantis I, Azogui O, Feinberg J, Saint-Ruf C, Zober C, Garcia C, Buer J. 1998. Crucial function of the pre-T-cell receptor (TCR) in TCR beta selection, TCR beta allelic exclusion and alpha beta versus gamma delta lineage commitment. *Immunol Rev* 165: 111-9
8. Nemazee D. 2000. Receptor selection in B and T lymphocytes. *Annu Rev Immunol* 18: 19-51
9. McGargill MA, Hogquist KA. 2000. T cell receptor editing. *Immunol Lett* 75: 27-31
10. Anderson MS, Venanzi ES, Klein L, Chen Z, Berzins SP, Turley SJ, von Boehmer H, Bronson R, Dierich A, Benoist C, Mathis D. 2002. Projection of an immunological self shadow within the thymus by the aire protein. *Science* 298: 1395-401
11. Liston A, Lesage S, Wilson J, Peltonen L, Goodnow CC. 2003. Aire regulates negative selection of organ-specific T cells. *Nat Immunol* 4: 350-4
12. Casellas R, Shih TA, Kleinewietfeld M, Rakonjac J, Nemazee D, Rajewsky K, Nussenzweig MC. 2001. Contribution of receptor editing to the antibody repertoire. *Science* 291: 1541-4
13. Malissen M, Trucy J, Jouvin-Marche E, Cazenave PA, Scollay R, Malissen B. 1992. Regulation of TCR alpha and beta gene allelic exclusion during T-cell development. *Immunol Today* 13: 315-22
14. Padovan E, Casorati G, Dellabona P, Meyer S, Brockhaus M, Lanzavecchia A. 1993. Expression of two T cell receptor alpha chains: dual receptor T cells. *Science* 262: 422-4
15. Von Boehmer H, Aifantis I, Gounari F, Azogui O, Haughn L, Apostolou I, Jaeckel E, Grassi F, Klein L. 2003. Thymic selection revisited: how essential is it? *Immunol Rev* 191: 62-78
16. Read S, Powrie F. 2001. CD4(+) regulatory T cells. *Curr Opin Immunol* 13: 644-9
17. Mills KH. 2004. Regulatory T cells: friend or foe in immunity to infection? *Nat Rev Immunol* 4: 841-55
18. Sakaguchi S. 2000. Regulatory T cells: key controllers of immunologic self-tolerance. *Cell* 101: 455-8
19. Shevach EM. 2002. CD4+ CD25+ suppressor T cells: more questions than answers. *Nat Rev Immunol* 2: 389-400
20. Bach JF. 2002. [Immunoregulation and autoimmunity]. *J Soc Biol* 196: 255-8
21. Fillatreau S, Sweeney CH, McGeachy MJ, Gray D, Anderton SM. 2002. B cells regulate autoimmunity by provision of IL-10. *Nat Immunol* 3: 944-50
22. Munn DH, Sharma MD, Lee JR, Jhaver KG, Johnson TS, Keskin DB, Marshall B, Chandler P, Antonia SJ, Burgess R, Slingluff CL, Jr., Mellor AL. 2002. Potential regulatory function of human dendritic cells expressing indoleamine 2,3-dioxygenase. *Science* 297: 1867-70
23. Grohmann U, Orabona C, Fallarino F, Vacca C, Calcinaro F, Falorni A, Candeloro P, Belladonna ML, Bianchi R, Fioretti MC, Puccetti P. 2002. CTLA-4-Ig regulates tryptophan catabolism in vivo. *Nat Immunol* 3: 1097-101
24. Sakaguchi S. 2004. Naturally arising CD4+ regulatory t cells for immunologic self-tolerance and negative control of immune responses. *Annu Rev Immunol* 22: 531-62
25. Gershon RK, Kondo K. 1971. Infectious immunological tolerance. *Immunology* 21: 903-14
26. Randolph DA, Fathman CG. 2005. CD4(+)CD25(+) Regulatory T Cells and Their Therapeutic Potential. *Annu Rev Med*
27. Piccirillo CA, Shevach EM. 2004. Naturally-occurring CD4+CD25+ immunoregulatory T cells: central players in the arena of peripheral tolerance. *Semin Immunol* 16: 81-8

28. Taams LS, Akbar AN. 2005. Peripheral generation and function of CD4+CD25+ regulatory T cells. *Curr Top Microbiol Immunol* 293: 115-31
29. Nishizuka Y, Sakakura T. 1969. Thymus and reproduction: sex-linked dysgenesis of the gonad after neonatal thymectomy in mice. *Science* 166: 753-5
30. Penhale WJ, Farmer A, McKenna RP, Irvine WJ. 1973. Spontaneous thyroiditis in thymectomized and irradiated Wistar rats. *Clin Exp Immunol* 15: 225-36
31. Penhale WJ, Irvine WJ, Inglis JR, Farmer A. 1976. Thyroiditis in T cell-depleted rats: suppression of the autoallergic response by reconstitution with normal lymphoid cells. *Clin Exp Immunol* 25: 6-16
32. Sakaguchi S, Takahashi T, Nishizuka Y. 1982. Study on cellular events in postthymectomy autoimmune oophoritis in mice. I. Requirement of Lyt-1 effector cells for oocytes damage after adoptive transfer. *J Exp Med* 156: 1565-76
33. Bach FJ. 2003. Regulatory T cells under scrutiny. *Nat Rev Immunol* 3: 189-98
34. Sakaguchi S, Sakaguchi N, Asano M, Itoh M, Toda M. 1995. Immunologic self-tolerance maintained by activated T cells expressing IL-2 receptor alpha-chains (CD25). Breakdown of a single mechanism of self-tolerance causes various autoimmune diseases. *J Immunol* 155: 1151-64
35. Roncarolo MG, Bacchetta R, Bordignon C, Narula S, Levings MK. 2001. Type 1 T regulatory cells. *Immunol Rev* 182: 68-79
36. O'Garra A, Vieira P. 2004. Regulatory T cells and mechanisms of immune system control. *Nat Med* 10: 801-5
37. Groux H, O'Garra A, Bigler M, Rouleau M, Antonenko S, de Vries JE, Roncarolo MG. 1997. A CD4+ T-cell subset inhibits antigen-specific T-cell responses and prevents colitis. *Nature* 389: 737-42
38. Groux H, Fournier N, Cottrez F. 2004. Role of dendritic cells in the generation of regulatory T cells. *Semin Immunol* 16: 99-106
39. Powrie F, Read S, Mottet C, Uhlig H, Maloy K. 2003. Control of immune pathology by regulatory T cells. *Novartis Found Symp* 252: 92-8; discussion 8-105, 6-14
40. Vieira PL, Christensen JR, Minaee S, O'Neill EJ, Barrat FJ, Boonstra A, Barthlott T, Stockinger B, Wraith DC, O'Garra A. 2004. IL-10-secreting regulatory T cells do not express Foxp3 but have comparable regulatory function to naturally occurring CD4+CD25+ regulatory T cells. *J Immunol* 172: 5986-93
41. Roncarolo MG, Gregori S, Levings M. 2003. Type 1 T regulatory cells and their relationship with CD4+CD25+ T regulatory cells. *Novartis Found Symp* 252: 115-27; discussion 27-31, 203-10
42. Fontenot JD, Rudensky AY. 2005. A well adapted regulatory contrivance: regulatory T cell development and the forkhead family transcription factor Foxp3. *Nat Immunol* 6: 331-7
43. Weiner HL. 2001. Oral tolerance: immune mechanisms and the generation of Th3-type TGF-beta-secreting regulatory cells. *Microbes Infect* 3: 947-54
44. Sakaguchi S. 2005. Naturally arising Foxp3-expressing CD25+CD4+ regulatory T cells in immunological tolerance to self and non-self. *Nat Immunol* 6: 345-52
45. Hori S, Nomura T, Sakaguchi S. 2003. Control of regulatory T cell development by the transcription factor Foxp3. *Science* 299: 1057-61
46. McHugh RS, Whitters MJ, Piccirillo CA, Young DA, Shevach EM, Collins M, Byrne MC. 2002. CD4(+)CD25(+) immunoregulatory T cells: gene expression analysis reveals a functional role for the glucocorticoid-induced TNF receptor. *Immunity* 16: 311-23
47. Shimizu J, Yamazaki S, Takahashi T, Ishida Y, Sakaguchi S. 2002. Stimulation of CD25(+)CD4(+) regulatory T cells through GITR breaks immunological self-tolerance. *Nat Immunol* 3: 135-42
48. Tone M, Tone Y, Adams E, Yates SF, Frewin MR, Cobbold SP, Waldmann H. 2003. Mouse glucocorticoid-induced tumor necrosis factor receptor ligand is costimulatory for T cells. *Proc Natl Acad Sci U S A* 100: 15059-64
49. Uraushihara K, Kanai T, Ko K, Totsuka T, Makita S, Iiyama R, Nakamura T, Watanabe M. 2003. Regulation of murine inflammatory bowel disease by CD25+ and CD25- CD4+ glucocorticoid-induced TNF receptor family-related gene+ regulatory T cells. *J Immunol* 171: 708-16
50. Lehmann J, Huehn J, de la Rosa M, Maszyna F, Kretschmer U, Krenn V, Brunner M, Scheffold A, Hamann A. 2002. Expression of the integrin alpha Ebeta 7 identifies unique subsets of CD25+ as well as CD25- regulatory T cells. *Proc Natl Acad Sci U S A* 99: 13031-6
51. Bruder D, Probst-Kerper M, Westendorf AM, Geffers R, Beissert S, Loser K, von Boehmer H, Buer J, Hansen W. 2004. Neuropilin-1: a surface marker of regulatory T cells. *Eur J Immunol* 34: 623-30

52. Bettelli E, Dastrange M, Oukka M. 2005. Foxp3 interacts with nuclear factor of activated T cells and NF-kappa B to repress cytokine gene expression and effector functions of T helper cells. *Proc Natl Acad Sci U S A* 102: 5138-43
53. Chen W, Jin W, Hardegen N, Lei KJ, Li L, Marinos N, McGrady G, Wahl SM. 2003. Conversion of peripheral CD4+CD25- naive T cells to CD4+CD25+ regulatory T cells by TGF-beta induction of transcription factor Foxp3. *J Exp Med* 198: 1875-86
54. Seddon B, Mason D. 2000. The third function of the thymus. *Immunology Today* 21: 95-9
55. Anderson MS, Venanzi ES, Chen Z, Berzins SP, Benoist C, Mathis D. 2005. The cellular mechanism of Aire control of T cell tolerance. *Immunity* 23: 227-39
56. Fontenot JD, Rudensky AY. 2004. Molecular aspects of regulatory T cell development. *Semin Immunol* 16: 73-80
57. Apostolou I, von Boehmer H. 2004. In vivo instruction of suppressor commitment in naive T cells. *J Exp Med* 199: 1401-8
58. Horwitz DA, Zheng SG, Gray JD. 2003. The role of the combination of IL-2 and TGF-beta or IL-10 in the generation and function of CD4+ CD25+ and CD8+ regulatory T cell subsets. *J Leukoc Biol* 74: 471-8
59. Horwitz DA, Zheng SG, Gray JD, Wang JH, Ohtsuka K, Yamagawa S. 2004. Regulatory T cells generated ex vivo as an approach for the therapy of autoimmune disease. *Semin Immunol* 16: 135-43
60. Belkaid Y, Rouse BT. 2005. Natural regulatory T cells in infectious disease. *Nat Immunol* 6: 353-60
61. Fallarino F, Grohmann U, Hwang KW, Orabona C, Vacca C, Bianchi R, Belladonna ML, Fioretti MC, Alegre ML, Puccetti P. 2003. Modulation of tryptophan catabolism by regulatory T cells. *Nat Immunol*
62. Jonuleit H, Schmitt E, Kakirman H, Stassen M, Knop J, Enk AH. 2002. Infectious tolerance: human CD25(+) regulatory T cells convey suppressor activity to conventional CD4(+) T helper cells. *J Exp Med* 196: 255-60
63. Bluestone JA, Abbas AK. 2003. Natural versus adaptive regulatory T cells. *Nat Rev Immunol* 3: 253-7
64. von Boehmer H. 2005. Mechanisms of suppression by suppressor T cells. *Nat Immunol* 6: 338-44
65. Stephens GL, McHugh RS, Whitters MJ, Young DA, Luxenberg D, Carreno BM, Collins M, Shevach EM. 2004. Engagement of glucocorticoid-induced TNFR family-related receptor on effector T cells by its ligand mediates resistance to suppression by CD4+CD25+ T cells. *J Immunol* 173: 5008-20
66. Pasare C, Medzhitov R. 2003. Toll pathway-dependent blockade of CD4+CD25+ T cell-mediated suppression by dendritic cells. *Science* 299: 1033-6
67. Caramalho I, Lopes-Carvalho T, Ostler D, Zelenay S, Haury M, Demengeot J. 2003. Regulatory T cells selectively express toll-like receptors and are activated by lipopolysaccharide. *J Exp Med* 197: 403-11
68. Bystry RS, Aluvihare V, Welch KA, Kallikourdis M, Betz AG. 2001. B cells and professional APCs recruit regulatory T cells via CCL4. *Nat Immunol* 2: 1126-32
69. Szanya V, Ermann J, Taylor C, Holness C, Fathman CG. 2002. The subpopulation of CD4+CD25+ splenocytes that delays adoptive transfer of diabetes expresses L-selectin and high levels of CCR7. *J Immunol* 169: 2461-5
70. Huehn J, Siegmund K, Lehmann JC, Siewert C, Haubold U, Feuerer M, Debes GF, Lauber J, Frey O, Przybylski GK, Niesner U, De La Rosa M, Schmidt CA, Brauer R, Buer J, Scheffold A, Hamann A. 2004. Developmental Stage, Phenotype, and Migration Distinguish Naive- and Effector/Memory-like CD4+ Regulatory T Cells. In *J Exp Med*, pp. 303-13
71. Walther M, Tongren JE, Andrews L, Korbel D, King E, Fletcher H, Andersen RF, Bejon P, Thompson F, Dunachie SJ, Edele F, de Souza JB, Sinden RE, Gilbert SC, Riley EM, Hill AV. 2005. Upregulation of TGF-beta, FOXP3, and CD4+CD25+ regulatory T cells correlates with more rapid parasite growth in human malaria infection. *Immunity* 23: 287-96
72. Hisaeda H, Maekawa Y, Iwakawa D, Okada H, Himeno K, Kishihara K, Tsukumo S, Yasutomo K. 2004. Escape of malaria parasites from host immunity requires CD4+ CD25+ regulatory T cells. *Nat Med* 10: 29-30
73. Baecher-Allan C, Brown JA, Freeman GJ, Hafler DA. 2001. CD4+CD25high regulatory cells in human peripheral blood. *J Immunol* 167: 1245-53
74. Walker LS, Chodos A, Eggena M, Dooms H, Abbas AK. 2003. Antigen-dependent proliferation of CD4+ CD25+ regulatory T cells in vivo. *J Exp Med* 198: 249-58
75. Ziegler SF. 2005. FOXP3: Of Mice and Men. *Annu Rev Immunol*

76. Iellem A, Mariani M, Lang R, Recalde H, Panina-Bordignon P, Sinigaglia F, D'Ambrosio D. 2001. Unique chemotactic response profile and specific expression of chemokine receptors CCR4 and CCR8 by CD4(+)CD25(+) regulatory T cells. *J Exp Med* 194: 847-53
77. Stassen M, Fondel S, Bopp T, Richter C, Müller C, Kubach J, Becker C, Knop J, Schmitt S, Schmitt E, Enk AH, Jonuleit H. 2004. Human CD25+ regulatory T cells: two subsets defined by the integrin a4b7 or a4b1 confer distinct suppressive properties upon CD4+ T helper cells. *Eur J Immunol* 34: 1303-11
78. Gondek DC, Lu LF, Quezada SA, Sakaguchi S, Noelle RJ. 2005. Cutting edge: contact-mediated suppression by CD4+CD25+ regulatory cells involves a granzyme B-dependent, perforin-independent mechanism. *J Immunol* 174: 1783-6
79. Grossman WJ, Verbsky JW, Barchet W, Colonna M, Atkinson JP, Ley TJ. 2004. Human T regulatory cells can use the perforin pathway to cause autologous target cell death. *Immunity* 21: 589-601
80. Nomura T, Sakaguchi S. 2005. Naturally arising CD25+CD4+ regulatory T cells in tumor immunity. *Curr Top Microbiol Immunol* 293: 287-302
81. Cobbold SP, Graca L, Lin CY, Adams E, Waldmann H. 2003. Regulatory T cells in the induction and maintenance of peripheral transplantation tolerance. *Transpl Int* 16: 66-75
82. Graca L, Le Moine A, Cobbold SP, Waldmann H. 2003. Dominant transplantation tolerance. Opinion. *Curr Opin Immunol* 15: 499-506
83. Ostroukhova M, Ray A. 2005. CD25+ T cells and regulation of allergen-induced responses. *Curr Allergy Asthma Rep* 5: 35-41
84. Bach JF, Chatenoud L. 2001. Tolerance to islet autoantigens in type 1 diabetes. *Annu Rev Immunol* 19: 131-61
85. Chatenoud L. 2003. CD3-specific antibody-induced active tolerance: from bench to bedside. *Nat Rev Immunol* 3: 123-32
86. Jaeckel E, von Boehmer H, Manns MP. 2005. Antigen-specific FoxP3-transduced T-cells can control established type 1 diabetes. *Diabetes* 54: 306-10
87. Furtado GC, Olivares-Villagomez D, Curotto de Lafaille MA, Wensky AK, Latkowski JA, Lafaille JJ. 2001. Regulatory T cells in spontaneous autoimmune encephalomyelitis. *Immunol Rev* 182: 122-34
88. Zhang X, Koldzic DN, Izikson L, Reddy J, Nazareno RF, Sakaguchi S, Kuchroo VK, Weiner HL. 2004. IL-10 is involved in the suppression of experimental autoimmune encephalomyelitis by CD25+CD4+ regulatory T cells. *Int Immunol* 16: 249-56
89. Kohm AP, Carpentier PA, Miller SD. 2003. Regulation of experimental autoimmune encephalomyelitis (EAE) by CD4+CD25+ regulatory T cells. *Novartis Found Symp* 252: 45-52; discussion -4, 106-14
90. McGechy MJ, Stephens LA, Anderton SM. 2005. Natural recovery and protection from autoimmune encephalomyelitis: contribution of CD4+CD25+ regulatory cells within the central nervous system. *J Immunol* 175: 3025-32
91. Reddy J, Illes Z, Zhang X, Encinas J, Pyrdol J, Nicholson L, Sobel RA, Wucherpfennig KW, Kuchroo VK. 2004. Myelin proteolipid protein-specific CD4+CD25+ regulatory cells mediate genetic resistance to experimental autoimmune encephalomyelitis. *Proc Natl Acad Sci U S A* 101: 15434-9
92. Hori S, Haury M, Coutinho A, Demengeot J. 2002. Specificity requirements for selection and effector functions of CD25+4+ regulatory T cells in anti-myelin basic protein T cell receptor transgenic mice. *Proc Natl Acad Sci U S A* 99: 8213-8
93. Viglietta V, Baecher-Allan C, Weiner HL, Hafler DA. 2004. Loss of functional suppression by CD4+CD25+ regulatory T cells in patients with multiple sclerosis. *J Exp Med* 199: 971-9
94. North RJ. 1982. Cyclophosphamide-facilitated adoptive immunotherapy of an established tumor depends on elimination of tumor-induced suppressor T cells. *J Exp Med* 155: 1063-74
95. DiGiacomo A, North RJ. 1986. T cell suppressors of antitumor immunity. The production of Ly-1,2+ suppressors of delayed sensitivity precedes the production of suppressors of protective immunity. *J Exp Med* 164: 1179-92
96. Awwad M, North RJ. 1988. Cyclophosphamide (Cy)-facilitated adoptive immunotherapy of a Cy-resistant tumour. Evidence that Cy permits the expression of adoptive T-cell mediated immunity by removing suppressor T cells rather than by reducing tumour burden. *Immunology* 65: 87-92
97. Sakaguchi S, Sakaguchi N, Shimizu J, Yamazaki S, Sakihama T, Itoh M, Kuniyasu Y, Nomura T, Toda M, Takahashi T. 2001. Immunologic tolerance maintained by CD25+ CD4+ regulatory T cells: their common role in controlling autoimmunity, tumor immunity, and transplantation tolerance. *Immunol Rev* 182: 18-32

98. Jones E, Golgher D, Simon AK, Dahm-Vicker M, Screamton G, Elliott T, Gallimore A. 2004. The influence of CD25+ cells on the generation of immunity to tumour cell lines in mice. *Novartis Found Symp* 256: 149-52; discussion 52-7, 259-69
99. Zou W. 2006. Regulatory T cells, tumour immunity and immunotherapy. *Nat Rev Immunol* 6: 295-307
100. Somasundaram R, Jacob L, Swoboda R, Caputo L, Song H, Basak S, Monos D, Peritt D, Marincola F, Cai D, Birebent B, Bloome E, Kim J, Berencsi K, Mastrangelo M, Herlyn D. 2002. Inhibition of cytolytic T lymphocyte proliferation by autologous CD4+/CD25+ regulatory T cells in a colorectal carcinoma patient is mediated by transforming growth factor-beta. *Cancer Res* 62: 5267-72
101. Sasada T, Kimura M, Yoshida Y, Kanai M, Takabayashi A. 2003. CD4+CD25+ regulatory T cells in patients with gastrointestinal malignancies: possible involvement of regulatory T cells in disease progression. *Cancer* 98: 1089-99
102. Sutmuller RP, van Duivenvoorde LM, van Elsas A, Schumacher TN, Wildenberg ME, Allison JP, Toes RE, Offringa R, Melfi CJ. 2001. Synergism of cytotoxic T lymphocyte-associated antigen 4 blockade and depletion of CD25(+) regulatory T cells in antitumor therapy reveals alternative pathways for suppression of autoreactive cytotoxic T lymphocyte responses. *J Exp Med* 194: 823-32
103. Curiel TJ, Coukos G, Zou L, Alvarez X, Cheng P, Mottram P, Evdemon-Hogan M, Conejo-Garcia JR, Zhang L, Burow M, Zhu Y, Wei S, Kryczek I, Daniel B, Gordon A, Myers L, Lackner A, Disis ML, Knutson KL, Chen L, Zou W. 2004. Specific recruitment of regulatory T cells in ovarian carcinoma fosters immune privilege and predicts reduced survival. *Nat Med* 10: 942-9
104. Yu P, Lee Y, Liu W, Krausz T, Chong A, Schreiber H, Fu YX. 2005. Intratumor depletion of CD4+ cells unmasks tumor immunogenicity leading to the rejection of late-stage tumors. *J Exp Med* 201: 779-91
105. Aandahl EM, Michaelsson J, Moretto WJ, Hecht FM, Nixon DF. 2004. Human CD4+ CD25+ regulatory T cells control T-cell responses to human immunodeficiency virus and cytomegalovirus antigens. *J Virol* 78: 2454-9
106. Egguna MP, Barugahare B, Jones N, Okello M, Mutalya S, Kityo C, Mugyenyi P, Cao H. 2005. Depletion of regulatory T cells in HIV infection is associated with immune activation. *J Immunol* 174: 4407-14
107. Nixon DF, Aandahl EM, Michaelsson J. 2005. CD4+CD25+ regulatory T cells in HIV infection. *Microbes Infect* 7: 1063-5
108. Reif K, Ekland EH, Ohl L, Nakano H, Lipp M, Forster R, Cyster JG. 2002. Balanced responsiveness to chemoattractants from adjacent zones determines B-cell position. *Nature* 416: 94-9
109. Murphy KM, Heimberger AB, Loh DY. 1990. Induction by antigen of intrathymic apoptosis of CD4+CD8+TCR δ thymocytes in vivo. *Science* 250: 1720-3
110. Liu GY, Fairchild PJ, Smith RM, Prowle JR, Kioussis D, Wraith DC. 1995. Low avidity recognition of self-antigen by T cells permits escape from central tolerance. *Immunity* 3: 407-15
111. Kucharzik T, Hudson JT, 3rd, Waikel RL, Martin WD, Williams IR. 2002. CCR6 expression distinguishes mouse myeloid and lymphoid dendritic cell subsets: demonstration using a CCR6 EGFP knock-in mouse. *Eur J Immunol* 32: 104-12
112. Barnden MJ, Allison J, Heath WR, Carbone FR. 1998. Defective TCR expression in transgenic mice constructed using cDNA-based alpha- and beta-chain genes under the control of heterologous regulatory elements. *Immunol Cell Biol* 76: 34-40
113. Mombaerts P, Iacomini J, Johnson RS, Herrup K, Tonegawa S, Papaioannou VE. 1992. RAG-1-deficient mice have no mature B and T lymphocytes. *Cell* 68: 869-77
114. Thornton AM, Shevach EM. 1998. CD4+CD25+ immunoregulatory T cells suppress polyclonal T cell activation in vitro by inhibiting interleukin 2 production. *J Exp Med* 188: 287-96
115. Ebert LM, McColl SR. 2002. Up-regulation of CCR5 and CCR6 on distinct subpopulations of antigen-activated CD4+ T lymphocytes. *J Immunol* 168: 65-72
116. Oi VT, Morrison SL, Herzenberg LA, Berg P. 1983. Immunoglobulin Gene Expression in Transformed Lymphoid Cells. *PNAS* 80: 825-9
117. Ibe S, Qin Z, Schuler T, Preiss S, Blankenstein T. 2001. Tumor rejection by disturbing tumor stroma cell interactions. *J Exp Med* 194: 1549-59
118. Sakaguchi S, Fukuma K, Kurabayashi K, Masuda T. 1985. Organ-specific autoimmune diseases induced in mice by elimination of T cell subset. I. Evidence for the active participation of T cells in natural self-tolerance; deficit of a T cell subset as a possible cause of autoimmune disease. *J Exp Med* 161: 72-87

119. Chen X, Oppenheim JJ, Howard OM. 2005. BALB/c mice have more CD4+CD25+ T regulatory cells and show greater susceptibility to suppression of their CD4+CD25- responder T cells than C57BL/6 mice. *J Leukoc Biol* 78: 114-21
120. Lechner O, Lauber J, Franzke A, Sarukhan A, von Boehmer H, Buer J. 2001. Fingerprints of anergic T cells. *Curr Biol* 11: 587-95
121. Zelenika D, Adams E, Humm S, Graca L, Thompson S, Cobbold SP, Waldmann H. 2002. Regulatory T cells overexpress a subset of Th2 gene transcripts. *J Immunol* 168: 1069-79
122. Gavin MA, Clarke SR, Negrou E, Gallegos A, Rudensky A. 2002. Homeostasis and anergy of CD4(+)CD25(+) suppressor T cells in vivo. *Nat Immunol* 3: 33-41
123. Sallusto F, Lenig D, Forster R, Lipp M, Lanzavecchia A. 1999. Two subsets of memory T lymphocytes with distinct homing potentials and effector functions. *Nature* 401: 708-12
124. Moser B, Loetscher P. 2001. Lymphocyte traffic control by chemokines. *Nat Immunol* 2: 123-8
125. Jenkins MK, Khoruts A, Ingulli E, Mueller DL, McSorley SJ, Reinhardt RL, Itano A, Pape KA. 2001. In vivo activation of antigen-specific CD4 T cells. *Annu Rev Immunol* 19: 23-45
126. Liao F, Rabin RL, Smith CS, Sharma G, Nutman TB, Farber JM. 1999. CC-chemokine receptor 6 is expressed on diverse memory subsets of T cells and determines responsiveness to macrophage inflammatory protein 3 alpha. *J Immunol* 162: 186-94
127. Fitzhugh DJ, Naik S, Caughman SW, Hwang ST. 2000. Cutting edge: C-C chemokine receptor 6 is essential for arrest of a subset of memory T cells on activated dermal microvascular endothelial cells under physiologic flow conditions in vitro. *J Immunol* 165: 6677-81
128. Dieu MC, Vanbervliet B, Vicari A, Bridon JM, Oldham E, Ait-Yahia S, Briere F, Zlotnik A, Lebecque S, Caux C. 1998. Selective recruitment of immature and mature dendritic cells by distinct chemokines expressed in different anatomic sites. *J Exp Med* 188: 373-86
129. Dieu-Nosjean MC, Massacrier C, Vanbervliet B, Fridman WH, Caux C. 2001. IL-10 induces CCR6 expression during Langerhans cell development while IL-4 and IFN-gamma suppress it. *J Immunol* 167: 5594-602
130. Greaves DR, Wang W, Dairaghi DJ, Dieu MC, Saint-Vis B, Franz-Bacon K, Rossi D, Caux C, McClanahan T, Gordon S, Zlotnik A, Schall TJ. 1997. CCR6, a CC chemokine receptor that interacts with macrophage inflammatory protein 3alpha and is highly expressed in human dendritic cells. *J Exp Med* 186: 837-44
131. Shimizu Y, Murata H, Kashii Y, Hirano K, Kunitani H, Higuchi K, Watanabe A. 2001. CC-chemokine receptor 6 and its ligand macrophage inflammatory protein 3alpha might be involved in the amplification of local necroinflammatory response in the liver. *Hepatology* 34: 311-9
132. Varona R, Zaballos A, Gutierrez J, Martin P, Roncal F, Albar JP, Arduvina C, Marquez G. 1998. Molecular cloning, functional characterization and mRNA expression analysis of the murine chemokine receptor CCR6 and its specific ligand MIP-3alpha. *FEBS Lett* 440: 188-94
133. Ambrosini E, Columba-Cabezas S, Serafini B, Muscella A, Aloisi F. 2003. Astrocytes are the major intracerebral source of macrophage inflammatory protein-3alpha/CCL20 in relapsing experimental autoimmune encephalomyelitis and in vitro. *Glia* 41: 290-300
134. Horney B, Dieu-Nosjean MC, Wiesenborn A, Massacrier C, Pin JJ, Oldham E, Catron D, Buchanan ME, Muller A, deWaal Malefyt R, Deng G, Orozco R, Ruzicka T, Lehmann P, Lebecque S, Caux C, Zlotnik A. 2000. Up-regulation of macrophage inflammatory protein-3 alpha/CCL20 and CC chemokine receptor 6 in psoriasis. *J Immunol* 164: 6621-32
135. Cook DN, Prosser DM, Forster R, Zhang J, Kuklin NA, Abbondanzo SJ, Niu XD, Chen SC, Manfra DJ, Wiekowski MT, Sullivan LM, Smith SR, Greenberg HB, Narula SK, Lipp M, Lira SA. 2000. CCR6 mediates dendritic cell localization, lymphocyte homeostasis, and immune responses in mucosal tissue. *Immunity* 12: 495-503
136. Varona R, Villares R, Carramolino L, Goya I, Zaballos A, Gutierrez J, Torres M, Martinez AC, Marquez G. 2001. CCR6-deficient mice have impaired leukocyte homeostasis and altered contact hypersensitivity and delayed-type hypersensitivity responses. *J Clin Invest* 107: R37-45
137. Varona R, Cadenas V, Flores J, Martinez AC, Marquez G. 2003. CCR6 has a non-redundant role in the development of inflammatory bowel disease. *Eur J Immunol* 33: 2937-46
138. Fontenot JD, Gavin MA, Rudensky AY. 2003. Foxp3 programs the development and function of CD4+CD25+ regulatory T cells. *Nat Immunol* 4: 330-6
139. Khattri R, Cox T, Yasayko SA, Ramsdell F. 2003. An essential role for Scurfin in CD4+CD25+ T regulatory cells. *Nat Immunol* 4: 337-42
140. Tordjman R, Lepelletier Y, Lemarchandel V, Cambot M, Gaulard P, Hermine O, Romeo PH. 2002. A neuronal receptor, neuropilin-1, is essential for the initiation of the primary immune response. *Nat Immunol* 3: 477-82

141. Fontenot JD, Rasmussen JP, Williams LM, Dooley JL, Farr AG, Rudensky AY. 2005. Regulatory T cell lineage specification by the forkhead transcription factor foxp3. *Immunity* 22: 329-41
142. Wan YY, Flavell RA. 2005. Identifying Foxp3-expressing suppressor T cells with a bicistronic reporter. *Proc Natl Acad Sci U S A* 102: 5126-31
143. Sprent J, Surh CD. 2002. T cell memory. *Annu Rev Immunol* 20: 551-79
144. Unsoeld H, Krautwald S, Voehringer D, Kunzendorf U, Pircher H. 2002. Cutting edge: CCR7+ and CCR7- memory T cells do not differ in immediate effector cell function. *J Immunol* 169: 638-41
145. Debes GF, Hopken UE, Hamann A. 2002. In vivo differentiated cytokine-producing CD4(+) T cells express functional CCR7. *J Immunol* 168: 5441-7
146. Blander JM, Sant'Angelo DB, Metz D, Kim SW, Flavell RA, Bottomly K, Janeway CA, Jr. 2003. A pool of central memory-like CD4 T cells contains effector memory precursors. *J Immunol* 170: 2940-8
147. Sereti I, Martinez-Wilson H, Metcalf JA, Baseler MW, Hallahan CW, Hahn B, Hengel RL, Davey RT, Kovacs JA, Lane HC. 2002. Long-term effects of intermittent interleukin 2 therapy in patients with HIV infection: characterization of a novel subset of CD4(+)/CD25(+) T cells. *Blood* 100: 2159-67
148. Macallan DC, Wallace D, Zhang Y, De Lara C, Worth AT, Ghattas H, Griffin GE, Beverley PC, Tough DF. 2004. Rapid turnover of effector-memory CD4(+) T cells in healthy humans. *J Exp Med* 200: 255-60
149. Fisson S, Darrasse-Jeze G, Litvinova E, Septier F, Klatzmann D, Liblau R, Salomon BL. 2003. Continuous Activation of Autoreactive CD4+ CD25+ Regulatory T Cells in the Steady State. *J Exp Med* 198: 737-46
150. Jordan MS, Boesteanu A, Reed AJ, Petrone AL, Holenbeck AE, Lerman MA, Naji A, Caton AJ. 2001. Thymic selection of CD4+CD25+ regulatory T cells induced by an agonist self-peptide. *Nat Immunol* 2: 301-6
151. Yang D, Chertov O, Bykovskaya SN, Chen Q, Buffo MJ, Shogan J, Anderson M, Schroder JM, Wang JM, Howard OM, Oppenheim JJ. 1999. Beta-defensins: linking innate and adaptive immunity through dendritic and T cell CCR6. *Science* 286: 525-8
152. Meissner A, Zilles O, Varona R, Jozefowski K, Ritter U, Marquez G, Hallmann R, Korner H. 2003. CC chemokine ligand 20 partially controls adhesion of naive B cells to activated endothelial cells under shear stress. *Blood* 102: 2724-7
153. Gavin M, Rudensky A. 2003. Control of immune homeostasis by naturally arising regulatory CD4+ T cells. *Curr Opin Immunol* 15: 690-6
154. Bruhl H, Cihak J, Schneider MA, Plachy J, Rupp T, Wenzel I, Shakarami M, Milz S, Ellwart JW, Stangassinger M, Schlondorff D, Mack M. 2004. Dual Role of CCR2 during Initiation and Progression of Collagen-Induced Arthritis: Evidence for Regulatory Activity of CCR2+ T Cells. *J Immunol* 172: 890-8
155. Herman AE, Freeman GJ, Mathis D, Benoist C. 2004. CD4+CD25+ T regulatory cells dependent on ICOS promote regulation of effector cells in the prediabetic lesion. *J Exp Med* 199: 1479-89
156. Banz A, Peixoto A, Pontoux C, Cordier C, Rocha B, Papiernik M. 2003. A unique subpopulation of CD4+ regulatory T cells controls wasting disease, IL-10 secretion and T cell homeostasis. *Eur J Immunol* 33: 2419-28
157. Nakamura K, Kitani A, Fuss I, Pedersen A, Harada N, Nawata H, Strober W. 2004. TGF-beta 1 plays an important role in the mechanism of CD4+CD25+ regulatory T cell activity in both humans and mice. *J Immunol* 172: 834-42
158. Shevach EM. 2004. Regulatory/suppressor T cells in health and disease. *Arthritis Rheum* 50: 2721-4
159. Klein L, Khazaie K, von Boehmer H. 2003. In vivo dynamics of antigen-specific regulatory T cells not predicted from behavior in vitro. *Proc Natl Acad Sci U S A* 100: 8886-91
160. Ambrosini E, Remoli ME, Giacomini E, Rosicarelli B, Serafini B, Lande R, Aloisi F, Coccia EM. 2005. Astrocytes produce dendritic cell-attracting chemokines in vitro and in multiple sclerosis lesions. *J Neuropathol Exp Neurol* 64: 706-15
161. Nocentini G, Riccardi C. 2005. GITR: a multifaceted regulator of immunity belonging to the tumor necrosis factor receptor superfamily. *Eur J Immunol* 35: 1016-22
162. Kohler RE, Caon AC, Willenborg DO, Clark-Lewis I, McColl SR. 2003. A role for macrophage inflammatory protein-3 alpha/CC chemokine ligand 20 in immune priming during T cell-mediated inflammation of the central nervous system. *J Immunol* 170: 6298-306

163. Abiko Y, Nishimura M, Kusano K, Nakashima K, Okumura K, Arakawa T, Takuma T, Mizoguchi I, Kaku T. 2003. Expression of MIP-3alpha/CCL20, a macrophage inflammatory protein in oral squamous cell carcinoma. *Arch Oral Biol* 48: 171-5
164. Kleeff J, Kusama T, Rossi DL, Ishiwata T, Maruyama H, Friess H, Buchler MW, Zlotnik A, Korc M. 1999. Detection and localization of Mip-3alpha/LARC/Exodus, a macrophage proinflammatory chemokine, and its CCR6 receptor in human pancreatic cancer. *Int J Cancer* 81: 650-7
165. Ghosh S, Spagnoli GC, Martin I, Ploegert S, Demougin P, Heberer M, Reschner A. 2005. Three-dimensional culture of melanoma cells profoundly affects gene expression profile: a high density oligonucleotide array study. *J Cell Physiol* 204: 522-31
166. Iellem A, Colantonio L, D'Ambrosio D. 2003. Skin-versus gut-skewed homing receptor expression and intrinsic CCR4 expression on human peripheral blood CD4+CD25+ suppressor T cells. *Eur J Immunol* 33: 1488-96
167. Pribila JT, Quale AC, Mueller KL, Shimizu Y. 2004. Integrins and T cell-mediated immunity. *Annu Rev Immunol* 22: 157-80
168. Fuhlbrigge RC, Kieffer JD, Armerding D, Kupper TS. 1997. Cutaneous lymphocyte antigen is a specialized form of PSGL-1 expressed on skin-homing T cells. *Nature* 389: 978-81
169. Ley K, Kansas GS. 2004. Selectins in T-cell recruitment to non-lymphoid tissues and sites of inflammation. *Nat Rev Immunol* 4: 325-35
170. Yagi H, Nomura T, Nakamura K, Yamazaki S, Kitawaki T, Hori S, Maeda M, Onodera M, Uchiyama T, Fujii S, Sakaguchi S. 2004. Crucial role of FOXP3 in the development and function of human CD25+CD4+ regulatory T cells. *Int Immunol* 16: 1643-56
171. Bensinger SJ, Bandeira A, Jordan MS, Caton AJ, Laufer TM. 2001. Major histocompatibility complex class II-positive cortical epithelium mediates the selection of CD4(+)25(+) immunoregulatory T cells. *J Exp Med* 194: 427-38
172. Itoh M, Takahashi T, Sakaguchi N, Kuniyasu Y, Shimizu J, Otsuka F, Sakaguchi S. 1999. Thymus and autoimmunity: production of CD25+CD4+ naturally anergic and suppressive T cells as a key function of the thymus in maintaining immunologic self-tolerance. *J Immunol* 162: 5317-26
173. Savino W, Mendes-da-Cruz DA, Silva JS, Dardenne M, Cotta-de-Almeida V. 2002. Intrathymic T-cell migration: a combinatorial interplay of extracellular matrix and chemokines? *Trends Immunol* 23: 305-13
174. Takahama Y. 2006. Journey through the thymus: stromal guides for T-cell development and selection. *Nat Rev Immunol* 6: 127-35
175. Rabinovich GA, Baum LG, Tinari N, Paganelli R, Natoli C, Liu FT, Iacobelli S. 2002. Galectins and their ligands: amplifiers, silencers or tuners of the inflammatory response? *Trends Immunol* 23: 313-20
176. van den Brule F, Califice S, Castronovo V. 2004. Expression of galectins in cancer: a critical review. *Glycoconj J* 19: 537-42
177. Marcus AJ, Broekman MJ, Drosopoulos JH, Islam N, Pinsky DJ, Sesti C, Levi R. 2003. Heterologous cell-cell interactions: thromboregulation, cerebroprotection and cardioprotection by CD39 (NTPDase-1). *J Thromb Haemost* 1: 2497-509
178. Marcus AJ, Broekman MJ, Drosopoulos JH, Olson KE, Islam N, Pinsky DJ, Levi R. 2005. Role of CD39 (NTPDase-1) in thromboregulation, cerebroprotection, and cardioprotection. *Semin Thromb Hemost* 31: 234-46
179. Goepfert C, Sundberg C, Sevigny J, Enjoji K, Hoshi T, Csizmadia E, Robson S. 2001. Disordered cellular migration and angiogenesis in cd39-null mice. *Circulation* 104: 3109-15
180. Takeba Y, Nagafuchi H, Takeno M, Kashiwakura J, Suzuki N. 2002. Txk, a member of nonreceptor tyrosine kinase of Tec family, acts as a Th1 cell-specific transcription factor and regulates IFN-gamma gene transcription. *J Immunol* 168: 2365-70
181. Schluns KS, Lefrancois L. 2003. Cytokine control of memory T-cell development and survival. *Nat Rev Immunol* 3: 269-79
182. Bluestone JA, Tang Q. 2004. Therapeutic vaccination using CD4+CD25+ antigen-specific regulatory T cells. *Proc Natl Acad Sci U S A* 101 Suppl 2: 14622-6
183. Nishikawa H, Kato T, Tawara I, Saito K, Ikeda H, Kurabayashi K, Allen PM, Schreiber RD, Sakaguchi S, Old LJ, Shiku H. 2005. Definition of target antigens for naturally occurring CD4(+) CD25(+) regulatory T cells. *J Exp Med* 201: 681-6
184. Thornton CA, Upham JW, Wikstrom ME, Holt BJ, White GP, Sharp MJ, Sly PD, Holt PG. 2004. Functional maturation of CD4+CD25+CTLA4+CD45RA+ T regulatory cells in human neonatal T cell responses to environmental antigens/allergens. *J Immunol* 173: 3084-92

185. Godfrey WR, Spoden DJ, Ge YG, Baker SR, Liu B, Levine BL, June CH, Blazar BR, Porter SB. 2005. Cord blood CD4(+)CD25(+) derived T regulatory cell lines express FoxP3 protein and manifest potent suppressor function. *Blood* 105: 750-8
186. Wing K, Larsson P, Sandstrom K, Lundin SB, Suri-Payer E, Rudin A. 2005. CD4+ CD25+ FOXP3+ regulatory T cells from human thymus and cord blood suppress antigen-specific T cell responses. *Immunology* 115: 516-25
187. Wing K, Ekmark A, Karlsson H, Rudin A, Suri-Payer E. 2002. Characterization of human CD25+ CD4+ T cells in thymus, cord and adult blood. *Immunology* 106: 190-9
188. Bonnotte B, Crittenden M, Larmonier N, Gough M, Vile RG. 2004. MIP-3alpha transfection into a rodent tumor cell line increases intratumoral dendritic cell infiltration but enhances (facilitates) tumor growth and decreases immunogenicity. *J Immunol* 173: 4929-35
189. Lalani AS, McFadden G. 1999. Evasion and exploitation of chemokines by viruses. *Cytokine Growth Factor Rev* 10: 219-33
190. Holst PJ, Lutichau HR, Schwartz TW, Rosenkilde MM. 2003. Virally encoded chemokines and chemokine receptors in the role of viral infections. *Contrib Microbiol* 10: 232-52
191. Sozzani S, Luini W, Bianchi G, Allavena P, Wells TN, Napolitano M, Bernardini G, Vecchi A, D'Ambrosio D, Mazzeo D, Sinigaglia F, Santoni A, Maggi E, Romagnani S, Mantovani A. 1998. The viral chemokine macrophage inflammatory protein-II is a selective Th2 chemoattractant. *Blood* 92: 4036-9
192. Singh UP, Singh S, Ravichandran P, Taub DD, Lillard JW, Jr. 2004. Viral macrophage-inflammatory protein-II: a viral chemokine that differentially affects adaptive mucosal immunity compared with its mammalian counterparts. *J Immunol* 173: 5509-16
193. Ichihara F, Kono K, Takahashi A, Kawaida H, Sugai H, Fujii H. 2003. Increased populations of regulatory T cells in peripheral blood and tumor-infiltrating lymphocytes in patients with gastric and esophageal cancers. *Clin Cancer Res* 9: 4404-8
194. Rice GP, Hartung HP, Calabresi PA. 2005. Anti-alpha4 integrin therapy for multiple sclerosis: mechanisms and rationale. *Neurology* 64: 1336-42
195. Polman CH, O'Connor PW, Havrdova E, Hutchinson M, Kappos L, Miller DH, Phillips JT, Lublin FD, Giovannoni G, Wajgt A, Toal M, Lynn F, Panzara MA, Sandrock AW. 2006. A randomized, placebo-controlled trial of natalizumab for relapsing multiple sclerosis. *N Engl J Med* 354: 899-910
196. Yednock TA, Cannon C, Fritz LC, Sanchez-Madrid F, Steinman L, Karin N. 1992. Prevention of experimental autoimmune encephalomyelitis by antibodies against alpha 4 beta 1 integrin. *Nature* 356: 63-6
197. Baron JL, Madri JA, Ruddle NH, Hashim G, Janeway CA, Jr. 1993. Surface expression of alpha 4 integrin by CD4 T cells is required for their entry into brain parenchyma. *J Exp Med* 177: 57-68
198. Leger OJ, Yednock TA, Tanner L, Horner HC, Hines DK, Keen S, Saldanha J, Jones ST, Fritz LC, Bendig MM. 1997. Humanization of a mouse antibody against human alpha-4 integrin: a potential therapeutic for the treatment of multiple sclerosis. *Hum Antibodies* 8: 3-16
199. Theien BE, Vanderlugt CL, Eagar TN, Nickerson-Nutter C, Nazareno R, Kuchroo VK, Miller SD. 2001. Discordant effects of anti-VLA-4 treatment before and after onset of relapsing experimental autoimmune encephalomyelitis. *J Clin Invest* 107: 995-1006
200. Theien BE, Vanderlugt CL, Nickerson-Nutter C, Cornebise M, Scott DM, Perper SJ, Whalley ET, Miller SD. 2003. Differential effects of treatment with a small-molecule VLA-4 antagonist before and after onset of relapsing EAE. *Blood* 102: 4464-71
201. Steinman L. 2005. Blocking adhesion molecules as therapy for multiple sclerosis: natalizumab. *Nat Rev Drug Discov* 4: 510-8
202. Yousry TA, Major EO, Ryschkewitsch C, Fahle G, Fischer S, Hou J, Curfman B, Miszkiel K, Mueller-Lenke N, Sanchez E, Barkhof F, Radue EW, Jager HR, Clifford DB. 2006. Evaluation of patients treated with natalizumab for progressive multifocal leukoencephalopathy. *N Engl J Med* 354: 924-33
203. Bai XF, Li O, Zhou Q, Zhang H, Joshi PS, Zheng X, Liu Y, Wang Y, Zheng P. 2004. CD24 controls expansion and persistence of autoreactive T cells in the central nervous system during experimental autoimmune encephalomyelitis. *J Exp Med* 200: 447-58
204. Suffia I, Reckling SK, Salay G, Belkaid Y. 2005. A role for CD103 in the retention of CD4+CD25+ Treg and control of Leishmania major infection. *J Immunol* 174: 5444-55
205. Siegmund K, Feuerer M, Siewert C, Ghani S, Haubold U, Dankof A, Krenn V, Schon MP, Scheffold A, Lowe JB, Hamann A, Syrbe U, Huehn J. 2005. Migration matters: regulatory T-cell compartmentalization determines suppressive activity in vivo. *Blood* 106: 3097-104
206. Stassen M, Fondel S, Bopp T, Richter C, Muller C, Kubach J, Becker C, Knop J, Enk AH, Schmitt S, Schmitt E, Jonuleit H. 2004. Human CD25+ regulatory T cells: two subsets defined

- by the integrins alpha 4 beta 7 or alpha 4 beta 1 confer distinct suppressive properties upon CD4+ T helper cells. *Eur J Immunol* 34: 1303-11
207. Ruprecht CR, Gattorno M, Ferlito F, Gregorio A, Martini A, Lanzavecchia A, Sallusto F. 2005. Coexpression of CD25 and CD27 identifies FoxP3+ regulatory T cells in inflamed synovia. *J Exp Med* 201: 1793-803
208. Chicha L, Tussiwand R, Traggiai E, Mazzucchelli L, Bronz L, Piffaretti JC, Lanzavecchia A, Manz MG. 2005. Human Adaptive Immune System Rag2-/-{gamma}c-/- Mice. *Ann N Y Acad Sci* 1044: 236-43
209. Traggiai E, Chicha L, Mazzucchelli L, Bronz L, Piffaretti JC, Lanzavecchia A, Manz MG. 2004. Development of a human adaptive immune system in cord blood cell-transplanted mice. *Science* 304: 104-7
210. von Boehmer H. 2005. Peptide-based instruction of suppressor commitment in naive T cells and dynamics of immunosuppression in vivo. *Scand J Immunol* 62 Suppl 1: 49-54
211. Louis I, Dulude G, Corneau S, Brochu S, Boileau C, Meunier C, Cote C, Labrecque N, Perreault C. 2003. Changes in the lymph node microenvironment induced by oncostatin M. *Blood* 102: 1397-404
212. Annunziato F, Cosmi L, Liotta F, Lazzeri E, Manetti R, Vanini V, Romagnani P, Maggi E, Romagnani S. 2002. Phenotype, localization, and mechanism of suppression of CD4(+)CD25(+) human thymocytes. *J Exp Med* 196: 379-87
213. Romagnoli P, Hudrisier D, van Meerwijk JP. 2005. Molecular signature of recent thymic selection events on effector and regulatory CD4+ T lymphocytes. *J Immunol* 175: 5751-8
214. Goldschneider I, Cone RE. 2003. A central role for peripheral dendritic cells in the induction of acquired thymic tolerance. *Trends Immunol* 24: 77-81
215. Fontenot JD, Dooley JL, Farr AG, Rudensky AY. 2005. Developmental regulation of Foxp3 expression during ontogeny. *J Exp Med* 202: 901-6
216. van Santen HM, Benoist C, Mathis D. 2004. Number of T reg cells that differentiate does not increase upon encounter of agonist ligand on thymic epithelial cells. *J Exp Med* 200: 1221-30
217. Fehervari Z, Sakaguchi S. 2004. Development and function of CD25+CD4+ regulatory T cells. *Curr Opin Immunol* 16: 203-8
218. Watanabe N, Wang YH, Lee HK, Ito T, Cao W, Liu YJ. 2005. Hassall's corpuscles instruct dendritic cells to induce CD4+CD25+ regulatory T cells in human thymus. *Nature* 436: 1181-5
219. Germain RN. 2002. T-cell development and the CD4-CD8 lineage decision. *Nat Rev Immunol* 2: 309-22
220. Romagnoli P, Hudrisier D, van Meerwijk JP. 2002. Preferential recognition of self antigens despite normal thymic deletion of CD4(+)CD25(+) regulatory T cells. *J Immunol* 168: 1644-8
221. Allan SE, Passerini L, Bacchetta R, Crellin N, Dai M, Orban PC, Ziegler SF, Roncarolo MG, Leavings MK. 2005. The role of 2 FOXP3 isoforms in the generation of human CD4 Tregs. *J Clin Invest*