

2000- National Coordinating Committee, Programs for Genomic
Applications, NHLBI
2001 Department of Defense Proposal Review Panel
2002 Chair, Ad Hoc Review, Special Emphasis Panel

Medical School

1984-5	Tri-departmental Curriculum Committee
1985-6	Admissions Committee, Division of Medical Sciences
1998-2002	Faculty Council
1999-2004	Ad Hoc Committee, Faculty Promotions
2000-2001	Docket Committee, Faculty Council
2001	Chair, Faculty Council Subcommittee on the Digital Library
2001-2002	Faculty Council Subcommittee on Attribution of Credit and Disposition of Research Materials
2002	Self Study Committee on Faculty, Liason Committee on Medical Education Accreditation
2002-2003	Basic Science Conflict of Interest Policy Review Subcommittee
2004-	Subcommittee of Professors
2004-	Systems Biology Search Committee

Hospital

1993-1994	Subcommittee on Gene Therapy, Task Force on Clinical Research
1994-1995	Chair, Transgenic/Knockout Animal Service Committee
1998-	Patent Evaluation Committee
2000-2001	ECOR Research Operations Improvement Subcommittee on the Industrial Interface
2000-2001	ECOR Research Operations Improvement Subcommittee on Faculty Development
2000-	Executive Committee on Research, MGH
2001-2002	Wellman Laboratories Leadership Transition Committee
2001-2003	Partners Research Strategic Planning Committee
2001-2003	MGH Future Research Planning Task Force
2002-	MGH Pathology Oversight Committee
2002-	Pathology Research Planning Committee
2001-	Thematic Centers Executive Committee
2003-2004	New Opportunities Task Force, Technology Subcommittee
2002-	Partners Internal Technology Assessment Committee
2003-	Research Council, Partners Healthcare System
2004	Cardiology Research Director Search Committee
2004-	Systems Biology Center Director Search Committee

Harvard/M.I.T. Division of Health Sciences Technology

2001-	Search Committee, HST and dual key HST/EECS faculty appointments
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2001- Personnel Committee
2001- HST/Sloan School Biomedical Enterprise Program

Administrative Responsibilities:

1994- Co-Director, Gene Therapy Center, Massachusetts General Hospital
1999- Associate Director, Boston Area Diabetes Endocrine Research Center
1993- Animal Facility, Department of Molecular Biology
1994- Endocrine/Molecular Biology DNA Core
2000- Informatics Consortium Steering, Department of Molecular Biology
2001-2004 Steering Committee, ParaBioSys PGA
2002- Director, Center for Computational and Integrative Biology, MGH

Advisory Roles:

1993-2001 Scientific Advisory Board, Connetics, Inc.
1997-2003 Scientific Advisory Board, Medigene, A.G.
1997-2004 Scientific Advisory Board, Phylos, Inc.
1997-1999 Scientific Advisory Board, Hoechst Marion Roussel A.G.
1999-2004 Scientific Advisory Board, Aventis, S.A.
2000-2004 Scientific Advisory Board, St. Jude Children's Research Hospital
2001- Scientific Advisory Board, eBioscience, Inc.

1991- Board of Directors, Edge Biosystems, Inc.
1997-2004 Board of Directors, Phylos, Inc.
2001- Board of Directors, eBioscience, Inc.
2001- Board of Directors, Theracos, Inc.

Memberships, Offices, and Committee Assignments in Professional Societies:

1982- American Society for Microbiology
1982- American Chemical Society
1982-1987 Genetics Society of America
1982- American Association for the Advancement of Science
1994- Editorial Board, Chemistry & Biology
1998- American Association of Immunologists

Major Research Interests:

Genetic approaches to the study of cell signaling in the immune system

Teaching Experience:

- 1983-1986 Genetics 202, Principles and Techniques in Molecular Biology, Harvard Medical School
- 1987-1992 Genetics 210, Conceptual Foundations for DNA Research, Harvard Medical School (alternate years)
- 1994- (alternate years) Immunology 217 Signal Transduction in the Immune System
- 2002 MIT BEP 15.994 Critical Analysis in Biomedical Enterprise
- 2002- HST 850 Critical Reading of the Scientific Literature

Competitive Research Grants:

- 1989- NIH R37 AI27849, Early events in T cell activation
- 1989-1994 NIH P01 HL43510, (Ezekowitz PI), HIV-Alveolar Macrophage Interaction
- 1989-2001 NIH R01 DK43031, Lymphoid Tissue Adhesion Molecules
- 1994-1997 NIH R01 HL53694, Genetic Therapy for Hemophilia
- 1996-1999 Hoechst A.G., Gene Therapy Vectors
- 1995-1998 Amgen, Inc., Expression Cloning of Lead Compound Targets
- 1996-2000 DARPA, (Scadden PI) Immune Cell-Based Counter Measures to Biologic Pathogens and Myelotoxins
- 2000- NIH P30 DK57521, (Avruch PI) Boston Area Diabetes Endocrine Research Center
- 2000- NIH P01 CA801241, (Jain PI), Integrative Pathophysiology of Solid Tumors
- 2000- NIH R01 AI46731, PI, Cellular Context of NF-kB Activation
- 2000-2004 NIH U01 HL66678, PI, Genomic Analysis of Stress and Inflammation

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Original Reports

1. Parker RC, Seed B. Two-dimensional gel electrophoresis: SeaPlaque agarose dimension. *Methods in Enzymology* **65**:358-363 (1980).
2. Seed B. Diazotizable arylamine cellulose papers for the coupling and hybridization of nucleic acids. *Nucl Acids Res* **10**:1799-1810 (1982).
3. Seed B. A theoretical study of the fraction of a long chain DNA that can be incorporated in a recombinant DNA partial digest library. *Biopolymers* **21**:1793-1810 (1982).
4. Seed B, Parker RC, Davidson N. Representation of DNA sequences in recombinant DNA libraries prepared by restriction enzyme partial digestion. *Gene* **19**:201-209 (1982).
5. Seed B. Purification of genomic sequences from bacteriophage libraries by recombination and selection in vivo. *Nucl Acids Res* **11**:2427-2445 (1983).
6. Little PFR, Treisman R, Bierut L, Seed B, Maniatis T. Plasmid vectors for the rapid isolation and transcriptional analysis of human beta-globin alleles. *Mol Biol Med* **1**:473-488 (1983).
7. Levinson A, Silver D, Seed B. Minimal size plasmids containing an M13 origin for production of single-strand transducing particles. *J Mol Appl Genet* **2**:507-517 (1984).
8. Huang HV, Little PF, Seed B. Improved suppressor tRNA cloning vectors and plasmid-phage recombination. *Biotechnology* **10**:269-283 (1988).
9. Seed B. A comparison of postmigration and migration-coupled mismatch correction mechanisms for branch migration-mediated gene conversion. *Genetics* **106**:549-567 (1984).
10. Sleckman BP, Peterson A, Jones WK, Foran JA, Greenstein JL, Seed B, Burakoff SJ. Expression and function of CD4 in a murine T-cell hybridoma. *Nature* **328**:351-353 (1987).
11. Seed B, Aruffo A. Molecular cloning of the CD2 antigen, the T cell erythrocyte receptor, by a rapid immunoselection procedure. *Proc Natl Acad Sci USA* **84**:3365-3369 (1987).

12. Lutz CT, Hollifield WC, Seed B, Davie JM, Huang HV. Syrinx 2A: an improved lambda phage vector designed for screening DNA libraries by recombination *in vivo*. Proc Natl Acad Sci USA **84**:4379-4383 (1987).
13. Aruffo A, Seed B. Molecular cloning of two CD7 (T cell leukemia antigen) cDNAs by a COS cell expression system. EMBO J **6**:3313-3316 (1987).
14. Peterson A, Seed B. Monoclonal antibody and ligand binding sites of the T cell erythrocyte receptor (CD2). Nature **329**:842-846 (1987).
15. Aruffo A, Seed B. Molecular cloning of a CD28 cDNA by a high efficiency COS cell expression system. Proc Natl Acad Sci USA **84**:8573-8577 (1987).
16. Seed B. An LFA-3 cDNA encodes a phospholipid linked membrane protein homologous to its receptor, CD2. Nature **329**:840-842 (1987).
17. Bierer BE, Peterson A, Barbosa J, Seed B, Burakoff SJ. Expression of CD2 and an epitope loss CD2 mutant to define the role of LFA-3 in T cell activation. Proc Natl Acad Sci USA **85**:1194-1198 (1988).
18. Stengelin S, Stamenkovic I, Seed B. Isolation of cDNAs for two distinct human Fc receptors by ligand affinity cloning. EMBO J **7**:1053-1059 (1988).
19. Simmons D, Magkoba MW, Seed B. ICAM, an adhesion ligand of LFA-1, is homologous to the neural cell adhesion protein NCAM. Nature **331**:624-627 (1988).
20. Seed B, Sheen J-Y. A simple phase extraction assay for chloramphenicol acetyltransferase activity. Gene **67**:271-277 (1988).
21. Stamenkovic I, Seed B. Analysis of two cDNA clones encoding the B lymphocyte antigen CD20 (B1, Bp35), a type III integral membrane protein. J Exp Med **167**:1975-1980 (1988).
22. Simmons DL, Seed B. The Fc gamma receptor of natural killer cells, is a phospholipid-linked membrane protein. Nature **333**:568-570 (1988).
23. Simmons DL, Seed B. Isolation of a cDNA encoding CD33, a differentiation antigen of myeloid progenitor cells. J Immunol **141**:2797-2800 (1988).
24. Peterson A, Seed B. Genetic analysis of monoclonal antibody and HIV binding sites on the human lymphocyte antigen CD4. Cell **54**:65-72 (1988).

25. Duguid J, Rohwer RG, Seed B. Isolation of cDNAs of scrapie- modulated RNAs by library subtractive hybridization of a cDNA library. *Proc Natl Acad Sci USA* **85**:5738-5742 (1988).
26. Stamenkovic I, Seed B. CD19, the earliest differentiation antigen of the B cell lineage bears three extracellular immunoglobulin-like domains and an EBV-related cytoplasmic tail. *J Exp Med* **168**:1205- 1210 (1988).
27. Yamasaki K, Taga T, Hirata Y, Yawata H, Kawanishi Y, Seed B, Taniguchi T, Hirano T, Kishimoto T. Cloning and expression of the human interleukin 6 (BSF-2/IFN/beta-2) receptor. *Science* **241**:825- 828 (1988).
28. Allen JM, Seed B. Nucleotide sequence of three cDNAs for the human high affinity Fc receptor (FcR1). *Nucl Acids Res* **16**:11824 (1988).
29. Sheen J-Y, Seed B. Electrolyte gradient gels for DNA sequencing. *BioTechniques* **6**:942-944 (1988).
30. Simmons DL, Tan S, Tenen DG, Nicholson-Weller A, Seed B. Monocyte antigen CD14 is a phospholipid anchored membrane protein. *Blood* **73**:284-289 (1989).
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32. Bevilacqua MP, Stengelin S, Gimbrone MA, Seed B. Endothelial leucocyte adhesion molecular 1: an inducible receptor for neutrophils related to complement regulatory proteins and lectins. *Science* **243**:1160-1165 (1989).
33. Stamenkovic I, Amiot M, Pesando JM, Seed B. A lymphocyte molecule implicated in lymph node homing is a member of the cartilage link protein family. *Cell* **56**:1057-1062 (1989).
34. Stamenkovic I, Clark EA, Seed B. A B lymphocyte activation molecule related to nerve growth factor receptor and induced by cytokines in carcinomas. *EMBO J* **8**:1403-1410 (1989).
35. Oquendo P, Hundt E, Lawler J, Seed B. CD36 directly mediates cytoadherence of *Plasmodium falciparum* parasitized erythrocytes. *Cell* **58**:95-101 (1989).
36. Aruffo A, Seed B. Expression of cDNA clones encoding the thymocyte antigens CD1a, b, c demonstrates a hierarchy of exclusion in fibroblasts. *J Immunol* **143**:1723-1730 (1989).

37. Camerini D, James SP, Stamenkovic I, Seed B. Leu-8/TQ1 is the human equivalent of the Mel-14 lymph node homing receptor. *Nature* **342**:78-82 (1989).
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39. Camerini D, Seed B. A CD4 domain important for HIV-mediated syncytium formation lies outside the virus binding site. *Cell* **60**:747-754 (1990).
40. Kurnit D, Seed B. Improved genetic selection for screening bacteriophage libraries by homologous recombination in vivo. *Proc Natl Acad Sci USA* **87**:3166-3169 (1990).
41. Zettlmeissl G, Gregersen JP, Duport JM, Mehdi S, Reiner G, Seed B. Expression and characterization of human CD4:immunoglobulin fusion proteins. *DNA Cell Biol* **9**:347-353 (1990).
42. Stamenkovic I, Seed B. The B cell antigen CD22 mediates monocyte and erythrocyte adhesion. *Nature* **345**:74-77 (1990).
43. Aruffo A, Stamenkovic I, Melnick M, Underhill CB, Seed B. CD44 is the principal cell surface receptor for hyaluronate. *Cell* **61**:1303-1313 (1990).
44. Walz G, Aruffo A, Kolanus W, Bevilacqua M, Seed B. Recognition by ELAM-1 of the sialyl-Le^X determinant on myeloid and tumor cells. *Science* **250**:1132-1135 (1990).
45. Stamenkovic I, Aruffo A, Amiot M, Seed B. The hematopoietic and epithelial forms of CD44 are distinct polypeptides with different adhesion potentials for hyaluronate-bearing cells. *EMBO J* **10**:343-348 (1991).
46. Romeo C, Seed B. Cellular immunity to HIV activated by CD4 fused to T cell or Fc receptor polypeptides. *Cell* **64**:1037-1046 (1991).
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48. Aruffo A, Kolanus W, Walz G, Fredman P, Seed B. CD62/P-selectin recognition of myeloid and tumor cell sulfatides. *Cell* **67**:35-44 (1991).
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51. Simmons DL, Satterthwaite AB, Tenen DG, Seed B. Molecular cloning of a cDNA encoding CD34, a sialomucin of human hematopoietic stem cells. *J Immunol* **148**:267-271 (1992).
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57. Koch, A.E., Nickoloff, B.J., Holgersson, J., Seed, B., Haines, G.K., Burrows, J.C., and Leibovich, S.J. 4A11, a monoclonal antibody recognizing a novel antigen expressed on aberrant vascular endothelium. Upregulation in an in vivo model of contact dermatitis. *Am. J. Pathol.* (1994) 144, 244-259.
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59. Seed, B. Making Agonists of Antagonists. *Chem. and Biol.* 1, 125-129 (1994)
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63. Stanger BZ, Leder P, Lee TH, Kim E, Seed B. RIP: a novel protein containing a "death" domain that interacts with Fas/APO-1 (CD95) in yeast and causes cell death. *Cell* **81**:1-20 (1995).
64. Pouyani T, Seed B. PSGL-1 recognition of P-selectin is controlled by a tyrosine sulfation consensus at the PSGL-1 amino terminus. *Cell* **83**:333-343 (1995).
65. Li Z, Otevrel T, Gao Y, Cheng HL, Seed B, Stamato TD, Taccioli GE, Alt FW. The XRCC4 gene encodes a novel protein involved in DNA double-strand break repair and V(D)J recombination. *Cell* **83**:1079-1089 (1995).
66. Greenberg S, Chang P, Wang D, Xavier R, Seed B. Clustered syk tyrosine kinase domains trigger phagocytosis. *Proc Natl Acad Sci USA* **93**:1103-1107 (1996).
67. Haas J, Park EC, Seed B. Codon usage limitation in the expression of HIV envelope glycoprotein. *Curr Biol* **6**:315-324(1996).
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69. Ting AT, Pimentel-Muinos FX, Seed B. RIP mediates TNFR1 activation of NF- κ B but not Fas/APO-1-initiated apoptosis. *EMBO J* **15**:6189-6196 (1996).
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71. Jiang C, Ting AT, Seed B. PPAR- γ agonists inhibit production of monocyte inflammatory cytokines. *Nature* **391**:82-86 (1998).
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73. Xavier R, Brennan T, Li Q, McCormack C, Seed B. Membrane compartmentation is required for efficient T cell activation. *Immunity* **8**:723-732 (1998).
74. Fukumura D, Xavier R, Sugiura T, Chen Y, Park EC, Lu N, Selig M, Nielsen G, Taksir T, Jain RK, Seed B. Tumor induction of VEGF promoter activity in stromal cells. *Cell* **94**:715-725 (1998).

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78. Xavier R, Seed B. Membrane compartmentation and the response to antigen. *Curr Opin Immunol* **11**:265-269 (1999).
79. Pimentel-Muinos FX, Seed B. Regulated commitment of TNF receptor signaling: a molecular switch for death and activation. *Immunity* **11**:783-793 (1999).
80. Beck, P.L., Xavier, R., Lu, N., Nanda, N.N., Dinauer, M., Podolsky, D.K., Seed B. Mechanisms of NSAID-induced gastrointestinal injury defined using mutant mice. *Gastroenterology* **119**: 699-705 (2000).
81. Wang, X., Zeng, V., Murakawa, M., Freeman, M.W., and Seed, B. Episomal segregation of the Adenovirus enhancer sequence by conditional genome rearrangement abrogates late viral gene expression. *J. Virol.* **74**: 11296 -11303 (2000).
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83. Bultmann, A., Muranyi, W., Seed, B. and Haas, J. Identification of two sequences in the cytoplasmic tail of the human immunodeficiency virus type 1 envelope glycoprotein that inhibit cell surface expression. *J. Virol.* **75**: 5263-5276 (2001).
84. Fukumura, D., Xu, L., Chen, Y., Gohongi, T., Seed, B., Jain, R.K. Hypoxia and acidosis independently up-regulate vascular endothelial growth factor transcription in brain tumors in vivo. *Cancer Res.***61**: 6020-6024 (2001).
85. Pickl, W.F., Pimentel-Muñoz, F.X. and Seed, B. Lipid rafts and pseudotyping. *J. Virol.* **75**: 7175-7183 (2001).
86. Yang, Y., Kuang, Y., De Oca, R.M., Hays, T., Moreau, L., Lu, N., Seed, B., D'Andrea, A.D. Targeted disruption of the murine Fanconi anemia gene, *Fancg/Xrcc9* *Blood* **98**: 3435-3440 (2001).

87. Randow, F. and Seed, B. Endoplasmic reticulum chaperone gp96 is required for innate immunity but not viability. *Nature Cell Biol.* **3**: 891-896 (2001).
88. Khokhlatchev A, Rabizadeh S, Xavier R, Nedwidek M, Chen T, Zhang XF, Seed B, Avruch J. Identification of a novel Ras-regulated proapoptotic pathway. *Curr Biol.* **12**:253-65 (2002).
89. Wang, X. and Seed, B. Selection of oligonucleotide probes for protein coding sequences. *Bioinformatics* **19**, 796-802 (2003)
90. Afting, M., Stock, U.A., Nasser, B., Pomerantseva, I., Seed B., Vacanti, J.P., Efficient and stable retroviral transfection of ovine endothelial cells with green fluorescent protein for cardiovascular tissue engineering. *Tissue Eng.* **9**, 137-141 (2003).
91. Brown, E., McKee, T., diTomaso, E., Pluen, A., Seed, B., Boucher, Y., Jain, R.K. Dynamic imaging of collagen and its modulation in tumors in vivo using second-harmonic generation. *Nat Med.* **9**, 796-800 (2003).
92. Yang, Y., and Seed, B. Site-specific gene targeting in mouse embryonic stem cells with intact bacterial artificial chromosomes. *Nat. Biotechnol.*, **21**, 447-451 (2003).
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94. Wang, X and Seed, B. A PCR primer bank for quantitative gene expression analysis. *Nucl. Acids Res.* **31**, e154 1-8 (2003).
95. Luftig, M., Yasui, T., Soni, V., Kang, M.S., Jacobson, N., Cahir-McFarland, E., Seed, B., Kieff, E., Epstein-Barr virus latent infection membrane protein 1 TRAF-binding site induces NIK/IKK alpha-dependent noncanonical NF-kappaB activation. *Proc. Natl. Acad. Sci. USA* **101**, 141-6 (2004).
96. Rabizadeh S, Xavier RJ, Ishiguro K, Bernabeortiz J, Lopez-Illasaca M, Khokhlatchev A, Mollahan P, Pfeifer GP, Avruch J, Seed B. The scaffold protein CNK1 interacts with the tumor suppressor RASSF1A and augments RASSF1A-induced cell death. *J Biol Chem.* **279**, 29247-54 (2004)

97. Seed B. Polarization tensors and the photon field. arXiv quant-ph/0404178 (2004)

98. Xavier R, Rabizadeh S, Ishiguro K, Andre N, Ortiz JB, Wachtel H, Morris DG, Lopez-Illasaca M, Shaw AC, Swat W, Seed B. Discs large (Dlg1) complexes in lymphocyte activation. *J Cell Biol.* 166, 173-8 (2004)

99. Austin CP, Battey JF, Bradley A, Bucan M, Capecchi M, Collins FS, Dove WF, Duyk G, Dymecki S, Eppig JT, Grieder FB, Heintz N, Hicks G, Insel TR, Joyner A, Koller BH, Lloyd KC, Magnuson T, Moore MW, Nagy A, Pollock JD, Roses AD, Sands AT, Seed B, Skarnes WC, Snoddy J, Soriano P, Stewart DJ, Stewart F, Stillman B, Varmus H, Varticovski L, Verma IM, Vogt TF, von Melchner H, Witkowski J, Woychik RP, Wurst W, Yancopoulos GD, Young SG, Zambrowicz B The knockout mouse project. *Nat Genet.* 36, 921-4 (2004)

100. Duda DG, Fukumura D, Munn LL, Booth MF, Brown EB, Huang P, Seed B, Jain RK. Differential transplantability of tumor-associated stromal cells. *Cancer Res.* 64, 5920-4 (2004)

101. Iwasaki H, Mizuno S, Mayfield R, Shigematsu H, Arinobu Y, Seed B, Gurish MF, Takatsu K, Akashi K. Identification of eosinophil lineage-committed progenitors in the murine bone marrow. *J Exp Med.* 201(12):1891-7 (2005).

102. Xavier R, Seed B. PDZ domains and the politics of polarity in lymphocytes. *Immunity.* 22(6):655-6 (2005).

103. Yang M, Hase H, Legarda-Addison D, Varughese L, Seed B, Ting AT. B cell maturation antigen, the receptor for a proliferation-inducing ligand and B cell-activating factor of the TNF family, induces antigen presentation in B cells. *J Immunol.* 175(5):2814-24 (2005).

Books and Monographs

1. Maniatis T, Mellon P, Parker V, Proudfoot N, Seed B. Molecular genetics of human globin gene expression. In: Schmitt FO, Bird SJ, Bloom FE, eds. *Molecular genetic neuroscience.* New York: Raven Press, 87-101 (1982).

2. Seed B. Attachment of nucleic acids to nitrocellulose and diazonium-substituted supports. In: Setlow JK, Hollaender A, eds. *Genetic Engineering, 4.* New York: Plenum Press, 91-102 (1982).

3. Treisman R, Seed B, Little P, Green M, Proudfoot N, Maniatis T. An approach to the analysis of the structure and expression of mutant globin genes. In: *Eukaryotic viral vectors.* Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 61-66 (1982).

4. Huang HV, Little PFR, Seed B. Improved suppressor tRNA cloning vehicles and plasmid-phage recombination. In: Rodriguez RJ, Denhardt DT, eds. Vectors: a survey of molecular cloning vectors and their uses. Stoneham, MA: Butterworth Press, 269-283 (1987).

5. Ting A, Lichtenthaler S, Xavier R, Na SY, Rabizadeh S, Holmes T, Seed B. Large-scale screens for cDNAs with in vivo activity. Novartis Found Symp.267:219-29; discussion 229-30 (2005).

Issued U.S. Patents

- 6,753,162 Targeted cytolysis of HIV-infected cells by chimeric CD4 receptor-bearing cells
- 6,719,977 Methods to potentiate cancer therapies
- 6,613,746 AGP-antibody fusion proteins and related molecules and methods
- 6,579,676 Rapid mutational analysis method and compositions
- 6,410,014 Redirection of cellular immunity by protein tyrosine kinase chimeras
- 6,392,013 Redirection of cellular immunity by protein tyrosine kinase chimeras
- 6,284,240 Targeted cytolysis of HIV-infected cells by chimeric CD4 receptor-bearing cells
- 6,218,525 Nucleic acid encoding CD28
- 6,159,993 Methods and compositions for the rapid and enduring relief of inadequate myocardial function
- 6,156,881 Inhibition of cell adhesion protein-carbohydrate interactions
- 6,133,025 Compact Epstein-Barr virus replicons
- 6,117,656 Cloned genes encoding IG-CD4 fusion proteins and the use thereof
- 6,114,148 High level expression of proteins
- 6,111,093 CD19 coding sequences
- 6,093,558 Binding protein of biologically active compositions to an adhesive formulation on a substrate
- 6,004,811 Redirection of cellular immunity by protein tyrosine kinase chimeras
- 6,004,781 Nucleic acid encoding Ig-CD4 fusion proteins
- 5,955,264 Rapid mutational analysis method
- 5,925,657 Use of PPAR.gamma. agonists for inhibition of inflammatory cytokine production
- 5,912,170 Redirection of cellular immunity by protein-tyrosine kinase chimeras
- 5,861,399 Methods and compositions for the rapid and enduring relief of inadequate myocardial function
- 5,858,983 Inhibition of cell adhesion protein-carbohydrate interactions
- 5,858,752 Fucosyltransferase genes and uses thereof
- 5,851,828 Targeted cytolysis of HIV-infected cells by chimeric CD4 receptor-bearing cells

- 5,849,898 CD40 coding sequences
- 5,843,728 Redirection of cellular immunity by receptor chimeras
- 5,830,731 Cloning vector, polylinker and methods
- 5,801,044 Nucleic acid encoding an antibody that inhibits cell adhesion protein carbohydrate interactions
- 5,795,737 High level expression of proteins
- 5,786,464 Overexpression of mammalian and viral proteins
- 5,726,293 Affinity purification methods involving imidazole elution
- 5,723,583 Antibody containing sialyl lewis X determinants
- 5,674,734 Cell death protein
- 5,656,592 Use of relaxin as an analgesic and palliative for intractable pain
- 5,547,660 Nail lacquer composition containing poly-hydroxystyrene
- 5,506,126 Rapid immunoselection cloning method
- 5,420,264 Non-human primate CD4 polypeptides, human CD4 molecules capable of glycosylation, fragments thereof, fusion proteins thereof, genetic sequences thereof, and the use thereof
- 5,411,861 Rapid mutational analysis method
- 5,358,857 Method of preparing fusion proteins
- 5,227,293 Fusion proteins, their preparation and use
- 5,081,034 Cloned genes which encode ELAM-1
- 4,286,964 Polyfunctional epoxides and halohydrins used as bridging groups to bind aromatic amine group-containing alcohols and thiols to hydroxyl bearing substrates

Recent Research Presentations

- September 17, 2001 UCSF “Lipid rafts and scaffold proteins in T cell activation”
- September 18, 2001 UC Berkeley, “Lipid rafts and scaffold proteins in T cell activation”
- October 29, 2001 University of Toronto, “Lipid rafts and scaffold proteins in T cell activation”
- November 1, 2001 Scripps Research Institute, “Rafts and scaffold proteins in T cell activation”
- December 17, 2001, University of Vermont Medical Center, “A regulated switch for death and activation”
- March 28, 2002, Mayo Clinic, “Rafts and scaffold proteins in T cell activation”
- April 2, 2002, Shriners Burns Institute, Boston “New technologies for studying signal transduction”
- April 11, 2002, Maine Medical Center Retreat, Charleston SC, “A regulated switch for T cell death and activation”
- April 19, 2002, NIH “Lipid rafts and scaffold proteins in T cell activation”
- May 2, 2002, University of Pennsylvania Medical Center, “Rafts and scaffold proteins in T cell activation”
- May 24, 2002, Harvard Genetics Department Retreat, “New technologies for signal transduction”

July 25, 2002, Wellman Laboratories of Photomedicine Retreat, "Signaling in the immune system"

August 3, 2002 Sino American Pharmaceutical Association 10th Annual Conference, "Tools for signal transduction"

August 5, 2002, FASEB Summer Symposium on Immunoreceptors, "Scaffold proteins in T cell activation"

August 30, 2002, Peking Union Medical College, "Approaches to signaling in the immune system"

September 11, 2002, Sue Kim Hanson Lecture, Boston University "Scaffold proteins in biological processes"

October 15, 2002 Aventis Proteomics Symposium, "Protein microarrays"

April 12, 2003, ASBMB, San Diego, Pathway dissection by automated expression cloning screens

May 5, 2003, Research Council, MGH Center for Computational and Integrative Biology

October 16, 2003 Aventis Bridgewater Poster Day "Lipid rafts and scaffold proteins"