CURRICULUM VITAE

JACK RAYMOND WANDS, M.D.

Business or Mailing Address: The Liver Research Center
55 Claverick St.
Providence, Rhode Island 02903

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Education

Institution	Degree	Year
Washington State University	B.S.	1965
Univ Washington School of Medicine	M.D.	1969

Postgraduate Training

Internship and Residencies:

1969 - 1970 Intern in Medicine, Baltimore City Hospitals
1970 - 1971 Assistant Resident in Medicine, Baltimore City Hospitals
1971 - 1972 Resident in Medicine, Osler Medical Service, The Johns Hopkins Hospital
1972 - 1973 Chief Resident in Medicine, Baltimore City Hospitals (Johns Hopkins Bayview Medical Center)

Fellowships:

1969 - 1973 Fellow in Medicine, Johns Hopkins University Medical School
1973 - 1975 Clinical and Research Fellow in Gastroenterology, Massachusetts General Hospital
1973 – 1975 Clinical/Research Fellow in Medicine, Harvard University

Postgraduate Honors and Awards

Year	Award
1964	Sigma Xi
1969	Gin Hudson Memorial Award
1969	Robert H. Williams Award
1969	Graduation with Highest Thesis Honors

1975 - 78	Clinical Investigator Awardee, National Institutes of Health, U.S. Public Health Service
1979 - 89	Research Scientist Development Awardee, National Institutes of Health, U.S. Public Health Service
1989 - 94	Research Scientist Awardee, National Institutes of Health, U.S. Public Health Service
1989	N.I.H. Merit Awardee (NIAAA)
1994	Max Planck Research Award
2000	N.I.H. Merit Awardee (NCI)
2002	Master of Arts, *ad eundem* Brown University
2002 - 06	Bristol Myers Squibb Grant Award in Infectious Disease
2007	Honorary Professor of Medicine, Hospital 3021 and the Medical and Graduate schools of the PLA, Beijing, China
2009	American Gastroenterological Association Fellow (AGAF)
2009	Top Physician Scientist, European Research Grp, Vulpera, Switzer
2011	Honorary Professorship of Medicine, University of Chinese Medicine at Chengdu
2011	Honorary Professor Southern Medical University, Guangzhou, China
2011	Honorary Professor Chongquing Medical University, Chongquin, China
2016	American Association Study of Liver Diseases Fellow (AASLDF)
2017	Honorary Professor Harbin Medical University, Harbin, China
2019	American Association for the Advancement of Science Fellow (AAASF)
2022	Full member Sigma Xi Research Honorary

License and Certification

1973	American Board of Internal Medicine No. 42082
1973	Massachusetts License Registration No. 36177
1998	Rhode Island License Registration No. 09974

Academic Appointments

Year	**Academic Title and Institution**
1972 - 73	Instructor in Medicine, Johns Hopkins University School of Medicine
1975 - 76	Instructor in Medicine, Harvard Medical School
1976 - 82	Assistant Professor of Medicine, Harvard Medical School
1982 - 98	Associate Professor of Medicine, Harvard Medical School
1999 -	Adjunct Faculty – Harvard Medical School, Massachusetts Institute of Technology, Division of Health Sciences
1999 -	Professor of Medical Sciences, Brown Medical School, Department of Molecular Microbiology and Immunology
1999 -	Professor of Medicine, Brown Medical School
1999	Member Biomedical Engineering Cetner, Massachusetts Institute of Technology
2000	Director, Division of Gastroenterology and Liver Research Center

	Warren Alpert Medical School of Brown University and Lifespan Afficiated Hospitals
2002 -	Jeffrey and Kimberly Greenberg - Artemis and Martha Joukowsky Professor in Gastroenterology and Professor of Medical Science, Brown Medical School

Hospital Appointments:

Year	**Position Held and Institution**
1975 – 78	Assistant in Medicine, Massachusetts General Hospital
1979 – 83	Assistant Physician, Massachusetts General Hospital
1983 - 98	Associate Physician, Massachusetts General Hospital
1988 - 98	Director, Molecular Hepatology Laboratory, Massachusetts General Hospital Cancer Center
1988 - 98	Member, Massachusetts General Hospital Cancer Center
1999 -	Chief, Division of Gastroenterology, Lifespan Rhode Island Academic Medical Center (Rhode Island and Miriam Hospital(s); Director, Liver Research Center

Other Appointments:

Study Section:

1978 - 79	Ad hoc Committee, Review of Research Proposals, National Science Foundation
1982 - 86	National Committee for Review of V.A. Research Programs in Liver Disease
1982 - 85	Committee on Research, American Association for the Study of Liver Diseases
1982	Ad hoc Committee, Study Section, NIAMDD
1983	National Committee on Evaluation of Immunoassays, American College of Pathology
1985 - 90	Biomedical Study Section, NIAAA
1985	Ad hoc Committee, Study Section, NIHLB
1986	Medical Advisory Committee, American Liver Foundation
1986	National Accreditation Council for Graduate Medical Education
1990	ad hoc Committee, Study Section, NCI
1999	Chair, Ad hoc Committee, NIAID Study Section
2000	Reviewer – Special Emphasis Panel, NIAID Study Section
2000	Chair – Special Emphasis Panel, NCI Study Section
2000	Chair – Special Emphasis Panel, NIAID Review of HCV Centers
2000	Chair – NIAID Study Section on HCV and HIV
2001	Member, Special Emphasis Panel to review NCI SPORE grants on gastrointestinal malignancy
2002	Chair, Special Emphasis Panel to review NIAAA Alcohol Center grants

2003	Member, Special Emphasis Panel to review NIH GCRL Grant
2003	Chair, NIDDK Special Emphasis RFA HCV proposals
2005	Chair, NIAID Special Emphasis Panel – HCV proposals – Apr
2006	**NCI -** Reviewer, Cancer Etiology Cluster Review
2006	**NIH -** Moderator, NIDDK Hepatitis B Virus meeting – Apr 7
2006	**NCI** - Member, Review Group – Subcommittee C – Apr 9, 10
2008	**NCI –** Moderator, PO1 Clinical Studies Special Emphasis Panel Feb 13, 14
2008	**NIH** – Special Emphasis Panel, Bethesda, MD – Jul 28
2008	**NCI** – Intramural Program, Bethesda, MD – Sep 22 – 23
2009	**NCI** - Reviewer NIH Challenge Grants
	NIDDK - Reviewer, Ad Hoc Study Section NIDDK ROI /K22
	NIAAA – Reviewer – Ad Hoc Study Section
2010	**NIAAA** – AA4 Mar 2010
	Reviewer – K21, career development, fellowship applications – Neuroscience Research Review Study Section
2011	**NCI** Reviewer of P01 Applications
2015	**NCI** Review of R01 and R21 applications
2016	**NCI** Reviewer of SPORE applications
2018	**NCI** Special Emphasis Panel on P01 applications
2020	**NCI** Committee for Internal Reviw of NCI GI Cancer Research
2021	***NIH/NCI*** Thoracic and GI Malignancies Review (virtual)
2022	Committee Member for the 2023 Kyoto Prize in Advanced Technology, Kyoto, Japan
2022	**NCI** Reviewer of SPORE applications

<u>Editorial Boards:</u>

1983 -	Hepatology
1992 -	International Hepatology Communications
1994 -	Journal of Viral Hepatitis
1997 -	Viral Hepatitis Reviews
2001 -	International Journal of Oncology
2003 -	Cancer Therapy
2010 -	World Journal of Gastroenterology
2012 -	Cancer Letters
2012 -	World Journal of Hepatology

<u>Editorial Consultant:</u>

1980 – Present	Journal of Clinical Investigation
1908 – Present	Hepatology

1981 – Present	New England Journal of Medicine
1985 – Present	Journal of Biological Chemistry
1988 – Present	Proceedings of the National Academy of Sciences
1990 – Present	Journal of Infectious Diseases
1979 – Present	Gastroenterology
1985 – Present	Journal of Virology
1990 – Present	Virology
1998 – Present	Nature Medicine
1990 – Present	Journal of Medical Virology
1992 – Present	Science
1992 - Present	Nature
1996 - Present	J Hepatology
2006 – Present	PLOS 1
2007 – Present	Molecular Cell

Institution:

1983 -	Consultant, World Health Organization
1983 -	Consultant, Pan American Health Organization

Committee Assignments

Hospital

1976 - 80	Subcommittee for the Review of Research Proposals, Massachusetts General Hospital
1979 - 80	Committee on Research, Massachusetts General Hospital
1981 - 84	Subcommittee on Research, Lecture Series, Massachusetts General Hospital
1982 - 98	Intern Selection Committee, Department of Medicine, Massachusetts General Hospital
1999 -	Member, Cancer Center Planning Steering Committee
1999 -	Member, Department of Medicine Finance Committee
1999 -	Member, *Lifespan* Research Advisory Committee
1999 -	Member, Department of Medicine Research Committee
1999 -	Member, *Lifespan* Cancer Advisory Committee

University

1999 - 2001	Member, Cardiology Search Committee, R.I.H.
1999 - 2002	Member, Brown University Search for Chief of Oncology, R.I.H.
1999 - 2002	Chair, Brown University Search for Gastroenterology, R.I.H.
1999 - 2002	Member, Brown University Search for Gastroenterology, VAMC
1999 - 2002	Member, Brown University Search for Chief of Pediatric Gastroenterology, R.I.H.
1999	Member, Curriculum Committee, Pathobiology, Brown University

1999	Member, Armand D. Versaci Research Scholar in Surgical Science Committee Award
2001-2002	Member, Search Committee for Director, Brown Univ. Cancer Res. Ctr
2001-2003	Chair, Cardiology Search Committee, R.I.H.
2002-2003	Member, Search Committee for Medical Scientist, Brown University
2002-2003	Member, Search Committee for Pediatric Gastroenterology
2005	Member, Search Committee for Hematologist/Oncologist
2007-2009	Member, Advisory Committee on Honorary Degrees
2007-	Chair, Gastroenterology Search Committee, R.I.H.
2008 – 2009	Member, Search Committee for Physician in Biostatistics Section, Department of Community Health
2008 – 2009	Member, Search Committee for Chair, Molecular Microbiology and Immunology
2009 -	Member, Promotions Committee
2011 -	Member, Search Committee, Division Director of Infectious Disease, Warren Alpert Medical School of Brown University
2012 -	Member, Search Committee, Gastroenterology Program, Women and Infants Hosptial, Warren Alpert Medical School of Brown University
2012 -	Member, Search Committee, Department Surgery (Colorectal), Warren Alpert Medical School of Brown University
2016 -	Department of Medicine of the Warren Alpert Medical School of Brown University Promotions Committee

University Teaching Role

Brown University

1999 - present	Bio201A	Introduction to MCB Faculty Trainer Research
2000 - 05	IMS 282	Gastrointestinal & Liver Pathophysiology
2005 – present	Bio 351	Pathophysiology/Pharmacology

Harvard Medical School

1999 - present	HST120	Gastroenterology

2002-2004 **<u>Thesis Committee(s)</u>**

Brown University – Pathobiology	Mr. Bill Querbes
Brown University – M.C.B.	Ms. Pooja Agarwal
Brown University – Engineering Dept.	Rishi Syonyl
Massachusetts Institute of Technology –	Mr. Andy Yeung
Massachusetts Institute of Technology -	Ms. Artemis Kazali
Massachusetts Institute of Technology -	Ms. Kathryn Miller
Massachusetts Institute of Technology -	Ms. Alexandria Sams

2002-2004 Brown University - Pathobiology Advisory Committee

Ms. Marlow Tessmer
Mr. Steven Ash

2005-2006 Brown University – Molecular and Cell Biology (MCB) Thesis Advisor

Tsedensodnom Orkhontuya
Atilgan Yilmaz

2012 Brown University – Pathobiology MD, PhD Thesis Advisor
Waihong Chung

2015-2017 Brown University – Molecular and Cell Biology (MCB) Thesis Advisor
Timothy Erick

2015- Brown University – Molecular Cell Biology (MCB) Thesis Committee
Angela Tata

2017 Brown University Biotechnology Program Thesis Advisor and Mentor
Kevin Cao, Mengqi Lin, Hongyu Zhang

State

2003 Governor Donald L. Carcieri
Science and Technology Council
State of Rhode Island and Providence Plantations

Professional Societies

1964 Sigma Xi
1972 Johns Hopkins Medical and Surgical Society
1976 American Association for the Study of Liver Diseases
1978 American Federation for Clinical Research
1978 American Association for the Advancement of Science
1982 International Association for the Study of Liver Disease
1999 American Gastroenterological Association
1999 American Society for Microbiology
2006 Founding Board Member, International Liver Cancer Association (ILCA)
Barcelona

PUBLICATIONS

(h Index=112, Number of Citations = 48,002; Total Impact Factor Points = 5,220 on cited articles; Wands J, Google Scholar)

1. *Wands JR, Smuckler EA, Woodbury WJ.* Transmembrane potential changes in liver cells following CCl4 intoxication. Am J Pathol 1970;58:499-508. PMID: 5436096

2. *Fisch HP, Wands J, Yeung J, Davis PJ.* Pulmonary edema and disseminated intravascular coagulation after intravenous abuse of d-propoxyphene (darvon). South Med J 1972;65:493-5. PMID: 5028409

3. *Burton JR, Wands JR, Voigt GC, Sterioff S, Jr., Caralis DG, Zachary JB, Smith GW.* An approach to pericardial effusion in hemodialysis patients. Johns Hopkins Med J 1973;133:312-20. PMID: 4757563

4. *Wands JR, Mann RB, Jackson D, Butler T.* Fatal community-acquired Herellea pneumonia in chronic renal disease. Case report. Am Rev Respir Dis 1973;108:964-7. PMID: 4741889

5. *Wands JR, Salyer DC, Boitnott JK, Maddrey WC.* Fulminant hepatitis complicated by pancreatitis. Johns Hopkins Med J 1973;133:156-60. PMID: 4542282

6. *Davis LE, Wands JR, Weiss SA, Price DL, Girling EF.* Central nervous system intoxication from mercurous chloride laxatives. Quantitative, histochemical, and ultrastructural studies. Arch Neurol 1974;30:428-31. PMID: 4827059

7. *James S, Outten W, Davis PJ, Wands J*. House staff scheduling: a computer-aided method. Ann Intern Med 1974;80:70-3. PMID: 4810351

8. *Levin ML, Maddrey WC, Wands JR, Mendeloff AL.* Hepatitis B transmission by dentists. JAMA 1974;228:1139-40. PMID: 4406436

9. *Mitch WE, Wands JR, Maddrey WC.* Hepatitis B transmission in a family. JAMA 1974;227:1043-4. PMID: 4405934

10. *Wands JR, Walker JA, Davis TT, Waterbury LA, Owens AH, Carpenter CC.* Hepatitis B in an oncology unit. N Engl J Med 1974;291:1371-5. PMID: 4530156

11. *Wands JR, Weiss SW, Yardley JH, Maddrey WC.* Chronic inorganic mercury poisoning due to laxative abuse. A clinical and ultrastructural study. Am J Med 1974;57:92-101. PMID: 4834510

12. *Wands JR.* Letter: Subacute and chronic active hepatitis after withdrawal of chemotherapy. Lancet 1975;2:979. PMID: 53460

13. *Wands JR, Alpert E, Isselbacher KJ.* Arthritis associated with chronic active hepatitis: complement activation and characterization of circulating immune complexes. Gastroenterology 1975;69:1286-

91. PMID: 1193327

14. *Wands JR, Chura CM, Roll FJ, Maddrey WC.* Serial studies of hepatitis-associated antigen and antibody in patients receiving antitumor chemotherapy for myeloproliferative and lymphoproliferative disorders. Gastroenterology 1975;68:105-12. PMID: 1054319

15. *Wands JR, Mann E, Alpert E, Isselbacher KJ.* The pathogenesis of arthritis associated with acute hepatitis-B surface antigen-positive hepatitis. Complement activation and characterization of circulating immune complexes. J Clin Invest 1975;55:930-6. PMID: 1123429

16. *Wands JR, Perrotto JL, Alpert E, Isselbacher KJ.* Cell-mediated immunity in acute and chronic hepatitis. J Clin Invest 1975;55:921-9. PMID: 1079030

17. *Elfenbein GJ, Anderson PN, Humphrey RL, Mullins GM, Sensenbrenner LL, Wands JR, Santos GW.* Immune system reconstitution following allogeneic bone marrow transplantation in man: a multiparameter analysis. Transplant Proc 1976;8:641-6. PMID: 136774

18. *Farivar M, Wands JR, Benson GD, Dienstag JL, Isselbacher KJ.* Cryoprotein complexes and peripheral neuropathy in a patient with chronic active hepatitis. Gastroenterology 1976;71:490-3. PMID: 181285

19. *Farivar M, Wands JR, Isselbacher KJ, Bucher NL.* Effect of insulin and glucagon on fulminant murine hepatitis. N Engl J Med 1976;295:1517-9. PMID: 995158

20. *Farivar M, Wands JR, Isselbacher KJ, Bucher NL*. Beneficial effect of insulin and glucagon in fulminant murine viral hepatitis. Lancet 1976;1:696-7. PMID: 73670

21. *Wands JR, LaMont JT, Mann E, Isselbacher KJ.* Arthritis associated with intestinal-bypass procedure for morbid obesity. Complement activation and characterization of circulating cryoproteins. N Engl J Med 1976;294:121-4. PMID: 1105187

22. *Wands JR, Perrotto JL, Isselbacher KJ.* Circulating immune complexes and complement sequence activation in infectious mononucleosis. Am J Med 1976;60:269-72. PMID: 175655

23. *Wands JR, Podolsky DK, Isselbacher KJ*. Mechanism of human lymphocyte stimulation by concanavalin A: role of valence and surface binding sites. Proc Natl Acad Sci U S A 1976;73:2118-22. PMID: 1064878

24. *Wands JR, Rowe JA, Mezey SE, Waterbury LA, Wright JR, Halliday JW, Isselbacher KJ, Powell LW*. Normal serum ferritin concentrations in precirrhotic hemochromatosis. N Engl J Med 1976;294:302-5. PMID: 1246269

25. *Carter EA, Wands JR, Isselbacher KJ.* Effect of acute murine hepatitis (MHV-1-59) on ethanol oxidation in vivo. Gastroenterology 1977;73:321-6. PMID: 873133

26. *Carter ES, Wands JR, Alpert E, Isselbacher KJ.* Measurement and specificity of serum dna

polymerase. N Engl J Med 1977;296:173-4. PMID: 831081

27. *Dienstag JL, Wands JR, Isselbacher KJ.* Hepatitis B and essential mixed cryoglobulinemia. N Engl J Med 1977;297:946-7. PMID: 904674

28. *Feller ER, Pont A, Wands JR, Carter EA, Foster G, Kourides IA, Isselbacher KJ.* Familial hemochromatosis. Physiologic studies in the precirrhotic stage of the disease. N Engl J Med 1977;296:1422-6. PMID: 194151

29. *Rowe JW, Wands JR, Mezey E, Waterbury LA, Wright JR, Tobin J, Andres R.* Familial hemochromatosis: characteristics of the precirrhotic stage in a large kindred. Medicine (Baltimore) 1977;56:197-211. PMID: 870791

30. *Dienstag JL, Carter EA, Wands JR, Isselbacher KJ, Fischer JE.* Plasma alpha-amino-n-butyric acid to leucine ratio: nonspecificity as a marker for alcoholism. Gastroenterology 1978;75:561-5. PMID: 710826

31. *Dienstag JL, Rhodes AR, Bhan AK, Dvorak AM, Mihm MC, Jr., Wands JR.* Urticaria associated with acute viral hepatitis type B: studies of pathogenesis. Ann Intern Med 1978;89:34-40. PMID: 352219

32. *Hodgson HJ, Wands JR, Isselbacher KJ.* Decreased suppressor cell activity in inflammatory bowel disease. Clin Exp Immunol 1978;32:451-8. PMID: 308420

33. *Hodgson HJ, Wands JR, Isselbacher KJ.* Alteration in suppressor cell activity in chronic active hepatitis. Proc Natl Acad Sci U S A 1978;75:1549-53. PMID: 274739

34. *Wands JR, Dienstag JL.* Inhibition of lymphocyte cytotoxicity by serum from patients with alcoholic liver disease: partial characterization of serum inhibitors. Yale J Biol Med 1978;51:615-23. PMID: 313125

35. *Wands JR, Dienstag JL, Bhan AK, Feller ER, Isselbacher KJ.* Circulating immune complexes and complement activation in primary biliary cirrhosis. N Engl J Med 1978;298:233-7. PMID: 619265

36. *Quaroni A, Wands J, Trelstad RL, Isselbacher KJ.* Epithelioid cell cultures from rat small intestine. Characterization by morphologic and immunologic criteria. J Cell Biol 1979;80:248-65. PMID: 88453

37. *Wands JR.* Viral hepatitis and its effect on pregnancy. Clin Obstet Gynecol 1979;22:301-11. PMID: 223787

38. *Wands JR, Carter EA, Bucher NL, Isselbacher KJ.* Inhibition of hepatic regeneration in rats by acute and chronic ethanol intoxication. Gastroenterology 1979;77:528-31. PMID: 572315

39. *Klingenstein RJ, Wands JR.* Immunologic effector mechanisms in hepatitis B-negative chronic active hepatitis. Springer Semin Immunopathol 1980;3:317-29. PMID: 7022713

40. *Popp JW, Jr., Dienstag JL, Wands JR, Bloch KJ.* Essential mixed cryoglobulinemia without evidence for hepatitis B virus infection. Ann Intern Med 1980;92:379-83. PMID: 7356231

41. *Wands JR, Carter EA, Bucher NL, Isselbacher KJ.* Effect of acute and chronic ethanol intoxication on hepatic regeneration. Adv Exp Med Biol 1980;132:663-70. PMID: 7191626

42. *Dienstag JL, Weake JR, Wands JR.* Abnormalities of mononuclear cell regulation in vitro in primary biliary cirrhosis. Liver 1981;1:230-43. PMID: 6217389

43. *Popp JW, Jr., Harrist TJ, Dienstag JL, Bhan AK, Wands JR, LaMont JT, Mihm MC, Jr.* Cutaneous vasculitis associated with acute and chronic hepatitis. Arch Intern Med 1981;141:623-9. PMID: 7224743

44. *Wands JR, Carlson RI, Schoemaker H, Isselbacher KJ, Zurawski VR, Jr.* Immunodiagnosis of hepatitis B with high-affinity IgM monoclonal antibodies. Proc Natl Acad Sci U S A 1981;78:1214-8. PMID: 6940137

45. *Wands JR, Dienstag JL, Weake JR, Koff RS.* In vitro studies of enhanced IgG synthesis in severe alcoholic liver disease. Clin Exp Immunol 1981;44:396-404. PMID: 6458431

46. *Wands JR, Zurawski VR, Jr.* High affinity monoclonal antibodies to hepatitis B surface antigen (HBsAg) produced by somatic cell hybrids. Gastroenterology 1981;80:225-32. PMID: 6161061

47. *Bhan AK, Dienstag JL, Wands JR, Schlossman SF, Reinherz EL.* Alterations of T-cell subsets in primary biliary cirrhosis. Clin Exp Immunol 1982;47:351-8. PMID: 6210473

48. *Goodson JD, Taylor PA, Campion EW, Richter JM, Wands J.* The clinical course of acute hepatitis in the elderly patient. Arch Intern Med 1982;142:1485-8. PMID: 7103629

49. *Hodgson HJ, Wands JR, Isselbacher KJ.* Experimental murine hepatitis and inducible suppressor cell function. J Clin Lab Immunol 1982;7:45-9. PMID: 6279850

50. *Shafritz DA, Lieberman HM, Isselbacher KJ, Wands JR.* Monoclonal radioimmunoassays for hepatitis B surface antigen: demonstration of hepatitis B virus DNA or related sequences in serum and viral epitopes in immune complexes. Proc Natl Acad Sci U S A 1982;79:5675-9. PMID: 6182569

51. *Shouval D, Shafritz DA, Zurawski VR, Jr., Isselbacher KJ, Wands JR.* Immunotherapy in nude mice of human hepatoma using monoclonal antibodies against hepatitis B virus. Nature 1982;298:567-9. PMID: 7099252

52. *Shouval D, Wands JR, Zurawski VR, Jr., Isselbacher KJ, Shafritz DA.* Selecting binding and complement-mediated lysis of human hepatoma cells (PLC/PRF/5) in culture by monoclonal antibodies to hepatitis B surface antigen. Proc Natl Acad Sci U S A 1982;79:650-4. PMID: 6952217

53. *Wands JR, Bruns RR, Carlson RI, Ware A, Menitove JE, Isselbacher KJ.* Monoclonal IgM radioimmunoassay for hepatitis B surface antigen: high binding activity in serum that is unreactive with conventional antibodies. Proc Natl Acad Sci U S A 1982;79:1277-81. PMID: 6951173

54. *Wands JR, Lieberman HM, Muchmore E, Isselbacher K, Shafritz DA.* Detection and transmission in chimpanzees of hepatitis B virus-related agents formerly designated "non-A, non-B" hepatitis. Proc Natl Acad Sci U S A 1982;79:7552-6. PMID: 6818547

55. *Wands JR, Marciniak RA, Isselbacher KJ, Varghese M, Don G, Halliday JW, Powell LW.* Demonstration of previously undetected hepatitis B viral determinants in an Australian Aboriginal population by monoclonal anti-hbs antibody radioimmunoassays. Lancet 1982;1:977-80. PMID: 6176820

56. *Marciniak RA, Wands JR, Bruns RR, Malchesky PS, Nose Y, Haber E.* Quantitative removal of hepatitis B viral antigens from serum by a monoclonal IgM coupled to a biocompatible solid-phase support. Proc Natl Acad Sci U S A 1983;80:3821-5. PMID: 6190181

57. *Wands JR.* Non-A, non-B hepatitis. Hepatology 1983;3:764-6. PMID: 6413353

58. *Bellet DH, Wands JR, Isselbacher KJ, Bohuon C.* Serum alpha-fetoprotein levels in human disease: perspective from a highly specific monoclonal radioimmunoassay. Proc Natl Acad Sci U S A 1984;81:3869-73. PMID: 6203128

59. *Ben-Porath E, Wands J, Gruia M, Isselbacher K.* Clinical significance of enhanced detection of HBsAg by a monoclonal radioimmunoassay. Hepatology 1984;4:803-7. PMID: 6479850

60. *Ben-Porath E, Wands JR.* Monoclonal antibodies as diagnostic probes in the etiology of hepatitis. Semin Liver Dis 1984;4:76-88. PMID: 6710171

61. *Cooper DS, Carter EA, Kieffer JD, Wands JR.* Effects of propylthiouracil on D-galactosamine hepatotoxicity in the rat. Evidence for a non-thyroidal effect. Biochem Pharmacol 1984;33:3391-7. PMID: 6497900

62. *He L, Isselbacher KJ, Wands JR, Goodman HM, Shih C, Quaroni A.* Establishment and characterization of a new human hepatocellular carcinoma cell line. In Vitro 1984;20:493-504. PMID: 6086498

63. *Wands JR, Wong MA, Shorey J, Brown RD, Marciniak RA, Isselbacher KJ.* Hepatitis B viral antigenic structure: signature analysis by monoclonal radioimmunoassays. Proc Natl Acad Sci U S A 1984;81:2237-41. PMID: 6585796

64. *Ben-Porath E, Wands JR, Bar-Shany S, Huggins C, Isselbacher K.* Improved detection of hepatitis B surface antigen (HBsAg) in blood donors by monoclonal radioimmunoassay. Transfusion 1985;25:10-4. PMID: 3969695

65. *Ben-Porath E, Wands JR, Marciniak RA, Wong MA, Hornstein L, Ryder R, Canlas M, Lingao A, Isselbacher KJ.* Structural analysis of hepatitis B surface antigen by monoclonal antibodies. J Clin Invest 1985;76:1338-47. PMID: 2414317

66. *Bidart JM, Ozturk M, Bellet DH, Jolivet M, Gras-Masse H, Troalen F, Bohuon CJ, Wands JR.* Identification of epitopes associated with hCG and the beta hCG carboxyl terminus by monoclonal antibodies produced against a synthetic peptide. J Immunol 1985;134:457-64. PMID: 2578049

67. *Brechot C, Degos F, Lugassy C, Thiers V, Zafrani S, Franco D, Bismuth H, Trepo C, Benhamou JP, Wands J, et al.* Hepatitis B virus DNA in patients with chronic liver disease and negative tests for hepatitis B surface antigen. N Engl J Med 1985;312:270-6. PMID: 2981408

68. *Carlson RI, Ben-Porath E, Shouval D, Strauss W, Isselbacher KJ, Wands JR.* Antigenic characterization of human hepatocellular carcinoma. Development of in vitro and in vivo immunoassays that use monoclonal antibodies. J Clin Invest 1985;76:40-51. PMID: 2991342

69. *Carter EA, Wands JR.* Ethanol inhibits hormone stimulated hepatocyte DNA synthesis. Biochem Biophys Res Commun 1985;128:767-74. PMID: 3888219

70. *Gazitt Y, Margel S, Lerner A, Wands JR, Shouval D.* Development of a novel C1q immunoadsorbent for removal of circulating immunecomplexes: quantitative isolation of hepatitis B virus surface antigen and immunecomplexes. Immunol Lett 1985;11:1-8. PMID: 3876986

71. *Gross J, Carlson RI, Brauer AW, Margolies MN, Warshaw AL, Wands JR.* Isolation, characterization, and distribution of an unusual pancreatic human secretory protein. J Clin Invest 1985;76:2115-26. PMID: 3908481

72. *Shouval D, Eilat D, Carlson RI, Adler R, Livni N, Wands JR.* Human hepatoma-associated cell surface antigen: identification and characterization by means of monoclonal antibodies. Hepatology 1985;5:347-56. PMID: 2987098

73. *Wands JR, Isselbacher KJ, Brechot C, Tiollais P.* Monoclonal radioimmunoassays and HBV-DNA hybridisation in hepatocellular carcinoma. Lancet 1985;1:455. PMID: 2857827

74. *Bellet DH, Ozturk M, Bidart JM, Bohuon CJ, Wands JR.* Sensitive and specific assay for human chorionic gonadotropin (hCG) based on anti-peptide and anti-hCG monoclonal antibodies: construction and clinical implications. J Clin Endocrinol Metab 1986;63:1319-27. PMID: 3782420

75. *Ben-Porath E, Fujita YK, Wands JR.* Hepatitis B monoclonal antibody testing. Prog Liver Dis 1986;8:347-66. PMID: 2424047

76. *Fujita YK, Kamata K, Kameda H, Isselbacher KJ, Wands JR.* Detection of hepatitis B virus infection in hepatitis B surface antigen-negative hemodialysis patients by monoclonal radioimmunoassays. Gastroenterology 1986;91:1357-63. PMID: 3770360

77. *Kew MC, Fujita Y, Takahashi H, Coppins A, Wands JR.* Comparison between polyclonal and first

and second generation monoclonal radioimmunoassays in the detection of hepatitis B surface antigen in patients with hepatocellular carcinoma. Hepatology 1986;6:636-9. PMID: 3015759

78. *Monath TP, Hill LJ, Brown NV, Cropp CB, Schlesinger JJ, Saluzzo JF, Wands JR.* Sensitive and specific monoclonal immunoassay for detecting yellow fever virus in laboratory and clinical specimens. J Clin Microbiol 1986;23:129-34. PMID: 3700596

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1. 20190375819 GLYCOSYLATED TRANSFERRIN RECEPTOR 1 TUMOR ANTIGEN
US - 12.12.2019
Int. Class C07K 14/705 Appl. No 16346061
Applicant: Rhode Island Hospital
Inventor: Li, Jisu
This invention relates to compositions and methods for treating or diagnosing cancer.

2. WO/2019/217450 ANTI-CHI3L1 ANTIBODIES FOR THE DETECTION AND/OR TREATMENT OF NONALCOHOLIC FATTLY LIVER DISEASE/NONALCOHOLIC STEATOHEPATITIS AND SUBSEQUENT COMPLICATIONS WO - 14.11.2019
Int. Class A61K 39/395 Appl. No PCT/US2019/031159
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The present disclosure relates to antibodies that bind human chitinase-3-like protein 1 (CHI3L1) and uses thereof. In aspects, the antibodies are useful in compositions and methods for detecting and/or treating nonalcoholic steatohepatitis (NAFLD) or nonalcoholic fatty liver disease (NASH) in a subject, as well as subsequent complications of untreated progression in the liver of a subject, such as liver cirrhosis and/or a hepatocellular carcinoma.

3. 2711504 VACUNAS DE CÉLULAS DENDRÍTICAS PARA TUMORES QUE EXPRESAN ASPARAGINIL-BETA-HIDROXILASA
ES - 06.05.2019
Int.Class A61K 39/00Appl.No 10735417
Applicant: Rhode Island Hospital
Inventor: Shimoda, Masafumi

4. 20180237427 INHIBITORS OF BETA-HYDROXYLASE FOR TREATMENT OF CANCER
US - 23.08.2018
Int. Class C07D 417/04 Appl. No 15715989
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present invention relates to compounds which modulate (e.g., inhibit) the activity of beta-hydrolase (e.g., ASPH), including novel 2-aryl-5-amino-3(2H)-furanone and 2-heteroaryl-5-amino-3(2H)-furanone compounds, pharmaceutical compositions thereof, methods for their synthesis, and methods of using these compounds to modulate the activity of ASPH in an a cell-free sample, a cell-based assay, and in a subject. Other aspects of the invention relate to use of the compounds disclosed herein to ameliorate or treat cell proliferation disorders.

5. 3345596 INHIBITORS OF BETA-HYDROLASE FOR TREATMENT OF CANCER
EP - 11.07.2018
Int. Class A61K 31/341 Appl. No 17202827
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present invention relates to compounds which modulate (e.g., inhibit) the activity of beta-hydrolase (e.g., ASPH), including novel 2-aryl-5-amino-3(2H)-furanone and 2-heteroaryl-5-amino-3(2H)-furanone compounds, pharmaceutical compositions thereof, methods for their synthesis, and methods of using these compounds to modulate the activity of ASPH in an a cell-free sample, a cell-based assay, and in a subject.

Other aspects of the invention relate to use of the compounds disclosed herein to ameliorate or treat cell proliferation disorders.

6. WO/2018/081720 GLYCOSYLATED TRANSFERRIN RECEPTOR 1 TUMOR ANTIGEN
WO - 03.05.2018
Int. Class A61K 39/00 Appl. No PCT/US2017/059062
Applicant: Rhode Island Hospital
Inventor: LI, Jisu
This invention relates to compositions and methods for treating or diagnosing cancer.

7. 2660822 INHIBIDORES DE BETA-HIDROLASA PARA TRATAMIENTO DEL CÁNCER
ES - 26.03.2018
Int. Class A61K 31/341 Appl. No 13838498
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.

8. 3134114 ASPARTATE-BETA -HYDROXYLASE INDUCES EPITOPE-SPECIFIC T CELL RESPONSES IN TUMORS
EP - 01.03.2017
Int. Class A61K 39/00 Appl. No 15782824
Applicant Rhode Island Hospital
Inventor Wands, Jack R.
The present invention provides a peptide-based immunotherapy for ASPH- expressing tumors.

9. 20160274086 METHODS COMPOSITIONS AND KITS FOR IMAGING CELLS AND TISSUES USING NANOPARTICLES AND SPATIAL FREQUENCY HETERODYNE IMAGING
US - 22.09.2016
Int. Class G01N 33/50 Appl.No 15088574
Applicant: Brown University
Inventor: Rose-Petruck, Christoph
Methods, compositions, systems, devices and kits are provided herein for preparing and using a nanoparticle composition and spatial frequency heterodyne imaging for visualizing cells or tissues. In various embodiments, the nanoparticle composition includes at least one of: a nanoparticle, a polymer layer, and a binding agent, such that the polymer layer coats the nanoparticle and is for example a polyethylene glycol, a polyelectrolyte, an anionic polymer, or a cationic polymer, and such that the binding agent that specifically binds the cells or the tissue. Methods, compositions, systems, devices and kits are provided for identifying potential therapeutic agents in a model using the nanoparticle composition and spatial frequency heterodyne imaging.

10. 20160139149 CHI3L1 FOR THE DETECTION AND TREATMENT OF NONALCOHOLIC STEATOHEPATITIS
US - 19.05.2016
Int. Class G01N 33/68 Appl. No 14945759
Applicant: Brown University
Inventor: Elias, Jack A.

11. 2016053036 DENDRITIC CELL VACCINES AGAINST ASPARAGINYL-B-HYDROXYLASE EXPRESSING TUMORS

JP - 14.04.2016
Int. Class A61K 39/00 Appl. No 2015199935
Applicant: Rhode Island Hospital
Inventor: Shimoda, Masafumi
PROBLEM TO BE SOLVED: To provide vaccines comprising mature dendritic cells loaded with aspartyl (asparaginyl)-β-hydroxylase (AAH) for treating AAH-expressing tumor in a mammalian subject.
SOLUTION: A vaccine of the invention comprises an isolated AAH-loaded mature dendritic cell. The invention also provides a method for reducing the proliferation of AAH-expressing tumor in a subject comprising administration of the cell to the subject. More specifically, provided is a method for producing primed dendritic cells comprising ex vivo activation of dendritic cells with a combination of cytokines prior to the administration to a subject, more particularly, a method comprising the steps of: contacting isolated dendritic cells with an antigen; and contacting the dendritic cells with a combination of cytokines, where the combination comprises GM-CSF and IFN-γ. The combination may further comprises IL-4 and still further CD40L.
SELECTED DRAWING: Figure 12

12. 20160024223 TREATING HEPATITIS B VIRUS INFECTIONS BY ADMINISTERING RECEPTOR ASSOCIATED PROTEIN (RAP)
US - 28.01.2016
Int. Class A61P 1/16 Appl. No 14775459
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The specification provides compositions and methods of reducing a risk of a HBV infection in a subject and of treating a subject infected with HBV.

13. WO/2015/164826 ASPARTATE-B-HYDROXYLASE INDUCES EPITOPE-SPECIFIC T CELL RESPONSES IN TUMORS
WO - 29.10.2015
Int. Class A61K 39/00 Appl. No PCT/US2015/027651
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The present invention provides a peptide-based immunotherapy for ASPH- expressing tumors.

14. 20150210677 INHIBITORS OF BETA-HYDROXYLASE FOR TREATMENT OF CANCER
US - 30.07.2015
Int. Class C07D 307/26 Appl. No 14430101
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present invention relates to compounds which modulate (e.g., inhibit) the activity of beta-hydroxylase (e.g., Asparatyl (asparaginyl) β-hydroxylase (ASPH)), including novel 2-aryl-5-amino-3(2H)-furanone and 2-heteroaryl-5-amino-3(2H)-furanone compounds, pharmaceutical compositions thereof, methods for their synthesis, and methods of using these compounds to modulate the activity of ASPH in an a cell-free sample, a cell-based assay, and in a subject. Other aspects of the invention relate to use of the compounds disclosed herein to ameliorate or treat cell proliferation disorders.

15. 2897607 INHIBITORS OF BETA-HYDROLASE FOR TREATMENT OF CANCER
EP - 29.07.2015

Int. Class A61K 31/341 Appl. No 13838498
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present invention relates to compounds which modulate (e.g., inhibit) the activity of beta-hydrolase (e.g., ASPH), including novel 2-aryl-5-amino-3(2H)-furanone and 2- heteroaryl-5-amino-3(2H)-furanone compounds, pharmaceutical compositions thereof, methods for their synthesis, and methods of using these compounds to modulate the activity of ASPH in an a cell-free sample, a cell-based assay, and in a subject. Other aspects of the invention relate to use of the compounds disclosed herein to ameliorate or treat cell proliferation disorders.

16. 104737021 BIOMARKERS FOR THE TREATMENT OF HEPATOCELLULAR CARCINOMA
CN - 24.06.2015
Int. Class G01N 33/574 Appl. No. 201380014334.8
Applicant: Celgene Corp.
Inventor: Kim, Miran
Provided herein are biomarkers for hepatocellular carcinoma and uses thereof.

17. 2802877 BIOMARKERS FOR THE TREATMENT OF HEPATOCELLULAR CARCINOMA
EP - 19.11.2014
Int. Class G01N 33/574 Appl. No. 13701319
Applicant: Celgene Corp.
Inventor: Kim, Miran
Provided herein are biomarkers for hepatocellular carcinoma and uses thereof.

18.2014008388 BIOMARCADORES PARA EL TRATAMIENTO DE CARCINOMA HEPATOCELULAR.
MX - 14.11.2014
Int. Class G01N 33/574 Appl.No. 2014008388
Applicant: Celgene Corp.
Inventor: Kim, Miran
Provided herein are biomarkers for hepatocellular carcinoma and uses thereof.

19. WO/2014/160088 TREATING HEPATITIS B VIRUS INFECTIONS
WO - 02.10.2014
Int.Class C12P 21/08Appl.No PCT/US2014/025788
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The specification provides compositions and methods of reducing a risk of a HBV infection in a subject and of treating a subject infected with HBV.

20. WO/2014/047519 INHIBITORS OF BETA-HYDROLASE FOR TREATMENT OF CANCER
WO - 27.03.2014
Int. Class A61K 31/34 Appl. No PCT/US2013/061050
Applicant: Rhode Island Hospital

Inventor: Wands, Jack, R.

21. 2445339 PROTEÍNAS WNT Y DETECCIÓN Y TRATAMIENTO DE CÁNCER
ES - 03.03.2014
Int. Class G01N 33/53 Appl. No 05812548
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, *inter alia*, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

22. 597724 DENDRITIC CELL VACCINES FOR ASPARAGINYL-BETA-HYDROXYLASE EXPRESSING TUMORS
NZ - 25.10.2013
Int. Class A61K 39/00 Appl. No 597724
Applicant: Rhode Island Hospital
Inventor: Shimoda, Masafumi
597724 Disclosed is the use of an isolated aspartyl (asparaginyl)-b-hydroxylase (AAH)-loaded dendritic cell in the manufacture of a medicament for reducing growth of an AAH-expressing tumor in a subject, wherein growth of said AAH-expressing tumor is reduced by said dendritic cell. Further disclosed is a method of producing one or more AAH-primed dendritic cells, comprising contacting one or more isolated dendritic cells with an antigen comprising AAH, and following said antigen-contacting step, contacting said one or more dendritic cells with a combination of cytokines, said combination comprising GM-CSF, IFN- γ and/or CD40L. Further disclosed is the use of a vaccine containing AAH-loaded mature dendritic cells in the manufacture of a medicament for treatment of AAH-expressing tumors in a mammalian subject.

23. 20130183675 USE OF BIOMARKERS IN METHODS FOR THE TREATMENT OF HEPATOCELLULAR CARCINOMA
US - 18.07.2013
Int. Class A01N 43/00 Appl. No 13740012
Applicant: Celgene Corporation
Inventor: Kim, Miran
Provided herein are biomarkers for hepatocellular carcinoma and uses thereof.

24.WO/2013/106686 BIOMARKERS FOR THE TREATMENT OF HEPATOCELLULAR CARCINOMA
WO - 18.07.2013
Int. Class G01N 33/574 Appl. No PCT/US2013/021197
Applicant: Celgen Corp.
Inventor: Kim, Miran
Provided herein are biomarkers for hepatocellular carcinoma and uses thereof.

25. 20130095499 METHODS, COMPOSITIONS AND KITS FOR IMAGING CELLS AND TISSUES USING NANOPARTICLES AND SPATIAL FREQUENCY HETERODYNE IMAGING
US - 18.04.2013
Int. Class G01N 33/574 Appl. No 13645938
Applicant: Brown University
Inventor: Rose-Petruck, Christoph

Methods, compositions, systems, devices and kits are provided herein for preparing and using a nanoparticle composition and spatial frequency heterodyne imaging for visualizing cells or tissues. In various embodiments, the nanoparticle composition includes at least one of: a nanoparticle, a polymer layer, and a binding agent, such that the polymer layer coats the nanoparticle and is for example a polyethylene glycol, a polyelectrolyte, an anionic polymer, or a cationic polymer, and such that the binding agent that specifically binds the cells or the tissue. Methods, compositions, systems, devices and kits are provided for identifying potential therapeutic agents in a model using the nanoparticle composition and spatial frequency heterodyne imaging.

26. 102596234 DENDRITIC CELL VACCINES FOR ASPARAGINYL-BETA-HYDROXYLASE EXPRESSING TUMORS
CN - 18.07.2012
Int. Class A61K 39/00 Appl. No 201080033781.4
Applicant: Rhode Island Hospital
Inventor: Shimoda, Masafumi
A vaccine containing AAH-loaded mature dendritic cells for treatment of AAH- expressing tumors in mammalian subjects. A method of producing primed dendritic cells is carried out by contacting isolated dendritic cells with an antigen such as AAH. Following the antigen-contacting step, the dendritic cells are contacted with a combination of cytokines such as GM-CSF and IFN- gamma.

27. 2456458 DENDRITIC CELL VACCINES FOR ASPARAGINYL - BETA - HYDROXYLASE EXPRESSING TUMORS
EP - 30.05.2012
Int. Class A61K 39/00 Appl. No 10735417
Applicant: Rhode Island Hospital
Inventor; Shimoda, Masafumi
A vaccine containing AAH-loaded mature dendritic cells for treatment of AAH- expressing tumors in mammalian subjects. A method of producing primed dendritic cells is carried out by contacting isolated dendritic cells with an antigen such as AAH. Following the antigen-contacting step, the dendritic cells are contacted with a combination of cytokines such as GM-CSF and IFN-γ

28. 20110124016 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 26.05.2011
Int.Class G01N 33/574Appl.No 12955435
Applicant: Wands, Jack R.
Inventor: Wands, Jack R.
The invention features a method of inhibiting tumor growth and/or tumor invasiveness in a mammal by administering to a mammal a compound (e.g., an antagonistic antibody) which inhibits expression or enzymatic activity of human aspartyl (asparaginyl) beta-hydroxylase (HAAH). The invention also features a method for diagnosing the growth of a malignant neoplasm (e.g., pancreatic cancer) in a mammal by contacting a tissue or bodily fluid from the mammal with an antibody which binds to a HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and/or detecting the antigen-antibody complex.

29. 20110076290 DENDRITIC CELL VACCINES FOR ASPARAGINYL-B-HYDROXYLASE EXPRESSING TUMORS
US - 31.03.2011
Int.Class A61K 39/00Appl.No 12842494
Applicant: Shimoda, Masafumi
Inventor: Shimoda, Masafumi

A vaccine containing AAH-loaded mature dendritic cells for treatment of AAH-expressing tumors in mammalian subjects. A method of producing primed dendritic cells is carried out by contacting isolated dendritic cells with an antigen such as AAH. Following the antigen-contacting step, the dendritic cells are contacted with a combination of cytokines such as GM-CSF and IFN-γ.

30. WO/2011/011688 DENDRITIC CELL VACCINES FOR ASPARAGINYL- B - HYDROXYLASE EXPRESSING TUMORS
WO - 27.01.2011
Int.Class A61K 39/00Appl.No PCT/US2010/043056
Applicant: Rhode Island Hospital
Inventor: Shimoda, Masafumi

31. 2010209101 METHOD OF INHIBITING METASTASIS
JP - 24.09.2010
Int.Class A61K 31/549Appl.No 2010107880
Applicant: Geistlich Pharma AG
Inventor: Wands, Jack R.
PROBLEM TO BE SOLVED: To provide a method of inhibiting metastasis of a primary tumor to a liver tissue.
SOLUTION: The method is carried out by directly contacting a liver tissue with Taurolidine. Where, in the case of a metastatic liver tumor, the liver is preferably isolated from systemic circulation before being contacted with Taurolidine. Taurolidine is administrated through a self-retaining catheter or into a vein.
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32. 20100203054 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
US - 12.08.2010
Int.Class A61K 39/395Appl.No 12701425
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins and genes, and Wnt- and FZD-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

33. 20100172832 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 08.07.2010
Int.Class A61K 51/00Appl.No 12643046
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

34. 20100144837 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 10.06.2010
Int.Class A61K 31/7088Appl.No 12625871
Applicant: Rhode Island Hospital
Inventor: Wands Jack R.

The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

35. 20100136581 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 03.06.2010
Int.Class G01N 33/53Appl.No 12625729
Applicant: Rhode Island Hospital
Inventor: Wands Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

36. 20100093002 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 15.04.2010
Int.Class G01N 33/574Appl.No 11974076
Applicant: Wands, Jack R.
Inventor: Wands Jack R.
The invention features a method of inhibiting tumor growth and/or tumor invasiveness in a mammal by administering to a mammal a compound (e.g., an antagonistic antibody) which inhibits expression or enzymatic activity of human aspartyl (asparaginyl) beta-hydroxylase (HAAH). The invention also features a method for diagnosing the growth of a malignant neoplasm (e.g., pancreatic cancer) in a mammal by contacting a tissue or bodily fluid from the mammal with an antibody which binds to a HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and/or detecting the antigen-antibody complex.

37. 2010046086 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASM
JP - 04.03.2010
Int.Class C12N 15/02Appl.No 2009244306
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
PROBLEM TO BE SOLVED: To provide a method for diagnosing and inhibiting the growth of malignant neoplasms in a mammal by bringing cells or body fluids of the mammal into contact with an antibody binding to a human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide.
SOLUTION: The method for diagnosing a malignant neoplasm in a mammal includes bringing a body fluid derived from a mammal into contact with an antibody binding to HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and detecting the antigen-antibody complex. There is provided a method for provoking or giving an immune response to tumor cells (e.g. cerebral tumor) in a mammal by administering an antibody binding to HAAH or a polynucleotide encoding such antibody to a mammal.

38. 20100055037 TREATMENT, PREVENTION, AND REVERSAL OF ALCOHOL-INDUCED BRAIN DISEASE
US - 04.03.2010
Int.Class C07C 15/12Appl.No 12310831
Applicant: Wands, Jack R.
Inventor: Wands, Jack R.
This invention relates to methods for treating, preventing, or reversing brain disease or damage produced by chronic alcohol intake by administering a peroxisome proliferator activated receptor (PPAR) agonist.

39. 20100010203 ANTI-HYDROXYLASE ANTIBODIES AND USES THEREOF
US - 14.01.2010
Int.Class C07K 16/00Appl.No 12553599
Applicant: Wittrup, K Dane
Inventor: Wittrup, K. Dane
Antibodies, or antigen-binding portions thereof, to aspartyl (asparaginyl) β-hydroxylase are provided. The anti-aspartyl (asparaginyl) β-hydroxylase antibodies, or antigen-binding portions thereof, can modulate activity of aspartyl (asparaginyl) β-hydroxylase.

40.2009280586METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
JP - 03.12.2009
Int.Class A61K 31/426Appl.No 2009148356Applicant ESMOND ROBERT WInventor ESMOND ROBERT W

41. 20090280192 METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
US - 12.11.2009
Int.Class A61K 33/24Appl.No 12505868
Applicant: Wands, Jack R.
Inventor: Esmond, Robert W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

42. 155931 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
SG - 29.10.2009
Int.Class N/AAppl.No 2009062126
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.

43. 697893 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER`S DISEASE
PT - 28.10.2009
Int.Class C07K 14/435Appl.No 94915396
Applicant: The General Hospital Corp.
Inventor: De la Monte, Suzanne

44. 101416058 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
CN - 22.04.2009
Int.Class G01N 33/574Appl.No 200580039735.4
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

45. 20090074777 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER

US - 19.03.2009
Int.Class C07K 16/00Appl.No 11909308
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

46. 2312913 EXPRESION GENICA DE LA PROTEINA DE LA CADENA NEURAL Y DETECCION DE LA ENFERMEDAD DE ALZHEIMER.
ES - 01.03.2009
Int.Class G01N 33/53Appl.No E04076254
Applicant: The General Hospital Corp
Inventor: De la Monte, Suzanne M.
Una proteína de la cadena neural (NTP) que carece sustancialmente de cualquier impureza natural y codificada por la molécula de ADN AD3-4DH1 presente en las células E. coli que están depositadas en la Colección Americana de Cultivos Tipo, Manassass, Va., con el nº de acceso 69260.

47. 1564293 NERVETRÅDPROTEINGENEKSPRESSION OG DETEKTION AF ALZHEIMERS SYGDOM
DK - 12.01.2009
Int.Class C12N 15/12Appl.No 04076254
Applicant: The General Hospital Corp.
Inventor: Wands, Jack R.
The present invention is directed to recombinant hosts expressing proteins associated with Alzheimer's Disease, neuroectodermal tumors, maligant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code neural thread proteins in gene therapy.

48. 20090012267 ANTI-HYDROXYLASE ANTIBODIES AND USES THEREOF
US - 08.01.2009
Int.Class C07K 16/18Appl.No 12055108
Applicant: Massachusetts Institute of Technology
Inventor: Wittrup, K. Dane
Antibodies, or antigen-binding portions thereof, to aspartyl (asparaginyl) β-hydroxylase are provided. The anti-aspartyl (asparaginyl) β-hydroxylase antibodies, or antigen-binding portions thereof, can modulate activity of aspartyl (asparaginyl) β-hydroxylase.

49. 000060224435 THYMOSIN-AUGMENTATION BEI GENETISCHER IMMUNISIERUNG
DE - 02.01.2009
Int.Class A61K 38/16Appl.No 60224435
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.

50. 2008292486 DIAGNOSIS AND DISPOSITION OF NEOPLASM
JP - 04.12.2008

Int.Class G01N 33/574Appl.No 2008132974
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

51. 1564293 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER`S DISEASE
PT - 02.12.2008
Int.Class C12N 15/09Appl.No 04076254
Applicant: General Hospital Corp.
Inventor: Wands, Jack R.
The present invention is directed to recombinant hosts expressing proteins associated with Alzheimer's Disease, neuroectodermal tumors, maligant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code neural thread proteins in gene therapy.

52. 2008285485 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASM
JP - 27.11.2008
Int.Class C07K 16/40Appl.No 2008126157
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
PROBLEM TO BE SOLVED: To provide a method of diagnosing a malignant neoplasm in a mammal and a method of eliciting an immune response or conferring an immune response to a tumor cell (for example, a brain tumor) in a mammal.
SOLUTION: The method of diagnosing and inhibiting the growth of a malignant neoplasm in a mammal comprises bringing a cell or a bodily fluid of the mammal into contact with an antibody which binds to a human aspartyl (asparaginyl)-hydroxylase (HAAH) polypeptide. A method of immunization to generate an HAAH-specific immune response is disclosed.

53. 000069838789 VERFAHREN ZUR BEHANDLUNG ODER PRÄVENTION DER ALZHEIMERISCHEN KRANKHEIT
DE - 30.10.2008
Int.Class A61K 31/425Appl.No 69838789
Applicant: De la Monte, Suzanne
Inventor: Esmond, Robert W.

54. 20080194457 FRIZZLED PROTEINS AND DETECTION AND TREATMENT OF CANCER
US - 14.08.2008
Int.Class C12Q 1/68Appl.No 11575627
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

55. 2299626 AUMENTO DE TIMOSINA PARA ASEGURAR UNA INMUNIZACION GENETICA.
ES - 01.06.2008
Int.Class C12N 15/09Appl.No E02795564
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
Uso de un polinucleótido que codifica uno o más péptidos de virus de la hepatitis C, junto con una o más timosinas alfa, en la preparación de una combinación farmacéutica para inmunizar a un sujeto susceptible de infección por virus de la hepatitis C contra tal infección.

56. 000060034594 DIAGNOSE VON MALIGNEN NEOPLASMEN
DE - 03.04.2008
Int.Class G01N 33/574Appl.No 60034594
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

57. 101126094 GENETIC IMMUNIZATION WITH NONSTRUCTURAL PROTEINS OF HEPATITIS C VIRUS
CN - 20.02.2008
Int.Class C12N 15/51Appl.No 200710138465.3
Applicant: Massachusetts Gen Hospital
Inventor: Wands, Jack R.
Nucleic acid molecules that comprise a hepatitis C nonstructural protein including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising a hepatitis C nonstructural protein including a nucleotide sequence encoding NS3, NS4, or NS5, or a combination thereof, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis C virus comprising administering such pharmaceutical compositions are disclosed.

58. 101126095 GENETIC IMMUNIZATION WITH NONSTRUCTURAL PROTEINS OF HEPATITIS C VIRUS
CN - 20.02.2008
Int.Class C12N 15/51Appl.No 200710139893.8
Applicant: Massachusetts Gen Hospital
Inventor: Wands, Jack R.
Nucleic acid molecules that comprise a hepatitis C nonstructural protein including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising a hepatitis C nonstructural protein including a nucleotide sequence encoding NS3, NS4, or NS5, or a combination thereof, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis C virus comprising administering such pharmaceutical compositions are disclosed.

59. 1448223 THYMOSIN-FORØGELSE AF GENETISK IMMUNISERING
DK - 18.02.2008
Int.Class A61K 38/16Appl.No 02795564
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.

This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

60. 1448223 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
PT - 23.01.2008
Int.Class A61K 38/16Appl.No 02795564
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

61. 1881327 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
EP - 23.01.2008
Int.Class G01N 33/574Appl.No 07008309
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH. Methods of inhibiting tumor growth by contacting a tumor cell with an HAAH antisense nucleic acid are also included.

62. 2286041 DIAGNOSTICO DE NEOPLASMAS MALIGNOS.
ES - 01.12.2007
Int.Class A61K 31/00Appl.No E00978436
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Un método ex vivo para diagnosticar un neoplasma maligno en un mamífero, comprendiendo dicho método poner en contacto un fluido corporal de dicho mamífero con un anticuerpo o uno de sus fragmentos que se enlaza a un polipéptido aspartil (asparaginil) beta-hidroxilasa (AAH) en condiciones suficientes para formar un complejo antígeno-anticuerpo y detectar el complejo antígeno-anticuerpo.

63. 2283653 TRATAMIENTO DEL GLIOBLASTOMA CON TIMOSIN ALFA 1
ES - 01.11.2007
Int.Class A61K 31/17Appl.No E02804755
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
El uso de una cloroetilnitrosourea en combinación con un péptido de timosina-alfa1 (TA1) para la fabricación de un medicamento para tratar el glioblastoma.

64. 000060218896 GLIOBLASTOM-BEHANDLUNG MIT THYMOSIN-ALPHA 1
DE - 20.09.2007
Int.Class A61K 38/Appl.No 60218896
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

65.1805519WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER

EP - 11.07.2007
Int.Class G01N 33/53Appl.No 05812548
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, *inter alia*, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

66. 1020070073802 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
KR - 10.07.2007
Int.Class G01N 33/574Appl.No 1020077009060
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, *inter alia*, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

67. 1461063 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
PT - 18.06.2007
Int.Class A61K 38/00Appl.No 02804755
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Thymosin-$g(a)1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

68. 7226730 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
US - 05.06.2007
Int.Class C12Q 1/68Appl.No 09380203
Applicant: The General Hospital Corporation
Inventor: De La Monte Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

69. 20070032444 GENETIC IMMUNIZATION WITH NONSTRUCTURAL PROTEINS OF HEPATITIS C VIRUS
US - 08.02.2007
Int.Class A61K 48/00Appl.No 11437286
Applicant: The Massachusetts General Hospital
Inventor: Wands, Jack R.
Nucleic acid molecule that comprise a hepatitis C nonstructural protein including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising a

hepatitis C nonstructural protein including a nucleotide sequence encoding NS3, NS4, or NS5, or a combination thereof, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis C virus comprising administering such pharaceutical compositions are disclosed.

70. 533942 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
NZ - 26.01.2007
Int.Class A61K 45/06Appl.No 533942
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Patent 533942 Thymosin-alpha 1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma. Thymalfasin enhances chloroehtylnitrosurea-mediated eradication of glioblastoma in vivo, and that thymalfasin mediates its effects by activating pro-apoptosis mechanisms, rendering neoplastic cells more sensitive to oxidative stress and killing by Granzyme B (T cells) or chemotherapy. The figure shows the effect of BCNU and BCNU + thymalfasin (THY) on glioblastoma progression in vivo.

71. 000069434844 GENEEXPRESSION DER NEUROFILAMENTPROTEINE UND NACHWEIS DER ALZHEIMESCHEN ERKRANKUNG
DE - 14.12.2006
Int.Class C12N 15/12Appl.No 69434844
Applicant: General Hospital Corp.
Inventor: De la Monte, Suzanne M.

72. 20060211058 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 21.09.2006
Int.Class G01N 33/574Appl.No 11376941
Applicant: Wands, Jack R.
Inventor: Wands Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

73. 532863 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
NZ - 28.07.2006
Int.Class A61K 39/29Appl.No 532863
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Patent 532863 A pharmaceutical combination comprising a polynucleotide comprising one or more hepatitis C virus peptides and one or more alpha thymosins is useful for enhancing the immune response when immunizing a subject susceptible to hepatitis C virus infection.

74. 20060166870 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
US - 27.07.2006
Int.Class A61K 38/17Appl.No 10498050
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

Thymosin-α1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

75. 2255054 EXPRESION DEL GEN DE LA PROTEINA NEUROFILAMENTOSA Y DETECCION DE LA ENFERMEDAD DE ALZHEIMER.
ES - 16.06.2006
Int.Class A61K 49/00Appl.No E94915396
Applicant: The General Hospital Corp.
Inventor: De la Monte, Suzanne M.
La presente invencion esta orientado a los huespedes recombinantes que manifiestan nuevas proteinas asociadas con la enfermedad de alzheimer, tumores neuroectodermales, astrocitomas malignos, y glioblastomas. La invencion esta especificamente orientada a los huespedes recombinantes y a los vectores que contienen los genes que codifican las proteinas largas neuronales. Esta invencion tambien esta orientada a la proteina larga neural sustancialmente pura, a los metodos de inmunodiagnostico y diagnostico molecular para detectar la presencia de proteinas largas neurales, y al uso de secuencias de acido nucleico que codifican las proteinas largas neurales en la terapia genetica.

76. WO/2006/036173 FRIZZLED PROTEINS AND DETECTION AND TREATMENT OF CANCER
WO - 06.04.2006
Int.Class G01N 33/53Appl.No PCT/US2005/000199
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

77. WO/2006/036175 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
WO - 06.04.2006
Int.Class G01N 33/53Appl.No PCT/US2005/000267
Applicant Rhode Island Hospital
Inventor: Wands, Jack, R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

78. 2580780 FRIZZLED PROTEINS AND DETECTION AND TREATMENT OF CANCER
CA - 06.04.2006
Int.Class G01N 33/53Appl.No 2580780
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

79. WO/2006/036179 FRIZZLED PROTEINS AND DETECTION AND TREATMENT OF CANCER
WO - 06.04.2006
Int.Class G01N 33/53Appl.No PCT/US2005/001514

Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

80. WO/2006/034328 WNT PROTEINS AND DETECTION AND TREATMENT OF CANCER
WO - 30.03.2006
Int.Class G01N 33/53Appl.No PCT/US2005/033775
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The present specification provides, inter alia, methods of using Wnt and FZD proteins, genes, FZD and Wnt-specific antibodies and probes in diagnosis and treatment of cancer and for screening test compounds for an ability to treat cancer. Also disclosed are compounds useful for treating cancer such as liver cancer.

81. 0697893 NERVETRÅDPROTEINGENEKSPRESSION OG DETEKTION AF ALZHEIMERS SYGDOM
DK - 20.02.2006
Int.Class G01N 33/53Appl.No 94915396
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

82. PA/A/2004/003867 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
MX - 06.10.2005
Int.Class A61K 38/16Appl.No PA/a/2004/003867
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

83. 20050220795 ANTI-HYDROXYLASE ANTIBODIES AND USES THEREOF
US - 06.10.2005
Int.Class A61K 39/00Appl.No 10989462
Applicant: Massachusetts Institute of Technology
Inventor: Wittrup, K. Dane
Antibodies, or antigen-binding portions thereof, to aspartyl (asparaginyl) β-hydroxylase are provided. The anti-aspartyl (asparaginyl) β-hydroxylase antibodies, or antigen-binding portions thereof, can modulate activity of aspartyl (asparaginyl) β-hydroxylase.

84. 1564293 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
EP - 17.08.2005
Int.Class C12N 15/09Appl.No 04076254
Applicant: Gen Hospital Corp
Inventor: De La Monte, Suzanne M.
The present invention is directed to recombinant hosts expressing proteins associated with Alzheimer's Disease, neuroectodermal tumors, maligant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code neural thread proteins in gene therapy.

85. PA/A/2004/005585 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
MX - 13.06.2005
Int.Class A61K 31/17Appl.No PA/a/2004/005585
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Thymosin-&agr;1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

86. 20050123545 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 09.06.2005
Int.Class C12N 9/64Appl.No 10918685
Applicant: Wands, Jack R.
Inventor: Wands, Jack R.
The invention features a method of inhibiting tumor growth and/or tumor invasiveness in a mammal by administering to a mammal a compound (e.g., an antagonistic antibody) which inhibits expression or enzymatic activity of human aspartyl (asparaginyl) beta-hydroxylase (HAAH). The invention also features a method for diagnosing the growth of a malignant neoplasm (e.g., pancreatic cancer) in a mammal by contacting a tissue or bodily fluid from the mammal with an antibody which binds to a HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and/or detecting the antigen-antibody complex.

87. 20050113329 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 26.05.2005
Int.Class A61K 48/00Appl.No 11020965
Applicant: Panacea Pharmaceuticals, Inc.
Inventor: Wands, Jack R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

88. 1615147 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
CN - 11.05.2005
Int.Class A61K 38/00Appl.No 02827081.9
Applicant: Rhode Island Hospital

Inventor: Wands, Jack R.
Thymosin- alpha 1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

89. 20050090441 INCREASED AND SUSTAINED IN VIVO GENE EXPRESSION USING A NUCLEIC ACID, HISTONE AND AMPHIPATHIC COMPOUND COMPOSITION
US - 28.04.2005
Int.Class A01N 43/02Appl.No 10910173
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a non-transgenic model of Alzheimer's Disease, method for inducing prolonged in vivo gene expression in a mammal, and methods of inhibiting Alzheimer's Disease-associated neuronal cell death.

90. 1604789 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
CN - 06.04.2005
Int.Class A61K 38/16Appl.No 02821277.0
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

91. 20050054845 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
US - 10.03.2005
Int.Class A61K 39/29Appl.No 10493411
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

92. 20050043242 METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
US - 24.02.2005
Int.Class A61K 31/426Appl.No 10936709
Applicant: Wands, Jack R.
Inventor: Esmond, Robert W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

93. WO/2005/016281 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
WO - 24.02.2005

Int.Class A61K 39/395Appl.No PCT/US2004/026336
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The invention features a method of inhibiting tumor growth and/or tumor invasiveness in a mammal by administering to a mammal a compound (e.g., an antagonistic antibody) which inhibits expression or enzymatic activity of human aspartyl (asparaginyl) beta-hydroxylase (HAAH). The invention also features a method for diagnosing the growth of a malignant neoplasm (e.g., pancreatic cancer) in a mammal by contacting a tissue or bodily fluid from the mammal with an antibody which binds to a HAAH polypeptide under conditions sufficient to form an antigen-antibody complex and/or detecting the antigen-antibody complex.

94. 20050032785 METHODS OF INHIBITING METASTASES
US - 10.02.2005
Int.Class A61K 31/54Appl.No 10873802
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention relates to methods for preventing and treating disseminating cancers. Inhibition metastases of a primary tumor to a liver tissue is carried out by directly contacting a liver tissue with Taurolidine.

95. 200400755 TREATMENT OF GLOBLASTOMA WITH THYMOSIN-A1
EA - 30.12.2004
Int.Class A61K 38/00Appl.No 200400755
Applicant: Роуд Айлэнд Хоспитал null
Inventor: Уандс, Джек Р.
Thymosin-α1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

96. 200400534 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
EA - 30.12.2004
Int.Class A61K 38/16Appl.No 200400534
Applicant: РОУД АЙЛЭНД ХОСПИТАЛ null
Inventor: Уандс Джек Р.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

97. PI0214848 TRATAMENTO DE GLIOBLASTOMA COM TIMOSINA ALFA-1
BR - 09.11.2004
Int.Class A61K 38/00Appl.No 214848-0
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R
"TRATAMENTO DE GLIOBLASTOMA COM TIMOSINA ALFA-1". Timosina<244>1 é usada como um adjuvante em combinação com carmustina (BCNU) como um tratamento efetivo para glioblastoma maligno.

98. 508018 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE

NZ - 29.10.2004
Int.Class C07H 21/04Appl.No 508018
Applicant: The General Hospital Corporation
Inventor: De la Monte, Suzanne
Patent 508018 Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas. Further described are antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas in non-human animals,

99. 1020040091611 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
KR - 28.10.2004
Int.Class A61K 31/64Appl.No 1020047008939
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Thymosin-α1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

100. PI0213554 TIMOSINA PARA AUMENTO DA IMUNIZAÇÃO GENÉTICA
BR - 26.10.2004
Int.Class C12N 15/09Appl.No 213554-0
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R
"TIMOSINA PARA AUMENTO DA IMUNIZAçãO GENéTICA". A presente invenção descreve o uso de timosina para aumento das respostas imunes celulares ao vírus da hepatite C. Métodos para imunização de um indivíduo suscetível à infecção pelo vírus da hepatite C contra tal infecção compreendendo administração ao indivíduo de um ou mais polinucleotídeos que codificam um ou mais peptídeos do vírus da hepatite C, em combinação com uma ou mais timosinas, são descritos. Composições adequadas para imunização contra o vírus da hepatite C, compreendendo um ou mais polinucleotídeos que codificam um ou mais peptídeos do vírus da hepatite C e uma ou mais timosinas, são também descritas.

101. 1020040089075 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
KR - 20.10.2004
Int.Class A61K 38/16Appl.No 1020047006231
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

102. 1461063 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1

EP - 29.09.2004
Int.Class A61K 38/00Appl.No 02804755
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Thymosin-$g(a)1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

103. 1448223 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
EP - 25.08.2004
Int.Class A61K 38/16Appl.No 02795564
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

104. 1429797 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
EP - 23.06.2004
Int.Class A61K 38/00Appl.No 02731861
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

105. 1414478 INHIBITION OF NEURODEGENERATION
EP - 06.05.2004
Int.Class A61K 38/00Appl.No 02739383
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a non-transgenic model of Alzheimer's Disease, method for inducing prolonged in vivo gene expression in a mammal, and methods of inhibiting Alzheimer's Disease-associated neuronal cell death.

106. 2004097227 GENE EXPRESSION OF NEURAL FILAMENTOUS PROTEIN AND DETECTION OF ALZHEIMER'S DISEASE
JP - 02.04.2004
Int.Class C12N 15/09Appl.No 2003343063
Applicant: General Hospital Corp.
Inventor: De La Monte, Suzanne M.
PROBLEM TO BE SOLVED: To provide an immunodiagnostics, a molecular diagnostics and a gene therapy for Alzheimer's disease, neuroectodermal tumor, malignant astrocytoma and glioblastoma.
SOLUTION: A recombinant host cell and vector including a gene encoding a neural filamentous protein relate to the above-mentioned diseases.
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107. 20040058873 METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
US - 25.03.2004
Int.Class A61K 31/28Appl.No 10669281
Applicant/Inventor: Esmond, Robert W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

108. 20040060077 METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
US - 25.03.2004
Int.Class A61K 31/555Appl.No 10669217
Applicant: Esmond, Robert W.
Inventor: Esmond, Robert W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

109. 2469595 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
CA - 19.06.2003
Int.Class A61K 38/00Appl.No 2469595
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
Thymosin-.alpha.1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

110. WO/2003/049697 TREATMENT OF GLIOBLASTOMA WITH THYMOSIN-ALPHA 1
WO - 19.06.2003
Int.Class A61K 31/17Appl.No PCT/US2002/039329
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
Thymosin-α1 is used as an adjuvant in combination with carmustine (BCNU) as an effective treatment for malignant glioblastoma.

111. 2464795 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
CA - 01.05.2003
Int.Class A61K 38/16Appl.No 2464795
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

112. WO/2003/035010 THYMOSIN AUGMENTATION OF GENETIC IMMUNIZATION
WO - 01.05.2003

Int.Class A61K 38/22Appl.No PCT/US2002/034535
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
This invention describes the use of thymosin to augment cellular immune responses to hepatitis C virus. Methods for immunizing a subject susceptable to hepatitis C virus infection against such infection, comprising administering to the subject one or more polynucleotides encoding one or more hepatitis C virus peptides, in combination with one or more thymosins, are disclosed. Compositions suitable for immunizing against hepatitis C virus, comprising one or more polynucleotides encoding one or more hepatitis C virus peptides, and one or more thymosins, are also disclosed.

113. 20030069229 METHODS OF INHIBITING METASTASES
US - 10.04.2003
Int.Class A61M 37/00Appl.No 10262778
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention relates to methods for preventing and treating disseminating cancers. Inhibition metastases of a primary tumor to a liver tissue is carried out by directly contacting a liver tissue with Taurolidine.

114. 2462564 METHODS OF INHIBITING METASTASES
CA - 10.04.2003
Int.Class A61K 31/549Appl.No 2462564
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention relates to methods for preventing and treating disseminating cancers. Inhibition metastases of a primary tumor to a liver tissue is carried out by directly contacting a liver tissue with Taurolidine.

115. WO/2003/028642 METHODS OF INHIBITING METASTASES
WO - 10.04.2003
Int.Class A61K 31/549Appl.No PCT/US2002/031079
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The invention relates to methods for preventing and treating disseminating cancers. Inhibition metastases of a primary tumor to a liver tissue is carried out by directly contacting a liver tissue with Taurolidine.

116. 20030066097 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
US - 03.04.2003
Int.Class C12Q 1/68Appl.No 09964678
Applicant: The General Hospital Corporation
Inventor: De la Monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

117. 20030050262 NON-TRANSGENIC NONHUMAN MODEL FOR ALZHEIMER'S DISEASE USING A AD7C-NTP NUCLEIC ACID
US - 13.03.2003
Int.Class A01K 67/027Appl.No 09872968
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a non-transgenic model of Alzheimer's Disease, method for inducing prolonged in vivo gene expression in a mammal, and methods of inhibiting Alzheimer's Disease-associated neuronal cell death.

118. 6528479 DOMINANT NEGATIVE MUTANTS OF IRS-1 AND USES THEREOF
US - 04.03.2003
Int.Class A61K 38/00Appl.No 08964296
Applicant: The General Hospital Corporation
Inventor: Tanaka, Shinji
Dominant negative mutants of mammalian IRS-1 proteins and therapeutic compositions containing such mutants. Also featured are methods of using the dominant negative mutants to inhibit tyrosyl phosphorylation of endogenous IRS-1 in mammalian cells and methods of treating a mammalian malignancy in which tyrosyl phosphorylation of endogenous IRS-1 plays a causative role.

119. 20030033621 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
US - 13.02.2003
Int.Class C07H 21/04Appl.No 09964667
Applicant/Inventor: De La Monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

120. 20030031670 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 13.02.2003
Int.Class A61K 39/395Appl.No 09436184
Applicant: Wands, Jack R.
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

121. 2448863 INCREASED AND SUSTAINED IN VIVO GENE EXPRESSION USING A NUCLEIC ACID, HISTONE, AND AMPHIPATHIC COMPOUND COMPOSITION
CA - 12.12.2002
Int.Class A61K 48/00Appl.No 2448863
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.

The invention features a non-transgenic model of Alzheimer's Disease, methods for inducing increased and sustained in vivo gene expression in a mammal over a prolonged period of time using a composition comprising a nucleic acid, histone, and amphipathic compound, and methods of inhibiting Alzheimer's Disease-associated neuronal cell death.

122. WO/2002/099036 INHIBITION OF NEURODEGENERATION
WO - 12.12.2002
Int.Class A01K 67/027Appl.No PCT/US2002/016429
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The invention features a non-transgenic model of Alzheimer's Disease, method for inducing prolonged in vivo gene expression in a mammal, and methods of inhibiting Alzheimer's Disease-associated neuronal cell death.

123. 1259813 DIAGNOSIS OF MALIGNANT NEOPLASMS
EP - 27.11.2002
Int.Class G01N 33/574Appl.No 00978436
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH. Methods of inhibiting tumor growth by contacting a tumor cell with an HAAH antisense nucleic acid are also included.

124. 2447367 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
CA - 21.11.2002
Int.Class C12N 9/04Appl.No 2447367
Applicant: Panacea Pharmaceuticals, Inc.
Inventor: Wands, Jack R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta- hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

125. WO/2002/092782 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
WO - 21.11.2002
Int.Class C07K 16/40Appl.No PCT/US2002/015814
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

126. 20020161218 HEPATITIS C VIRUS VACCINE
US - 31.10.2002
Int.Class C07H 21/04Appl.No 09788934
Applicant: The General Hospital Corporation
Inventor: Pachuk, Catherine J.

Nucleic acid molecule that comprise an incomplete hepatitis C viral genome are provided. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein operably linked to regulatory elements functional in human cells are provided. Methods of immunizing individuals susceptible to or infected by hepatitis C virus comprising the step of administering such pharmaceutical compositions are provided.

127. 20020146421 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 10.10.2002
Int.Class G01N 33/53Appl.No 09903023
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

128. 20020129391 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
US - 12.09.2002
Int.Class A61K 31/70Appl.No 09964412
Applicant: The General Hospital Corporation
Inventor: De La Monte Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermnal tumors, malignant astrocytomas, and glioblastomas.

129. 20020122802 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 05.09.2002
Int.Class A61K 38/46Appl.No 09903199
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

130. 20020114810 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 22.08.2002
Int.Class A61K 38/16Appl.No 09903063
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

131. 20020114811 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS

US - 22.08.2002
Int.Class A61K 38/16Appl.No 09903216
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

132. 20020110559 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 15.08.2002
Int.Class A61K 39/395Appl.No 09859604
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing and inhibiting growth of a malignant neoplasm in a mammal by contacting a cell or a bodily fluid of the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide. Methods of immunization to generate an HAAH-specific immune response are also within the invention.

133. 20020102263 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
US - 01.08.2002
Int.Class C07K 16/30Appl.No 09903248
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH.

134. 20020104108 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
US - 01.08.2002
Int.Class C07H 21/00Appl.No 09964666
Applicant: The General Hospital Corporation
Inventor: De la Monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

135. 20020035081 INHIBITION OF HEPATITIS B REPLICATION
US - 21.03.2002
Int.Class C07H 21/04Appl.No 09812862
Applicant: Wands, Jack R.
Inventor: Wands, Jack R.
The invention features a polypeptide having a first amino acid sequence of at least 70 amino acids in length that is identical to a region of a wild type HBV core protein; and lacks a second amino acid sequence of the

wild type HBV core protein, where the second sequence includes the carboxyterminal three amino acids of the wild type HBV core protein and does not exceed nine amino acids in length.

136. 20020032307 HEPADNAVIRUS PRE-S PROTEIN FRAGMENTS
US - 14.03.2002
Int.Class C07H 21/04Appl.No 09818066
Applicant: The General Hospital Corporation
Inventor: Tong, Shuping
The invention features fragments of hepadnavirus pre-S protein that bind to viral receptor p120 or p170.

137. 6258937 HEPADNAVIRUS RECEPTOR
US - 10.07.2001
Int.Class C07K 14/00Appl.No 09361707
Applicant: The General Hospital Corporation
Inventor: Tong, Shuping
The invention features an hepadnavirus cellular receptor and a nucleic acid sequence that encodes the receptor. The receptor is a 170 kD surface glycoprotein, and is referred to as the p170 receptor.

138. 6235888 HEPATITIS C VIRUS VACCINE
US - 22.05.2001
Int.Class C12N 15/63Appl.No 08869380
Applicant: The General Hospital Corporation
Inventor: Pachuk, Catherine J.
Nucleic acid molecule that comprise an incomplete hepatitis C viral genome including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed.

139. 2390374 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
CA - 17.05.2001
Int.Class C12N 15/11Appl.No 2390374
Applicant: Rhode Island Hospital
Inventor: Wands, Jack R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase (HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH. Methods of inhibiting tumor growth by contacting a tumor cell with an HAAH antisense nucleic acid are also included.

140. WO/2001/035102 DIAGNOSIS AND TREATMENT OF MALIGNANT NEOPLASMS
WO - 17.05.2001
Int.Class A61K 31/00Appl.No PCT/US2000/030738
Applicant: Rhode Island Hospital
Inventor: Wands, Jack, R.
The invention features a method for diagnosing a malignant neoplasm in a mammal by contacting a bodily fluid from the mammal with an antibody which binds to an human aspartyl (asparaginyl) beta-hydroxylase

(HAAH) polypeptide and methods of treating malignant neoplasms by inhibiting HAAH. Methods of inhibiting tumor growth by contacting a tumor cell with an HAAH antisense nucleic acid are also included.

141. 1020000075748 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
KR - 26.12.2000
Int.Class C07H 21/04Appl.No 1019997007818
Applicant: The General Hospital Corporation
Inventor: De la monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisens oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

142. 337445 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
NZ - 22.12.2000
Int.Class A61K 48/00Appl.No 337445
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne
Transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas, the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas and antisense oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas.

143. 1006794 A METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
EP - 14.06.2000
Int.Class C07D 417/12Appl.No 98909105
Applicant: Esmond, Robert W
Inventor: Esmond, Robert W
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

144. 6071705 METHOD OF DETECTING NEUROLOGICAL DISEASE OR DYSFUNCTION
US - 06.06.2000
Int.Class G01N 33/53Appl.No 08469629
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
This invention relates to a method of detecting and diagnosing neurological disease or dysfunction using antibodies against a neurological form of Pancreatic Thread Protein (nPTP). Specifically, this invention is directed to a method of diagnosing Alzheimer's Disease, Down's Syndrome, and other neurological diseases or dysfunctions by using monoclonal antibodies, combination of those monoclonal antibodies or nucleic acid

probes, to detect nPTP. The invention also relates to a recombinant DNA molecule encoding PTP and to the substantially pure form of nPTP. The invention additionally relates to a method of diagnosing pancreatic disease using antibodies against Pancreatic Thread Protein.

145. 6060595 INHIBITION OF VIRAL REPLICATION
US - 09.05.2000
Int.Class C07H 21/04Appl.No 08968747
Applicant: The General Hospital Corporation
Inventor: Scaglioni Pier Paolo
The invention relates to methods and compositions for inhibition of viral replication in animal cells. In particular, inhibition of viral replication in a target cell is achieved by introducing into the cell (1) a protein which can be incorporated along with wild type nucleocapsid subunits into a viral nucleocapsid assembling within the cell, and thereby renders the nucleocapsid deficient in encapsidating viral nucleic acid; or (2) a recombinant nucleic acid construct that directs overexpression of the protein. -GOVT PAR This invention was supported in part by the U.S. Government under grant numbers CA-35711 and AA-02169 awarded by the National Institutes of Health. The Government has certain rights in the invention.

146. 6025341 CHIMERIC HEPATITIS B/HEPATITIS C VIRUS VACCINE
US - 15.02.2000
Int.Class A61K 48/00Appl.No 08854531
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
Nucleic acid molecule that comprise an incomplete hepatitis C and hepatitis B viral genome including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C and hepatitis B viral genome including a nucleotide sequence encoding a complete hepatitis C core protein and hepatitis B S gene protein operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis B virus and/or hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed. -GOVT PAC ACKNOWLEDGMENT OF GOVERNMENT RIGHTS PAR This invention was made with Government support under grants CA-35711 and AA-0186 awarded by the National Institutes of Health. The Government has certain rights in this invention.

147. 0975651 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
EP - 02.02.2000
Int.Class C07H 21/04Appl.No 98908715
Applicant: Gen Hospital Corp
Inventor: De La Monte Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisens oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

148. 6001990 ANTISENSE INHIBITION OF HEPATITIS C VIRUS
US - 14.12.1999
Int.Class C12N 15/00Appl.No 08474700

Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
The invention features antisense oligonucleotides and methods of using these antisense oligonucleotides for inhibiting HCV RNA translation. -GOVT PAR This invention was supported in part by the U.S. Government under grant numbers CA-35711 and AA-08169 awarded by the National Institute of Health. The Government has certain rights in the invention.

149. 5948888 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
US - 07.09.1999
Int.Class C07K 14/00Appl.No 08450673
Applicant: The General Hospital Corporation
Inventor: De la Monte Suzanne
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy. -GOVT PAC STATEMENT AS TO RIGHTS TO INVENTION MADE UNDER FEDERALLY-SPONSORED RESEARCH AND DEVELOPMENT PAR The present invention was made with U.S. government support. Therefore, the U.S. government has certain rights in the invention.

150. 5948634 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
US - 07.09.1999
Int.Class C12N 15/00Appl.No 08340426
Applicant: The General Hospital Coporation
Inventor: De la Monte Suzanne
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy. -GOVT PAC STATEMENT AS TO RIGHTS TO INVENTIONS MADE UNDER FEDERALLY-SPONSORED RESEARCH AND DEVELOPMENT PAR The present invention was made with U.S. government support. Therefore, the U.S. government has certain rights in the invention.

151. 5929220 HEPADNAVIRUS RECEPTOR
US - 27.07.1999
Int.Class C07H 21/04Appl.No 08683262
Applicant: The General Hospital Corporation
Inventor: Tong, Shuping
The invention features a purified nucleic acid that encodes a member of the hepadnavirus family of cellular receptors. The receptor is a 170 kD cell surface glycoprotein, and is referred to as the p170 receptor. The pre-S domain of the duck hepatitis B virus envelope protein binds the p170 receptor at a major neutralizing epitope, within which are two basic amino acids required for virion-receptor interaction. -GOVT PAR This invention

was supported in part by grants from the National Institutes of Health. The government has certain rights to the invention.

152. 296304 HEPATITIS VIRUS VACCINES
NZ - 29.06.1999
Int. Class A61K 31/70Appl.No 296304
Applicant: The General Hospital Corporation
Inventor: Pachuk, Catherine J
Nucleic acid molecule that comprises an incomplete fused hepatitis C and hepatitis B viral genome or an incomplete hepatitis C viral genome including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C and hepatitis B viral genome including a nucleotide sequence encoding a complete hepatitis C core protein and hepatitis B S gene protein or an incomplete hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunising individuals susceptible to or infected by hepatitis B virus and/or hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed.

153. 1340249 METHOD OF DETECTING NUCLEIC ACID CONTAINING MOIETIES
CA - 15.12.1998
Int.Class C12Q 1/68Appl.No 612614
Applicant: The General Hospital Corporation
Inventor: Liang, Tsanyang
A method for the detection of nucleic acid-containing moieties is described which combines affinity capture of the moiety with detection and identification of the moiety's nucleic acid.

154. 5830670 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
US - 03.11.1998
Int.Class C12Q 1/08Appl.No 08454557
Applicant: The General Hospital Corporation
Inventor: De la Monte, Suzanne
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy. -GOVT PAC STATEMENT AS TO RIGHTS TO INVENTIONS MADE UNDER FEDERALLY-SPONSORED RESEARCH AND DEVELOPMENT PAR The present invention was made with U.S. government support. Therefore, the U.S. government has certain rights in the invention.

155. 1340110 CARCINOMA-ASSOCIATED ANTIGENS, AND ANTIBODIES WHICH RECOGNIZE THESE ANTIGENS
CA - 03.11.1998
Int.Class C12N 5/18Appl.No 585435
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.

The present invention pertains to antigens of colon, liver and lung adenocarcinoma cells, to functional derivatives of these antigens, and to antibodies and antibody fragments capable of binding these antigen. The invention further discloses methods of diagnosing and treating colon, liver or lung adenocarcinomas which employ the above molecules.

156. 2323889 A METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
CA - 17.09.1998
Int. Class A61K 38/30Appl.No 2323889
Applicant: Esmond, Robert W.
Inventor: Esmond, Robert W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

157. WO/1998/039967 A METHOD FOR TREATING OR PREVENTING ALZHEIMER'S DISEASE
WO - 17.09.1998
Int. Class A61K 31/00Appl.No PCT/US1998/004731
Applicant: The General Hospital Corporation
Inventor: Esmond, Robert, W.
Disclosed is a method for treating or preventing Alzheimer's disease by restricting the level of metabolizable carbohydrate in the diet and/or administering to the patient an effective amount of an agent which reduces serum insulin levels.

158. 2282729 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
CA - 03.09.1998
Int.Class C07H 21/02Appl.No 2282729
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also relates to new antisens oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

159. WO/1998/038204 TRANSGENIC ANIMALS AND CELL LINES FOR SCREENING DRUGS EFFECTIVE FOR THE TREATMENT OR PREVENTION OF ALZHEIMER'S DISEASE
WO - 03.09.1998
Int. Class A61K 49/00Appl.No PCT/US1998/003685
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne
Disclosed are transgenic animals and transfected cell lines expressing a protein associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Also disclosed is the use of such transgenic animals and transfected cell lines to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. The invention also

relates to new antisens oligonucleotides, ribozymes, triplex forming DNA and external guide sequences that can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas.

160. 0853629 HEPADNAVIRUS RECEPTOR
EP - 22.07.1998
Int. Class C12P 21/02Appl.No 96926759
Applicant: General Hospital Corp
Inventor: Tong, Shuping
The invention features a purified nucleic acid that encodes a member of the hepadnavirus family of cellular receptors. The receptor is a 170 kD cell surface glycoprotein, and is referred to as the p170 receptor. The pre-S domain of the duck hepatitis B virus envelope protein binds the p170 receptor at a major neutralizing epitope, within which are two basic amino acids required for virion-receptor interaction.

161. 1997042482 INHIBITION OF VIRAL REPLICATION
AU - 21.05.1998
Int. Class C12N 15/09Appl.No 42482/97
Applicant: General Hospital Corporation
Inventor: Melegari, Margherita
The invention relates to methods and compositions for inhibition of viral replication in animal cells. In particular, inhibition of viral replication in a target cell is achieved by introducing into the cell (1) a protein which can be incorporated along with wild type nucleocapsid subunits into a viral nucleocapsid assembling within the cell, and thereby renders the nucleocapsid deficient in encapsidating viral nucleic acid; or (2) a recombinant nucleic acid construct that directs overexpression of the protein.

162. WO/1998/019691 DOMINANT NEGATIVE MUTANTS OF IRS-1 AND USES THEREOF
WO - 14.05.1998
Int. Class A61K 38/00 Appl.No PCT/US1997/020090
Applicant: The General Hospital Corporation
Inventor: Tanaka, Shinji
Dominant negative mutants of mammalian IRS-1 proteins and therapeutic compositions containing such mutants. Also featured are methods of using the dominant negative mutants to inhibit tyrosyl phosphorylation of endogenous IRS-1 in mammalian cells and methods of treating a mammalian malignancy in which tyrosyl phosphorylation of endogenous IRS-1 plays a causative role.

163. 1339853 SF-25 COLON ADENOCARCINOMA ANTIGEN, AND ANTIBODIES WHICH RECOGNIZE THISANTIGEN
CA - 05.05.1998
Int. Class C12N 5/18Appl.No 585439
Applicant: The General Hospital Corporation
Inventor: Takahashi, Hiroshi
The present invention pertains to the SF-25 antigen of colon adenocarcinoma cells, to functional derivatives of this antigen, and to antibodies and antibody fragments capable of binding this antigen. The invention further discloses methods of diagnosing and treating colon cancer which employ the above molecules.

164. 0833668 INHIBITION OF HEPATITIS B REPLICATION
EP - 08.04.1998
Int. Class C12N 5/00Appl.No 96921695

Applicant: General Hospital Corp
Inventor: Wands, Jack R.
The invention features a method of inhibiting the replication of a naturally-occurring hepadnavirus, e.g., hepatitis B virus (HBV), by introducing into proximity with the hepadnavirus a nucleic acid that encodes a hepadnavirus mutant polypeptide. The polypeptide includes a first amino acid sequence that is substantially identical to a corresponding region of a wild type hepadnavirus core protein, and either lacks a second amino acid sequence of the wild type hepadnavirus core protein, the second sequence including the carboxyterminal three amino acids of the wild type hepadnavirus core protein, and/or is joined by a peptide bond to the aminoterminal amino acid of an amino acid sequence that is substantially identical to a corresponding portion of a wild type hepadnavirus surface protein, the aminoterminal amino acid of the surface protein being joined by a peptide bond to the carboxyterminal amino acid of the core protein sequence.

165. WO/1998/009649 INHIBITION OF VIRAL REPLICATION
WO - 12.03.1998
Int. Class C07K 14/02Appl.No PCT/US1997/015500
Applicant: The General Hospital Corporation
Inventor: Wands, Jack, R.
The invention relates to methods and compositions for inhibition of viral replication in animal cells. In particular, inhibition of viral replication in a target cell is achieved by introducing into the cell (1) a protein which can be incorporated along with wild type nucleocapsid subunits into a viral nucleocapsid assembling within the cell, and thereby renders the nucleocapsid deficient in encapsidating viral nucleic acid; or (2) a recombinant nucleic acid construct that directs overexpression of the protein.

166. 5703213 MONOCLONAL ANTIBODIES WHICH RECOGNIZE AN ADENOCARCINOMA CELL ANTIGEN
US - 30.12.1997
Int. Class C07K 16/30Appl.No 08193673
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
The present invention is directed to antibodies, and fragments thereof, which specifically bind the AF-20 and the XF-8 epitopes of adenocarcinoma cell antigen(s). -GOVT PAC FEDERAL GOVERNMENT'S RIGHTS IN THIS INVENTION PAR This invention was made with government support under CA35711 awarded by the National Cancer Institute of the National Institutes of Health. The government has certain rights in the invention.

167. 0789563 HEPATITIS VIRUS VACCINES
EP - 20.08.1997
Int. Class C12N 15/09Appl.No 95938824
Applicant: Apollon Inc
Inventor: Pachuk Catherine J
Nucleic acid molecule that comprises an incomplete fused hepatitis C and hepatitis B viral genome or an incomplete hepatitis C viral genome including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C and hepatitis B viral genome including a nucleotide sequence encoding a complete hepatitis C core protein and hepatitis B S gene protein or an incomplet hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis B virus and/or hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed.

168. 266072 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
NZ - 24.07.1997
Int. Class C07K 14/47Appl.No 266072
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne M.
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumours, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

169. 3022287 DETECTION OF NEUROLOGICAL DISEASE OR DYSFUNCTION
GR - 30.04.1997
Int. Class G01N 33/53Appl.No 960403260
Applicant: Gen Hospital Corp
Inventor: Wands, Jack R.

170. 000068927459 NACHWEIS EINER NEUROLOGISCHEN KRANKHEIT ODER EINER FUNKTIONSSTÖRUNG
DE - 24.04.1997
Int. Class G01N 33/68Appl.No 68927459
Applicant: General Hospital Corp
Inventor: De La Monte Suzanne
This invention relates to proteins associated with Alzheimer's disease, Down's syndrome, neural tube defects and pancreatic disease associated. The invention also relates to the genes encoding such proteins, in immunodiagnostic and molecular diagnostic methods to diagnose these diseases.

171. 1996066792 HEPADNAVIRUS RECEPTOR
AU - 17.04.1997
Int.Class A01K 67/027Appl.No 66792/96
Applicant: General Hospital Corporation
Inventor: Li, Jisu
The invention features a purified nucleic acid that encodes a member of the hepadnavirus family of cellular receptors. The receptor is a 170 kD cell surface glycoprotein, and is referred to as the p170 receptor. The pre-S domain of the duck hepatitis B virus envelope protein binds the p170 receptor at a major neutralizing epitope, within which are two basic amino acids required for virion-receptor interaction.

172. 1996062844 INHIBITION OF HEPATITIS B REPLICATION
AU - 13.03.1997
Int. Class C12N 15/09Appl.No 62844/96
Applicant: General Hospital Corporation
Inventor: Melegari, Margherita
The invention features a method of inhibiting the replication of a naturally-occurring hepadnavirus, e.g., hepatitis B virus (HBV), by introducing into proximity with the hepadnavirus a nucleic acid that encodes a hepadnavirus mutant polypeptide. The polypeptide includes a first amino acid sequence that is substantially identical to a corresponding region of a wild type hepadnavirus core protein, and either lacks a second amino

acid sequence of the wild type hepadnavirus core protein, the second sequence including the carboxyterminal three amino acids of the wild type hepadnavirus core protein, and/or is joined by a peptide bond to the aminoterminal amino acid of an amino acid sequence that is substantially identical to a corresponding portion of a wild type hepadnavirus surface protein, the aminoterminal amino acid of the surface protein being joined by a peptide bond to the carboxyterminal amino acid of the core protein sequence.

173. 5610050 METHODS OF PREVENTING VIRAL REPLICATION
US - 11.03.1997
Int. Class C07H 21/04Appl.No 08051935
Applicant: The General Hospital Corporation
Inventor: Blum, Hubert E.
The invention relates to methods and compositions for inhibition of viral replication. In particular, termination of replication of hepatitis B virus is achieved by introducing into a target cell an antisense oligonucleotide having a sequence substantially complementary to an mRNA which is in turn complementary to a portion of the minus strand of a hepatitis viral genome, which portion encoding solely part or all of the terminal protein region of the viral polymerase. -GOVT PAR This invention was made with support from the United States Government under grant CA-35711 from the National Institutes of Health. The Government may have certain rights in this invention.

174. 0759979 ANTISENSE INHIBITION OF HEPATITIS C VIRUS
EP - 05.03.1997
Int. Class C12N 15/11Appl.No 95919104
Applicant: General Hospital Corp
Inventor: Wakita, Takaji
The invention features antisense oligonucleotides and methods of using these antisense oligonucleotides for inhibiting HCV RNA translation.

175. 3021656 METHODS OF PREVENTING VIRAL REPLICATION
GR - 28.02.1997
Int. Class C12N 5/10Appl.No 960403027
Applicant: General Hospital Corp
Inventor: Blum, Hubert E

176. 2227441 HEPADVAVIRUS RECEPTOR
CA - 06.02.1997
Int. Class C12N 15/12Appl.No 2227441
Applicant: The General Hospital Corporation
Inventor: Li, Jisu
The invention features a purified nucleic acid that encodes a member of the hepadnavirus family of cellular receptors. The receptor is a 170 kD cell surface glycoprotein, and is referred to as the p170 receptor. The pre-S domain of the duck hepatitis B virus envelope protein binds the p170 receptor at a major neutralizing epitope, within which are two basic amino acids required for virion-receptor interaction.

177. WO/1997/004000 HEPADNAVIRUS RECEPTOR
WO - 06.02.1997
Int. Class A61K 38/00 Appl.No PCT/US1996/012098
Applicant: The General Hospital Corporation
Inventor: Tong, Shuping

The invention features a purified nucleic acid that encodes a member of the hepadnavirus family of cellular receptors. The receptor is a 170 kD cell surface glycoprotein, and is referred to as the p170 receptor. The pre-S domain of the duck hepatitis B virus envelope protein binds the p170 receptor at a major neutralizing epitope, within which are two basic amino acids required for virion-receptor interaction.

178. 2094733 DETECCION DE ENFERMEDAD O DISFUNCION NEUROLOGICA.
ES - 01.02.1997
Int. Class A61K 39/395Appl.No E89313410
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
La deteccion y diagnosis de enfermedad o disfuncion neurologica usa anticuerpos contra una forma neurologica de proteina de fibra pancreatica (nptp). Especificamente, la enfermedad de alzheimer, el sindrome de down y otras enfermedades o disfunciones neurologicas se diagnostican usando anticuerpos monoclonales para detectar el nptp. Se difunde igualmente nptp sustancialmente puro pues es un metodo de diagnostico de enfermedad pancreatica usando anticuerpos contra la proteina de fibra pancreatica.

179. 000068926991 VERFAHREN ZUM NACHWEIS UND ZUR IDENTIFIZIERUNG VON NUKLEINSÄURE ENTHALTENDEN TEILEN
DE - 23.01.1997
Int.Class C12Q 1/68Appl.No 68926991
Applicant: General Hospital Corp
Inventor: Liang, Tsanyang
The invention relates to a method for the detection of small amounts of components such as organisms and antigenic nucleic acid containing macromolecular units. In a particular embodiment, the invention relates to a method for detection of hepatitis virus which combines immunological capture of viral particles with nucleic acid sequences, the amplification and identify viral.

180. 2224477 INHIBITION OF HEPATITIS B REPLICATION
CA - 09.01.1997
Int. Class A61K 38/16Appl.No 2224477
Applicant: The General Hospital Corporation
Inventor: Melegari, Margherita
The invention features a method of inhibiting the replication of a naturally- occurring hepadnavirus, e.g., hepatitis B virus (HBV), by introducing into proximity with the hepadnavirus a nucleic acid that encodes a hepadnavirus mutant polypeptide. The polypeptide includes a first amino acid sequence that is substantially identical to a corresponding region of a wild type hepadnavirus core protein, and either lacks a second amino acid sequence of the wild type hepadnavirus core protein, the second sequence including the carboxyterminal three amino acids of the wild type hepadnavirus core protein, and/or is joined by a peptide bond to the aminoterminal amino acid of an amino acid sequence that is substantially identical to a corresponding portion of a wild type hepadnavirus surface protein, the aminoterminal amino acid of the surface protein being joined by a peptide bond to the carboxyterminal amino acid of the core protein sequence.

181. WO/1997/000698 INHIBITION OF HEPATITIS B REPLICATION
WO - 09.01.1997
Int. Class A61K 38/00 Appl.No PCT/US1996/010602
Applicant: The General Hospital Corporation
Inventor: Wands, Jack, R.

The invention features a method of inhibiting the replication of a naturally-occurring hepadnavirus, e.g., hepatitis B virus (HBV), by introducing into proximity with the hepadnavirus a nucleic acid that encodes a hepadnavirus mutant polypeptide. The polypeptide includes a first amino acid sequence that is substantially identical to a corresponding region of a wild type hepadnavirus core protein, and either lacks a second amino acid sequence of the wild type hepadnavirus core protein, the second sequence including the carboxyterminal three amino acids of the wild type hepadnavirus core protein, and/or is joined by a peptide bond to the aminoterminal amino acid of an amino acid sequence that is substantially identical to a corresponding portion of a wild type hepadnavirus surface protein, the aminoterminal amino acid of the surface protein being joined by a peptide bond to the carboxyterminal amino acid of the core protein sequence.

182. 2091928 METODOS DE PREVENCION DE LA REPLICACION VIRICA.
ES - 16.11.1996
Int. Class C07K 14/02 Appl.No E91909315
Applicant: The General Hospital Corporation
Inventor: Blum, Hubert, E.
La invencion se refiere a metodos y compuestos para inhibir la reproduccion viral. En particular, se consigue la finalizacion completa e irreversible de la reproduccion de un virus mediante la introduccion de al menos una mutacion en zonas especificas en el gen de la polimerasa viral. El metodo puede utilizarse para evitar o tratar infecciones viricas.

183. 2091765 METODO DE DETECTAR E IDENTIFICAR PARTES QUE CONTIENEN ACIDO NUCLEICO
ES - 16.11.1996
Int. Class C12Q 1/70Appl.No E89311006
Applicant: The General Hospital Corporation
Inventor: Liang, Tsanyang
The invention relates to a method for detecting low levels of constituents such as antigenic and entities macromolecular containing nucleic acid. In a specific embodiment, the invention relates to a method for the detection of hepatitis virus which combines immunological capture of viral the particles with amplification and identification of viral nucleic acid sequences.

184. 0528903 FREMGANGSMÅDE TIL FOREBYGGELSE AF VIRUSREPLIKATION
DK - 30.09.1996
Int. Class C12N 5/10Appl.No 91909315
Applicant: General Hospital Corp
Inventor: Wands, Jack R
The invention is drawn to methods and compositions for inhibiting viral replication. In particular, complete and irreversible termination of replication of a virus is achieved by introducing at least one mutation at specific regions in the viral polymerase gene. The method can be used to prevent or treat viral infections.

185. 1996046500 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
AU - 25.07.1996
Int. Class C12Q 1/68Appl.No 46500/96
Applicant: General Hospital Corporation
Inventor: Wands, Jack R.
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically

directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

186. 5534406 METHOD OF DETECTING ANTIGENIC NUCLEIC ACID-CONTAINING MACROMOLECULAR ENTITIES
US - 09.07.1996
Int. Class C12Q 1/70Appl.No 08204885
Applicant: The General Hospital Corporation
Inventor: Liang, Tsanyang
A method for the detection of nucleic acid-containing moieties is described which combines affinity capture of the moiety with detection and identification of the moiety's nucleic acid.

187. WO/1996/015272 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
WO - 23.05.1996
Int. Class A61K 38/00 Appl.No PCT/US1995/017111
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

188. 2202088 HEPATITIS VIRUS VACCINES
CA - 18.04.1996
Int. Class C12N 15/62Appl.No 2202088
Applicant: Apollon Inc.
Inventor: Pachuk, Catherine J.
Nucleic acid molecule that comprises an incomplete fused hepatitis C and hepatitis B viral genome or an incomplete hepatitis C viral genome including specifically disclosed DNA sequences are disclosed. Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C and hepatitis B viral genome including a nucleotide sequence encoding a complete hepatitis C core protein and hepatitis B S gene protein or an incomplet hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis B virus and/or hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed.

189. WO/1996/010997 HEPATITIS VIRUS VACCINES
WO - 18.04.1996
Int. Class A61K 39/00 Appl.No PCT/US1995/013552
Applicant: Apollon, Inc.
Inventor: Pachuk, Catherine, J.
Nucleic acid molecule that comprises an incomplete fused hepatitis C and hepatitis B viral genome or an incomplete hepatitis C viral genome including specifically disclosed DNA sequences are disclosed.

Pharmaceutical compositions that contain nucleic acid molecules comprising an incomplete hepatitis C and hepatitis B viral genome including a nucleotide sequence encoding a complete hepatitis C core protein and hepatitis B S gene protein or an incomplet hepatitis C viral genome including a nucleotide sequence encoding a complete hepatitis C core protein, operably linked to regulatory elements functional in human cells are disclosed. Methods of immunizing individuals susceptible to or infected by hepatitis B virus and/or hepatitis C virus comprising the step of administering such pharmaceutical compositions are disclosed.

190. 0697893 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
EP - 28.02.1996
Int. Class C12N 15/09 Appl. No 94915396
Applicant: General Hospital Corp
Inventor: De La Monte Suzanne M
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

191. WO/1995/030746 ANTISENSE INHIBITION OF HEPATITIS C VIRUS
WO - 16.11.1995
Int. Class C12N 15/11Appl.No PCT/US1995/005812
Applicant: The General Hospital Corporation
Inventor: Wakita, Takaji
The invention features antisense oligonucleotides and methods of using these antisense oligonucleotides for inhibiting HCV RNA translation.

192. 5422239 IMMUNOASSAY UTILIZING MONOCLONAL HIGH AFFINITY IGM ANTIBODIES
US - 06.06.1995
Int. Class G01N 33/569Appl.No 07051176
Applicant: General Hospital Corporation
Inventor: Wands Jack R.
Hybridomally produced monoclonal IgM antibodies having high affinity are useful for the immunoassay and purification of vital antigens.

193. 1994067742 METHODS OF PREVENTING VIRAL REPLICATION
AU - 05.01.1995
Int. Class A01N 43/04Appl.No 67742/94
Applicant: General Hospital Corporation
Inventor: Blum, Hubert E.
The invention relates to methods and compositions for inhibition of viral replication. In particular, termination of replication of hepatitis B virus is achieved by introducing into a target cell an antisense oligonucleotide having a sequence substantially complementary to an mRNA which is in turn complementary to a portion of the minus strand of a hepatitis viral genome, which portion encoding solely part or all of the terminal protein region of the viral polymerase.

194. WO/1994/024864 METHODS OF PREVENTING VIRAL REPLICATION
WO - 10.11.1994
Int. Class C07H 21/00 Appl.No PCT/US1994/004559
Applicant: The General Hospital Corporation
Inventor: Blum, Hubert, E.
The invention relates to methods and compositions for inhibition of viral replication. In particular, termination of replication of hepatitis B virus is achieved by introducing into a target cell an antisense oligonucleotide having a sequence substantially complementary to an mRNA which is in turn complementary to a portion of the minus strand of a hepatitis viral genome, which portion encoding solely part or all of the terminal protein region of the viral polymerase.

195. 2161097 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
CA - 27.10.1994
Int. Class C12N 15/12Appl.No 2161097
Applicant/Inventor: De La Monte, Suzanne M.
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

196. WO/1994/023756 NEURAL THREAD PROTEIN GENE EXPRESSION AND DETECTION OF ALZHEIMER'S DISEASE
WO - 27.10.1994
Int. Class C07K 14/47Appl.No PCT/US1994/004321
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne, M.
The present invention is directed to recombinant hosts expressing novel proteins associated with Alzheimer's Disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. This invention is specifically directed to the recombinant hosts and vectors which contain the genes coding for the neuronal thread proteins. This invention is also directed to substantially pure neural thread protein, immunodiagnostic and molecular diagnostic methods to detect the presence of neural thread proteins, and the use of nucleic acid sequences which code for neural thread proteins in gene therapy.

197. 1992026879 SF-25 ANTIBODIES, ESPECIALLY CHIMERIC ANTIBODIES, WITH SPECIFICITY FOR THE HUMAN TUMOR SF-25 ANTIGEN, METHODS FOR THEIR PRODUCTION, AND USES THEREOF
AU - 16.06.1994
Int. Class C12N 15/62Appl.No 26879/92
Applicant: Centocor Inc.
Inventor: Ghayreb, John
The present invention concerns SF-25 monoclonal antibodies, especially chimeric antibodies, and derivatives and fragments thereof, having specificity to the SF-25 antigen of human tumor cells, methods of their production, pharmaceutical compositions containing them, and uses therefor.

198. 5212085 SF-25 COLON ADENOCARCINOMA ANTIGEN, AND ANTIBODIES WITH RECOGNIZE THIS ANTIGEN
US - 18.05.1993
Int. Class G01N 33/574Appl.No 07203198
Applicant: The General Hospital Corporation
Inventor: Wands Jack R.
The present invention pertains to the SF-25 antigen of colon adenocarcinoma cells, to functional derivatives of this antigen, and to antibodies and antibody fragments capable of binding this antigen. The invention further discloses methods of diagnosing and treating colon cancer which employ the above molecules.

199. WO/1993/006117 SF-25 ANTIBODIES, ESPECIALLY CHIMERIC ANTIBODIES, WITH SPECIFICITY FOR THE HUMAN TUMOR SF-25 ANTIGEN, METHODS FOR THEIR PRODUCTION, AND USES THEREOF
WO - 01.04.1993
Int. Class A61K 38/00Appl.No PCT/US1992/008109
Applicant: The General Hospital Corporation
Inventor: Wands, Jack, R.
The present invention concerns SF-25 monoclonal antibodies, especially chimeric antibodies, and derivatives and fragments thereof, having specificity to the SF-25 antigen of human tumor cells, methods of their production, pharmaceutical compositions containing them, and uses therefor.

200. WO/1993/005658 TARGETED CYTOTOXIC EFFECTOR CELLS AND METHODS FOR THEIR PRODUCTION AND USE
WO - 01.04.1993
Int. Class A61K 38/00Appl.No PCT/US1992/008106
Applicant: The General Hospital Corporation
Inventor: Takahashi, Hiroshi
The present invention is directed to the targeting of cytotoxic immunological effector cells, such as human macrophages and lymphokine activated killer (LAK) cells, to tumors, such as colon adenocarcinomas, their metastases, and other diseased tissues, which selectively express specific cell surface antigens. The targeting of the effector cells is accomplished by binding to them antibodies which are specific for the selectively expressed antigens of the tumors or other diseased tissues. The invention is also directed to the process of producing these targeted, cytotoxic effector cells, and to the targeted, cytotoxic effector cells themselves. The invention is also directed to uses for these targeted effector cells including their in vivo use to suppress the growth of, to kill, and their in vivo and in vitro use to diagnostically image tumor and other diseased animal cells in humans and other animals.

201. 0528903 METHODS OF PREVENTING VIRAL REPLICATION
EP - 03.03.1993
Int. Class A61K 31/70Appl.No 91909315
Applicant: General Hospital Corp
Inventor: Blum, Hubert E.
The invention is drawn to methods and compositions for inhibiting viral replication. In particular, complete and irreversible termination of replication of a virus is achieved by introducing at least one mutation at specific regions in the viral polymerase gene. The method can be used to prevent or treat viral infections.

202. 1989028298 SF-25 COLON ADENOCARCINOMA ANTIGEN, AND ANTIBODIES WHICH RECOGNIZE THIS ANTIGEN

AU - 15.10.1992
Int. Class G01N 33/574Appl.No 28298/89
Applicant: General Hospital Corporation
Inventor: Takahashi, Hiroshi
The present invention pertains to the SF-25 antigen of colon adenocarcinoma cells, to functional derivatives of this antigen, and to antibodies and antibody fragments capable of binding this antigen. The invention further discloses methods of diagnosing and trating colon cancer which employ the above molecules.

203. 5077192 METHOD OF DETECTING ANTIGENIC, NUCLEIC ACID-CONTAINING MACROMOLECULAR ENTITIES
US - 31.12.1991
Int. Class C12Q 1/68Appl.No 07262347
Applicant: The General Hospital Corporation
Inventor: Liang, Tsanyang
A method for the detection of nucleic acid-containing moieties is described which combines affinity capture of the moiety with detection and identification of the moiety's nucleic acid. -GOVT PAR The research underlying this patent application was supported by National Institutes of Health Grant CA35711; the Government has certain rights in this invention.

204. 2081022 METHODS OF PREVENTING VIRAL REPLICATION
CA - 31.10.1991
Int. Class C12N 15/54 Appl.No 2081022
Applicant/Inventor: Blum, Hubert E.
The invention is drawn to methods and compositions for inhibiting viral replication. In particular, complete and irreversible termination of replication of a virus is achieved by introducing at least one mutation at specific regions in the viral polymerase gene. The method can be used to prevent or treat viral infections.

205.WO/1991/016420METHODS OF PREVENTING VIRAL REPLICATION
WO - 31.10.1991
Int. Class A61K 38/00 Appl. No PCT/US1991/002793
Applicant: The General Hospital Corporation
Inventor: Blum, Hubert, E.
The invention is drawn to methods and compositions for inhibiting viral replication. In particular, complete and irreversible termination of replication of a virus is achieved by introducing at least one mutation at specific regions in the viral polymerase gene. The method can be used to prevent or treat viral infections.

206. 5011771 MULTIEPITOPIC IMMUNOMETRIC ASSAY
US - 30.04.1991
Int. Class G01N 33/543 Appl.No 07102766
Applicant: The General Hospital Corporation
Inventor: Bellet, Dominique
The invention relates to an immunometric assay for a multivalent antigen in a sample which comprises forming a complex of the antigen together with multiple immobilized monoclonal antibodies against different epitopes of the antigen and with a detectably labeled soluble monoclonal antibody which is identical to one of the multiple immobilized antibodies. The labeled antibody associated with the complex is separated from the remaining soluble antibody and the detectably labeled antibody associated with the complex or unassociated with the complex is detected. Any one of the multiple immobilized monoclonal antibodies shows, by itself, substantially less binding towards the antigen in the immunometric assay, when used with itself or another

monocolonal antibody in soluble labeled form, than when used with the multiple immobilized antibodies in combination.

207. 0420848 CARCINOMA-ASSOCIATED ANTIGENS, AND ANTIBODIES WHICH RECOGNIZE THESE ANTIGENS
EP - 10.04.1991
Int. Class A61K 39/395 Appl. No 89901006
Applicant: General Hospital Corp
Inventor: Wands Jack R
The present invention pertains to antigens of colon, liver and lung adenocarcinoma cells, to functional derivatives of these antigens, and to antibodies and antibody fragments capable of binding these antigens. The invention further discloses methods of diagnosing and treating colon, liver or lung adenocarcinomas which employ the above molecules. Specific antigenic species include the AF20 and XF8 antigens, to which measured binding affinity is represented by the graphs.

208. 4973669 MONOCLONAL IGM ANTIBODY WITH SPECIFICITY AGAINST HEPATITIS B SURFACE ANTIGEN
US - 27.11.1990
Int. Class A61K 39/00 Appl. No 07201273
Applicant: Massachusetts General Hospital
Inventor: Wands, Jack R.
The monoclonal antibodies are specific for a determinant found on hepatitis B surface antigen, and show high affinity for this determinant. Hybridomally produced monoclonal IgM antibodies having high affinity are useful for the immunoassay and purification of viral antigens.

209. 0397700 SF-25 COLON ADENOCARCINOMA ANTIGEN, AND ANTIBODIES WHICH RECOGNIZE THIS ANTIGEN.
EP - 22.11.1990
Int. Class C07K 14/00 Appl. No 89901007
Applicant: General Hospital Corp
Inventor: Wands, Jack R.
The present invention pertains to the SF-25 antigen of colon adenocarcinoma cells, to functional derivatives of this antigen, and to antibodies and antibody fragments capable of binding this antigen. The invention further discloses methods of diagnosing and trating colon cancer which employ the above molecules.

210. 0378924 DETECTION OF NEUROLOGICAL DISEASE OR DYSFUNCTION
EP - 25.07.1990
Int. Class G01N 33/53 Appl. No 89313410
Applicant: General Hospital Corp
Inventor: Wands Jack R
The detection and diagnosis of neurological disease or dysfunction use antibodies against a neurological form of Pancreatic Thread Protein (nPTP). Specifically, Alzheimer's Disease, Down's Syndrome and other neurological diseases or dysfunctions are diagnosed by using monoclonal antibodies and combinations of those monoclonal antibodies to detect nPTP. Substantially pure nPTP is also disclosed as is a method of diagnosing pancreatic disease using antibodies against Pancreatic Thread Protein.

211. WO/1990/006993 METHOD OF DETECTING NEUROLOGICAL DISEASE OR DYSFUNCTION

WO - 28.06.1990
Int. Class C07K 14/47 Appl. No PCT/US1989/005688
Applicant: The General Hospital Corporation
Inventor: Wands, Jack, R.
This invention relates to a method of detecting and diagnosing neurological disease or dysfunction using antibodies against a neurological form of Pancreatic Thread Protein (nPTP). Specifically, this invention is directed to a method of diagnosing Alzheimer's Disease, Down's Syndrome, and other neurological diseases or dysfunctions by using monoclonal antibodies, combinations of those monoclonal antibodies or nucleic acid probes to detect nPTP. The invention also relates to a recombinant DNA molecule encoding PTP and to the substantially pure form of nPTP. The invention additionally relates to a method of diagnosing pancreatic disease using antibodies against Pancreatic Thread Protein.

212. 2006332 METHOD OF DETECTING NEUROLOGICAL DISEASE OR DYSFUNCTION
CA - 21.06.1990
Int. Class C12N 15/12 Appl. No 2006332
Applicant: The General Hospital Corporation
Inventor: De La Monte, Suzanne
This invention relates to a method of detecting and diagnosing neurological disease or dysfunction using antibodies against a neuro- logical form of Pancreatic Thread Protein (nPTP). Specifically, this invention is directed to a method of diagnosing Alzheimer'.s Disease, Down's Syndrome, and other neurological diseases or dysfunctions by using monoclonal antibodies and combinations of those monoclonal antibodies to detect nPTP. The invention also relates to the substan- tially pure form of nPTP. The invention additionally relates to a method of diagnosing pancreatic disease using antibodies against Pancreatic Thread Protein.

213. 4933275 METHOD FOR THE DETECTION OF A POLYPEPTIDE SUBUNIT IN THE PRESENCE OF A QUATERNARY PROTEIN CONTAINING THE SUBUNIT
US - 12.06.1990
Int. Class C07K 14/195 Appl. No 06791114
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
A method for the determination of a free protein subunit of a quaternary protein in a sample, which comprises: PA1 (a) contacting a sample with a first immunological binding partner which is or will be bound to a carrier, wherein the first immunological binding partner binds epitopic determinants bindable only on the free protein subunit; PA1 (b) incubating the components of step (a) for a period of time and under conditions sufficient to form an immune complex between the free protein subunit, the first immunological binding partner, and the carrier; PA1 (c) separating the carrier of step (b) from the sample; PA1 (d) adding to the carrier of step (c), a detectably-labeled second immunological binding partner, wherein the second immunological binding partner binds epitopic determinants bindable on both the free protein subunit and the quaternary protein; and PA1 (e) determining the detectably-labeled second immunological binding partner in the carrier or in liquid phase.

214. 0366448 METHOD OF DETECTING AND IDENTIFYING NUCLEIC ACID CONTAINING MOIETIES
EP - 02.05.1990
Int. Class C12Q 1/68 Appl. No 89311006
Applicant: General Hospital Corp
Inventor: Liang, Tsanyang
A method for the detection of nucleic acid-containing moieties such as viruses or bacteria is described which combines affinity capture of the moiety with a monoclonal antibody with detection and identification of the moiety's nucleic acid using amplification techniques.

215. 4879219 IMMUNOASSAY UTILIZING MONOCLONAL HIGH AFFINITY IGM ANTIBODIES
US - 07.11.1989
Int. Class C12N 15/02 Appl. No 06188735
Applicant: General Hospital Corporation
Inventor: Wands, Jack R.
Hybridomally produced monoclonal IgM antibodies having high affinity are useful for the immunoassay and purification of viral antigens. -GOVT PAC BACKGROUND OF THE INVENTION PAR The invention described herein was made in the course of work under a grant or award from the Department of Health and Human Services.

216. 0329699 IMMUNOMETRIC ASSAY FOR THE DETECTION OF HUMAN CHORIONIC GONADOTROPIN.
EP - 30.08.1989
Int. Class C12Q 1/66 Appl. No 87907553
Applicant: General Hospital Corp
Inventor: Bellet, Dominique
A highly sensitive and specific monoclonal-immuno-radiometric assay (M-IRMA) for hCG, using monoclonal antibodies (Mabs) directed against a 37-amino acid synthetic polypeptide analogous to the carboxyl terminus (CTP) of beta-hCG. Accordingly, in one embodiment, a method is described for the determination of human chorionic gonadotropin in a sample, which comprises: (a) contacting said sample with a first capture monoclonal antibody and a second capture monoclonal antibody which are bound to a carrier, wherein said first and second capture antibodies are epitopically specific for distinct epitopes of the carboxy terminal region of the beta-subunit of human chorionic gonadotropin; (b) incubating the components of step (a) for a period of time and under conditions sufficient to form an immune complex between said human chorionic gonadotropin, said first capture monoclonal antibody, said second capture monoclonal antibody and said carrier; (c) adding to said carrier of step (b), a detectably labeled indicator monoclonal antibody, wherein said indicator monoclonal antibody is epitopically specific for the alpha-subunit of human chorionic gonadotropin; (d) determining the detectably labeled indicator monoclonal antibody in said carrier or in liquid phase.

217. WO/1989/005156 CARCINOMA-ASSOCIATED ANTIGENS, AND ANTIBODIES WHICH RECOGNIZE THESE ANTIGENS
WO - 15.06.1989
Int. Class A61K 41/00 Appl.No PCT/US1988/004409
Applicant: The General Hospital Corporation
Inventor: Wands, Jack, R.
The present invention pertains to antigens of colon, liver and lung adenocarcinoma cells, to functional derivatives of these antigens, and to antibodies and antibody fragments capable of binding these antigens. The invention further discloses methods of diagnosing and treating colon, liver or lung adenocarcinomas which employ the above molecules. Specific antigenic species include the AF20 and XF8 antigens, to which measured binding affinity is represented by the graphs.

218. WO/1989/005307 SF-25 COLON ADENOCARCINOMA ANTIGEN, AND ANTIBODIES WHICH RECOGNIZE THIS ANTIGEN
WO - 15.06.1989
Int. Class A61K 39/00 Appl. No PCT/US1988/004410
Applicant: The General Hospital Corporation

Inventor: Wands, Jack, R.
The present invention pertains to the SF-25 antigen of colon adenocarcinoma cells, to functional derivatives of this antigen, and to antibodies and antibody fragments capable of binding this antigen. The invention further discloses methods of diagnosing and trating colon cancer which employ the above molecules.

219. 4837167 IMMUNOASSAY FOR MULTI-DETERMINANT ANTIGENS USING HIGH-AFFINITY
US - 06.06.1989
Int. Class G01N 33/576 Appl. No 06603415
Applicant: Centocor, Inc.
Inventor: Schoemaker, Hubert J. P.
A simultaneous sandwich immunoassay employing high-affinity monoclonal antibodies is disclosed. This simultaneous sandwich assembly has surprising sensitivity compared to forward and reverse sandwich assays for the detection of multi-determinant antigens such as hepatitis B surface antigen.

220. 4804626 IMMUNOMETRIC ASSAY FOR THE DETECTION OF HUMAN CHORIONIC GONADOTROPIN
US - 14.02.1989
Int. Class G01N 33/577 Appl. No 06921508
Applicant: The General Hospital Corporation
Inventor: Bellet, Dominique
A highly sensitive and specific monoclonal-immuno-radiometric assay (M-IRMA) for hCG, using monoclonal antibodies (Mabs) directed against a 37-amino acid synthetic polypeptide analogous to the carboxyl terminus (CTP) of beta-hCG. Accordingly, in one embodiment, a method is described for the determination of human chorionic gonadotr PAR.

221. WO/1988/003174 IMMUNOMETRIC ASSAY FOR THE DETECTION OF HUMAN CHORIONIC GONADOTROPIN
WO - 05.05.1988
Int. Class C07K 16/26 Appl. No PCT/US1987/002735
Applicant: The General Hospital Corporation
Inventor: Bellet, Dominique
A highly sensitive and specific monoclonal-immuno-radiometric assay (M-IRMA) for hCG, using monoclonal antibodies (Mabs) directed against a 37-amino acid synthetic polypeptide analogous to the carboxyl terminus (CTP) of beta-hCG. Accordingly, in one embodiment, a method is described for the determination of human chorionic gonadotropin in a sample, which comprises: (a) contacting said sample with a first capture monoclonal antibody and a second capture monoclonal antibody which are bound to a carrier, wherein said first and second capture antibodies are epitopically specific for distinct epitopes of the carboxy terminal region of the beta-subunit of human chorionic gonadotropin; (b) incubating the components of step (a) for a period of time and under conditions sufficient to form an immune complex between said human chorionic gonadotropin, said first capture monoclonal antibody, said second capture monoclonal antibody and said carrier; (c) adding to said carrier of step (b), a detectably labeled indicator monoclonal antibody, wherein said indicator monoclonal antibody is epitopically specific for the alpha-subunit of human chorionic gonadotropin; (d) determining the detectably labeled indicator monoclonal antibody in said carrier or in liquid phase.

222. 4714613 METHOD OF SUPPRESSING CELL GROWTH BY IMMUNOTHERAPY
US - 22.12.1987
Int.Class A61K 39/00Appl.No 06428653

Applicant: The Albert Einstein College of Medicine of Yeshiva University
Inventor: Shouval, Daniel
A selective method of suppressing the growth of cells which express a viral antigen on the surface thereof, which comprises administering to the cells a growth suppressing amount of a monoclonal antibody against said viral antigen, especially a method of suppressing the growth of hepatocytes or hepatoma cells persistently infected with HBsAg which comprises administering to the cells a growth suppressing or lethal amount of a complement fixing monoclonal IgM or IgG.sub.2a antibody against HBsAg.

223. 0219870 METHOD FOR THE DETECTION OF A POLYPEPTIDE SUBUNIT IN THE PRESENCE OF A QUATERNARY PROTEIN CONTAINING THE SUBUNIT
EP - 29.04.1987
Int. Class G01N 33/76 Appl. No 86114705
Applicant: General Hospital Corp
Inventor: Wands, Jack R.

224. 000000158973 MULTISITES IMMUNOMETRISCHES TESTVERFAHREN.
DE - 15.01.1987
Int. Class G01N 33/543 Appl. No 85104365
Applicant: General Hospital Corp
Inventor: Bellet, Dominique

225. 0158973 MULTISITE IMMUNOMETRIC ASSAY
EP - 23.10.1985
Int. Class A61K 39/395 Appl. No 85104365
Applicant: The General Hospital Corporation
Inventor: Wands, Jack R.
An immunometric assay for a multivalent antigen in a sample which comprises; forming a complex of the antigen together with (a) multiple immobilized monoclonal antibodies against different epitopes on the antigen; and with (b) a detectably labelled monoclonal soluble antibody which is one of the multiple immobilized antibodies; separating labelled antibody associated with the complex from soluble labelled antibody, and detecting either the labelled antibody associated with the complex, or unassociated labelled antibody; wherein any one of the multiple immobilized monoclonal antibodies shows, by itself, substantially less binding towards the antigen in the immunometric assay, when used with itself or another monoclonal antibody in soluble labelled form, than the multiple immobilized antibodies in combination.

226. 165785 IMMUNOMETRISK BESTEMMELSE RETTET MOD FLERE STEDER
DK - 12.04.1985
Int. Class A61K 39/395 Appl. No 165785
Applicant: General Hospital Corp
Inventor: Wands, Jack R.

227. 4491632 PROCESS FOR PRODUCING ANTIBODIES TO HEPATITIS VIRUS AND CELL LINES THEREFOR
US - 01.01.1985
Int. Class C12N 15/00 Appl. No 06516672
Applicant: The Massachusetts General Hospital
Inventor: Wands, Jack R.

Cell lines for producing monoclonal antibodies to hepatitis virus are established by immunizing animal lymphocytes with hepatitis antigen to form antibody producing cells which then are fused with myeloma cells. The resultant somatic cell hybrids can be cloned. These clones produce monoclonal antibodies to individual antigenic determinates unique to hepatitis virus.

228. 0071635 IMMUNOASSAY FOR MULTI-DETERMINANT ANTIGENS
EP - 16.02.1983
Int. Class A61K 39/395 Appl. No 82900761
Applicant: Centocor, Inc.
Inventor: Schoemaker, Hubert J. P.
Simultaneous sandwich immunoassay employing high-affinity monoclonal antibodies. This simultaneous sandwich assay has surprising sensitivity compared to forward and reverse sandwich assays for the detection of multi-determinant antigens such as hepatitis B surface antigen.

UNPUBLISHED PENDING PATENTS

There are 7 Patents still in review.

INVITED PRESENTATIONS

Regional, National, International (Representative)

1994

Japanese Society for Gastroenterology, Kobe, Japan
State of the Art – *Molecular Pathogenesis of Hepatocellular Carcinoma*
- *Symposium on Viral Hepatitis*

Nagoya Medical School, Nagoya, Japan
Visiting Professor
Hepatic Oncogenesis

University of Paris, Paris, France
Visiting Professor
Gene Therapy of Liver Cancer

1995

Albert Einstein College of Medicine, NY
Liver Growth and Hepatic Carcinogenesis

National Institutes of Health, Bethesda, MD
DNA Based Vaccines for Viral Hepatitis

New York Academy of Sciences, New York
Nucleic Acid Based Therapy for Viral Diseases of the Liver

Institute Gustave Roussey, Paris, France
New Approaches to the Treatment of Hepatocellular Carcinoma

Phillipine Society of Gastroenterology Annual Meeting
Visiting Professor
State of the Art – *Hepatocellular Carcinoma*

American Gastroenterological Association
Clinical Aspects of HCV Infection

Japanese Society for the Study of Liver Diseases
Nucleic Acid Based Therapy of Viral Hepatitis

Liver Week, Basel, Germany
HBV Variants

American Liver Foundation
Clinical Consequences of Mutations in HBV and HCV Genomes

American Association for the Study of Liver Diseases
State of the Art – *Gene Therapy of Viral Hepatitis*

Filipino/Chinese Medical Society
Teehankee Memorial Lecture
Pathogenesis of Hepatocellular Carcinoma

1996

VII International Symposium on Viral Hepatitis, Madrid, Spain
Gene Therapy of Viral Hepatitis

IX Triennial International Symposium on Viral Hepatitis, Rome, Italy
Hepatitis B Viral Variants

International Symposium on Hepatology, Taipei, Taiwan
Nucleic Acid Based Therapy of Viral Hepatitis

American Association for the Study of Liver Diseases
State of the Art – *Molecular Mechanisms of Hepatocyte Transformation*

1997

IV International Symposium on HCV and Related Viruses, Kyoto, Japan
State of the Art - *Genetic Immunization for HCV*

European Association for the Study of Liver Diseases, London, England
Immunological Approach to Hepatocellular Carcinoma

American Gastroenterological Association, Washington, DC
Molecular Pathogenesis of Hepatocellular Cancer

II International Meeting on Therapy in Liver Disease, Barcelona, Spain
Gene Therapy of Viral Hepatitis

Gordon Conference on Genetic Vaccines, Plymouth, NH
Genetic Immunization of Hepatic Viruses

Italian Association for the Study of Liver Disease, Parma, Italy
Gene Therapy of Viral Hepatitis

IV Seoul International Digestive Disease Symposium, Seoul, Korea
Gene Therapy in GI and Hepatic Diseases

1998

Brown University Research Symposium, Providence, RI
Genetic Immunization for Viral Diseases of the Liver

Symposium on Hepatitis C Infection, Paris, France
Gene Therapy of HCV

European Association for the Study of Liver Diseases, Istanbul, Turkey
State of the Art – *Gene Therapy of Liver Diseases*

National Institutes of Health, Concensus Panel, Bethesda, MD
Hepatitis C Infection and Liver Diseases in the United States

McGill University, Montreal, Canada
Visiting Professor
Molecular Basis of Hepatocyte Transformation

Symposium on Ethanol and Intracellular Signal Transduction, Lund, Sweden
Effects of Ethanol on IRS-1 Signal Transduction in Transgenic Mice

Canadian Association for the Study of Liver Diseases, Scottsdale, AZ
Molecular Pathogenesis of Hepatitis B Infection

1999

McGill University, Montreal, Canada
Mizne Lecture
Molecular Pathogenesis of Hepatocellular Carcinoma

Invited Speaker March 12
The Westin Hotel, Providence, RI
Symposium on Pancreatic Cancer; Advancements for
The Millennium
Gene Therapy

Harvard Medical School, Cambridge, MA April
ABS Program Course Lecture PA 514.0
Viral Hepatitis: Virological and Pathological Aspects

Invited Speaker
Fifteenth Annual Clinical Virology Symposium, Clearwater, FL — May 9 – 12
Pan American Society for Clinical Virology
Nucleic Acid Based Anti-viral Approaches to HCV Infection

Visiting Professor — September 28 – 30
Mayo Clinic, Rochester, MN
Molecular Pathogenesis of HCC
Clinical Significance of HBV Mutants

Invited Speaker — October 1
Hepatitis B Foundation, Princeton, NJ
DNA Based Immunization for HBV

Keynote Speaker — October 9
Loyola University School of Medicine Graduate Course
Chicago, IL
Viral Hepatitis in the New Millenium

Invited Speaker
American Society for Biochemistry and Molecular Biology — October 15 – 18
Lake Tahoe, California
Symposia 1 = *Ethanol and Cell Signaling*
Effect of Ethanol on IRS-1 Mediated Signal Transduction in Liver and Brain

State-of-the-Art Lecture II
Falk Symposia No 115 XI International Congress of Liver Diseases — October 22 - 24
Liver Cirrhosis and its Development
Basel, Switzerland
Viral Hepatitis 2000 and Beyond

Invited Speaker
BPEC Retreat on Gene Therapy — November 17
Massachusetts Institute of Technology
Boston, MA
Gene Therapy of Human Hepatocellular Carcinoma

Invited Speaker
Third International Conference on Therapies for Viral Hepatitis — December 12-16
Maui, Hawaii
Nucleic Acid Based Therapy of Hepatitis B Infection

2000

Invited Speaker — January 27 - 28
Falk Workshop *"Chronic Hepatitis: New Concepts of Pathogenesis, Diagnosis, and Treatment"*
Cologne, Germany
HCV – Induced Hepatocarcinogenesis

DARPA Symposium – MIT — February 9
"Hepatic Stem Cells"

Invited Speaker — March 2
New England Medical Center, Boston
"*Molecular Pathogenesis and Gene Therapy of HCC"*

Invited Speaker — March 27 - 28
Mount Sinai Hospital, New York, NY
"*Clinical Significance of HBV Viral Mutants"*

Moderator — April 9 - 13
Molecular Pathogenesis of Hepatocellular Carcinoma Workshop
International Symposium on Viral Hepatitis and Liver Disease
Atlanta, GA

Invited Speaker — June 10 - 11
American College of Gastroenterology
Newport, RI
"Genetic Mutations in Hepatitis B – Implications for Therapy"

Invited Speaker — September 8 - 10
National Institutes of Health Symposium on Viral Hepatitis (NIDDK)
"Molecular Approaches to Treatment of Hepatitis B"

Chairperson, Session I; *New Models and Virus Entry* — September 17 – 21
NIH Sponsored - The Molecular Biology of Hepatitis B Viruses
Institut Pasteur, Paris, France

Keynote Speaker — September 22 - 25
Taiwan Gastroenterological Association, Taipai, Taiwan
"*Gene Therapy of Hepatocellular Carcinoma"*
"Nucleic Acid Approach to Hepatitis B & C Infection"

Workshop Moderator — Oct 28 – 31
American Association for the Study of Liver Disease, Dallas, TX

a. "*Novel and Experimental Treatments for Hepatitis B"*
b. "Special Issues in Viral Hepatitis"
c. "Pathogenesis of Hepatocellular Carcinoma"
d. "Pathogenesis and Immunology of HCV Pathology"

Invited Speaker — Nov. 10
Princeton Hepatitis B Virus Workshop, Phil., PA
"Hepadnavirus Receptors"

2001

Invited Speaker — Feb 1
Canadian Society of Gastroenterology, Tucson, AZ
"*Geonomics and Proteomics as Applied to Gastroenterology"*

Invited Speaker — Feb 21 –25
Workshop on Tissue Engineering, Wound Regeneration, and Gene Therapy, Hilton Head, SC
"Gene Targeting of Hepatocellular Carcinoma"

Invited Speaker — April 25
Albert Einstein College of Medicine, Bronx, NY
"Molecular Pathogenesis of HCC"

Invited Speaker — June 15
American Association for the Study of Liver Disease, Chicago
"*Molecular and Other Antisense Strategies: Oligonucleotides"*

Invited Speaker — June 26-28
Research Society on Alcoholism, Montreal, Canada

Invited Speaker — July 30 – Aug 2
Molecular Biology of Hepatitis B Viruses, Amherst, MA
"Viral Entry and Receptors"

Invited Speaker — Sep 19 – 21
International Meeting on Therapy in Liver Disease, Barcelona
"Hepatic Oncogenesis"

2002

Organizer, Session 2: Induction of Hepatocellular Carcinogenesis Jan 24 - 25
Falk Workshop…. *Malignant Liver Tumors:Basic Concepts and Clinical Management*
Leipzig, Germany

Invited Speaker
Fukuoka Cancer Symposium, Fukuoka, Japan Mar 12 – 16
"Human Hepatocellular Carcinoma"

Invited Speaker
International Workshop on *Molecular Pathogenesis of Human HCC* Sep 17 – 18
N.I.H., Bethesda, MD

Invited Speaker
Korean Association for the Study of Liver Disease Nov 19 – 22
Seoul, Korea

2003

Invited Speaker
Symposium on *Receptor and Entry for Oncogenic Viruses* Jul 09 – 12
Park City, Ut

Chair, Diagnosis of Liver Diseases Oct 16 - 19
Falk Symposium, Freiburg, Germany

Invited Speaker
Hungarian Medical Association Oct 29 – 30
New concepts in viral hepatitis
Sarasota, FL

2004

Invited Speaker Jan 13
Rockefeller University, New York, NY
Molecular Pathogenesis of Hepatocellular Carcinoma

State of the Art Lecture Feb 14 - 16
Hong-Kong/Shanghai International Liver Congress
Hong-Kong
Molecular Pathogenesis of Hepatocellular Carcinoma

Invited Speaker Apr 01 - 03
N.I.H. Hepatocellular Carcinoma: Screening, Diagnosis
And Management
Bethesda, MD
Gene Therapy of Hepatocellular Carcinoma

Co-Moderator Nov 01
AASLD 55th Annual Meeting (Oct 29 – Nov 02)
Boston, MA
Treatment of Hepatitis B: Mutants, Resistance and Viral Kinetics

Plenary Speaker Oct 20 – 21
Satellite Workshop Society for Leukocyte Biology
Westin Harbour Castle Hotel
Toronto, Ontario, Canada
Effects of ethanol on immune response to hepatitis C virus

2005

Invited Speaker Feb 17
U Mass Medical Center
Worcester, MA
The role of ethanol on the immune response to HCV

Invited Speaker Jun 16
Japan Society of Hepatology, 41st Annual Meeting
Osaka, Japan
Molecular Pathogenesis of Hepatocellular Carcinoma

Course Director Nov 14
AASLD Research Workshop: Molecular Mechanisms of Hepatocyte
Transformation
San Francisco, CA
Signal Transduction Pathways and HCC

Italian Society of Digestive Diseases Nov 16 – 23
Bologna, Italy

2006

Lecturer –
Strategic Research Institute 2nd Annual Viral Hepatitis in
Drug Discovery and Development Feb 27-28
Boston, MA
Vaccination with Protein-transcuded Dendritic Cells
Elicits a Sustained Response to Hepatitis C Viral Antigens

Lecturer –
Asian Pacific Association for the Study of the Liver Mar 5 - 8
Philippines
Pathogenesis of Hepatocellular Carcinoma

Lecturer –
Mount Sinai Liver Cancer Program – 1st Anniversary Jun 3
New York, NY
Signaling Transduction Pathways Involved in the Pathogenesis of HCC

Lecturer
12th International Symposium on Viral Hepatitis and Liver Disease Jul 1 – 5
Paris, France
Role of Frizzled-7 Receptor Overexpression in HBV and HCV Related
Human Hepatocellular Carcinoma

Lecturer
ISBRA World Congress on Alcohol Research, Sydney, Australia Sep 10 - 13
Consequences of Alcohol Induced Endocrine Disruption

Lecturer – State of the Art Lecture 4 Nov 26 - 29
Asian Pacific Digestive Week
Cebu City, Philippines
1. *Current Strategies in the Diagnosis of Hepatocellular Carcinoma*
2. *Clinical Genomics: role in the Treatment of GI Diseases*

2007

Co-Chairperson, Liver Cancer [New Concepts in Organ-Site Research] Apr 14 - 18
98th Annual meeting of the American Association for Cancer Research
Los Angeles, CA
Speaker: *Viral cellular interactions in the pathogenesis of HCC*

Member, N.I.H. NIAAA Special Emphasis Panel Grant Review, Jun 20 - 21
Specialized Alcohol Center on Translational Genetics -

Tan Yan Kee Foundation, Scholar Selection Committee Aug 13 - 24

Shanghai, China

International Liver Cancer Association, First Annual Meeting. Oct 5 – 8
Barcelona, Spain
Speaker – *Growth Factor Signaling in the Pathogenesis of HCC*

Tenth Annual Meeting for Infectious Diseases Oct 17 - 22
Beijing, China
Speaker – *Signaling pathways in the pathogenesis of HBV and HCV-Related HCC*

2008

Cholangiocarcinoma Conference, Atlanta GA Jun 6 – 8
AASLD Henry M and Lillian Stratton Basic Research Topic Conference:
Pathobiology of Biliary Epithelia and Cholangiocarcinoma
Speaker- *Signal Transduction Cascades and Cholangiocarcinoma*

Hong Kong Shanghai International Liver Congress Jun 12 - 15
Speaker – *Beta-catenin signaling in HCC*

RSA/ISBRA Symposium, Washington, DC Jun 28 – Jul 2
Discussant – *Understanding and treating patients with alcoholic Liver cirrhosis: an update*

International Liver Congress Association, Chicago, IL Sep 5 – Sep 7
Priming Knowledge in Liver Cancer Across Disciplines
Attendee

International Society of GI Oncology Symposium, Arlington, VA Sep 25
Biology and Therapeutic Approaches in the Management of HCC
Speaker – *Defining the Etiologic Factors in HCC*

American Association for the Study of Liver Disease, San Francisco, CA Oct 31 – Nov 4
Moderator, Postgraduate Course on Liver Cancer and Stem Cells*: the root of Malignancy*

Second Ditan International Symposium on Infectious Diseases Nov 15 – 17
Speaker:

Organizer – National Cholangiocarcinoma Conference,
Williamsburg, Vg
Chair - Platform Session: Cellular and Molecular Pathogenesis and
Mechanisms of Cholangiocarcinoma Progression

International Society of GI Oncology Symposium, Arlington, VA Sep 25

Biology and Therapeutic Approaches in the Management of HCC
Speaker – *Defining the Etiologic Factors in HCC*

American Association for the Study of Liver Disease, San Francisco, CA Oct 31 – Nov 4
Moderator, Postgraduate Course on *Liver Cancer and Stem Cells: the Root of Malignancy*

Second Ditan International Symposium on Infectious Diseases – China Nov 15 – Nov 17

2009

Keynote Speaker,Eighth Hepatobiliary and Gastrointestinal Research Retreat Jan 16 – 18
Vulperia, Switzerland

Invited Speaker-Yale Dept Pathology Research Seminar Series Apr
"*Molecular Pathogenesis of HCC*"

Research Society on Alcoholism – San Diego, CA Jun 20 - 21

Speaker: Alcohol and HCV Infection Mechanisms of liver and immune damage.
Conference Symposium session #4

2010

Christophe Merieux Conference "Trends in Tumor Virology" Jan 17 – 19
Annecy, France
Speaker – Targeted therapy for virus induced cancers; the example
Of hepatocellular carcinoma

1st Annual Biliary Tract-Gallbladder Cancer Research Symposium May 07
Panelist/speaker-Session 1: Accelerating Basic and Pre-clinical Research
Alexandria, VG

Annual Meeting of Liver Cancer Study Group Jul 8, 9
Osaka, Japan
Speaker - Targeted therapy for virus induced HCC

11th International Symposium on Dendritic Cells Sep 26 – 30
Lugano, Switzerland

2011

Wands JR. Panel Member - 34th Annual RSA Scientific Meeting, June
Atlanta, GA
Wands JR. Alcohol, insulin resistance and liver-brain axis. In: Session October 20, 21

2: Cell death regulation in ASH abnd alcoholic pancreatitis, Tsubouchi H (Moderator). The 6th International Symposium on ALPD and Cirrhosis. Fukuoka, Japan

Wands JR. Biomarker for human hepatocellular carcinoma. Sept 28
Presented at: Beijing University, Beijing, China.

Wands JR. Signaling pathways in the pathogenesis of HBV related Sept 30
human HCC. Presented at: Chongqing University, Chongqing, China.

2012

14th International Symposium on Viral Hepatitis and Liver Disease Jun 22 - 25
Shanghai, China
Member – International Advisory Board
Member – International Scientific/Organizing Committee

Harbin Medical Center, Harbin University, Harbin China Oct 10
Eastern Hepatobiliary Hospital, 2nd Military Hospital, Oct 15

23rd Symposium of Retinoids on Japanese Society for Retinoid Research Oct 19-20
Yonago City, Japan

2013

UF Shands Cancer Center Jan 10-11
University of Florida Cancer Center
Invited Speaker
"Molecular Signaling Pathways in HCC: Opportunities for Therapeutic Intervention"

NCI Program Project (P01) Special Emphasis Panel Feb 4-5
Washington, DC
Discussion Leader

NCI Intramural Program March 27-29
Bethesda, MD
Reviewer

3rd Annual CANLIV Hepatobilliary Cancers Research Symposium April 5
Alexandria, VG
Invited Speaker
"New Therapeutic Targets in Hepatocellular Carcinoma"

3rd APASL HCC Conference November 21-23
Cebu City, Philippines

Invited Speaker
"Viral Hepatocarcinogenesis and Signaling Pathways"

2014

Hollings Cancer Center — April 24-25
GI Cancers Program Research Retreat
Medical University of South Carolina
Invited Speaker
"Immunotherapy of HCC and Cholangiocarcinoma"

NCI Intramural Research Program — June 11-13
Bethesda, MD
Reviewer

2015

Japanese Society of Hepatology 51st Annual Meeting — May 20-22
Kumamoto, Japan
Invited Speaker

The 7th Annual Meeting of Asia-Pacific Alliance of Liver Diseases — Sept 18-20
Qingdao, China
Invited Speaker

NCI Special Emphasis Panel — Oct 20-21
Bethesda, MD
Chairman

2016

Digestive Disease Week — May 21-24
San Deigo, CA
Invited Speaker
"Transcriptional Factors in HCC Development"

NCI Specialized Programs of Research Excellence (SPORE) — June 15-16
Bethesda, MD
Reviewer

The 8th Annual Meeting of Asia-Pacific Alliance of Liver Diseases — September 2-4
Xi'an, China
Invited Speaker
"Development of New Therapeutic Targets for Hepatocellular and Cholangiocarcinoma"

2017

NCI Specialized Programs of Research Excellence (SPORE) — Feb 7-8
Bethesda, MD
Reviewer

Digestive Disease National Coalition — March 5
DDNC Public Policy Forum
Washington, DC
Invited Speaker

NCI SPORE Review Meeting — June 15-16
Bethesda, MD
Reviewer

Hepato-Pancreatic-Biliary Cancer Symposium — Nov 10-11
Mayo Clinic, Arizona
Invited Speaker
"Signal Transduction in Hepatocarcinogenesis"

2018

NCI Program Project (P01) Review — May 10-11
Bethesda, MD

International Congress on Sarcomas — Aug 24
Beijing China
Keynote speaker
"New Opportunities for Targeting Retroperiteanal Sarcomas"

International Conference on Pancreatic Cancer — Sept 9
Xian, China
Keynote Speaker
"Pathogenesis of PDAC Metastasis"

2019

China — Oct 22-Nov 06

2020 None due to COVID-19 epidemic.

2021

NIH/NCI Thoracic and GI Malignancies Review (virtual) — March 31-April 1
Reviewer

2022

NIH/NCI Special Emphasis Panel (ZCA1 RPRB-N) Review of NCI
Program Projects (P01) on GI cancers

DOD Review of Level 1 & 2 Projects on Breast Cancer (CDMRP BCRP-CET-4)
.

UNIVERSITY TEACHING ROLE

Harvard Medical School

1990 – 92	Oncology Course Lecturer 10 – 15 medical students 1 lecture/year
1975 – 85	Gastrointestinal Pathophysiology Lecturer 175 medical students 1 lecture/year
1979 – 98	Gastrointestinal Pathophysiology – HST 120 Core Faculty Member 25 medical students 4 lectures/6 seminars year
1998 -	Revisiting Medicine – HMS 482 Lecturer 20 medical students 1 lecture/year
1999 -	Gastrointestinal Pathophysiology – HST 120 25 medical students 1 lecture/year

Brown University

1999	Brown University Integrated Medical Science – BioMed 195-196 Directed Research/Independent Study
1999	Brown University Integrated Medical Science – BioMed 295-296 Graduate Independent Study
2000 - 05	Brown University Integrated Medical Science BioMed 282 – Gastrointestinal & Liver Pathophysiology Lecturer
2005	Brown University Integrated Pathophysiology/Pharmacology Bio 351 Lecturer
2010	Brown University Virology Course BIO 386
2012	Introduction to MCB Faculty Trainer Research BIO201A

HOSPITAL TEACHING ROLE

Massachusetts General Hospital

1993	Medical Grand Rounds *Primary Hepatocellular Carcinoma*
1994	Medical Grand Rounds *Hepatitis B Infection*
1995	Medical Grand Rounds *Alcohol Induced Liver Disease*
1997	Pathology Grand Rounds *Molecular Pathogenesis of Hepatocellular Carcinoma*

Rhode Island/Miriam Hospital(s)

1999 -	Gastroenterology/Attending - RIH
2000 -	Medical Grand Rounds - RIH *Gene Therapy of HCC*
2000 -	Gastroenterology/Attending – RIH GE Service (RIH) - December
2000 -	General Medical Service - RIH Medical Attending – May

PAST AND CURRENT TRAINEES

Hodgkin, Humphrey — M.D. — 1979 – 1980 — Post-Doctoral Fellow
Current Status: Professor of Medicine
Dame Sheila Sherlock Professor of Medicine
Royal Free Hospital, London, England

Marciniak, Robert — M.D. — 1981 – 82 — Pre-Doctoral Fellow
Current Status: Associate Professor of Medicine
University of Texas at Austin, Austin, TX

Brown, Russell — M.D. — 1982-4 — Pre-Doctoral Fellow
Current Status: Professor of Medicine
Northwestern University, Chicago, Il.

Bellet, Dominique — M.D., Ph.D — 1983-4 — Post-Doctoral Fellow
Current Status: Professor of Immunology
Director, Department of Molecular Oncology
University of Paris, Paris, France

McCarron, Maryjane — M.D. — 1983-5 — Pre-Doctoral Student
Current Status: Associate Prof. Opthamology, Mass. Eye and Ear Infirm
Harvard Medical School, Boston, MA

Ben-Porath, Edna — Ph.D — 1983-5 — Visiting Scientist
Current Status: Assoc. Prof. Virology
Technicon Univ, Haifa, Israel

Monath, Thomas — M.D. — 1985-6 — Visiting Scientist
Current Status: President and Director of Research
Oravax Corp., Boston, MA

Fujita, YK — Ph.D — 1986-7 — Post-Doctoral Fellow
Current Status: Assoc. Professor of Medicine, Jeiki Univ.,
Tokyo, Japan

Ozturk, Mehmet — Ph.D — 1986-9 — Post Doctoral Fellow
Current Status: Chairman, Dept. Molecular Biology/Genetics
Bilkent Univ., Ankara, Turkey

Cummings, David — M.D. — 1987-8 — Pre-Doctoral Fellow
Current Status: Associate Professor of Medicine
University of Washington, Seattle, WA

Takahashi, Hiroshi — M.D., Ph.D — 1987-9 — Post-Doctoral Fellow

Current Status: Professor of Medicine
Jikei University, Tokyo, Japan

Wilson, Byron M.D. 1986-9 Pre-Doctoral Fellow
Current Status: Clinical Associate Professor of Medicine
Univ. California @ San Francisco, CA

Motte, Phillippe Ph.D 1987-9 Post-Doctoral Fellow
Current Status: Director of Research
Smith Kline Beecham, Paris, France

Frohlich, Mark M.D. 1986-9 Pre-Doctoral Fellow
Current Status: Assoicate Professor of Medicine
U.C.S.F., San Francisco, CA

Sun, Susan M.D. 1987-9 Pre-Doctoral Fellow
Current Status: Member, Dept. Medicine
Stanford University, Palo Alto, CA

Bressac, Brigett Ph.D 1988-91 Post-Doctoral Fellow
Current Status Associate Professor of Immunology
Institute Gustave Roussy, Paris, France

Shouval, Daniel M.D. 1988-9 Visiting Scientist
Current Status: Professor of Medicine/Director Liver Unit
Hadassah Hospital, Jerusalem, Israel

Blum, Hubert M.D. 1989-92 Visiting Scientist
Current Status: Professor and Chairman, Dept. Medicine
University of Freiburg, Germany

Galvin, Katherine B.S. 1988-91 Pre-Doctoral Fellow
Current Status: Associate Professor
Harvard Medical School, Boston, MA

de la Monte, Suzanne M.D. 1988-90 Post-Doctoral Fellow
Current Status: Professor of Pathology/Medicine
Brown University/Rhode Island Hospital
Providence, RI

Liang, T.J. M.D. 1989-91 Post-Doctoral Fellow
Current Status: Head, Liver Section
National Institutes of Health, Bethesda, MD

Nishiyama, M. M.D., Ph.D 1989-92 Post-Doctoral Fellow
Current Status: Assistant Professor of Biochemistry
Jekei University, Tokyo, Japan

Puisieux, Alain Ph.D. 1989-92 Post-Doctoral Fellow
Current Status: Director, Inserm National Cancer Center
Leon Benard University, Leon, France

Galun, Eithan M.D. 1990-2 Post-Doctoral Fellow
Current Status: Professor of Medicine
Hadassah University Hospital, Jerusalem, Israel

vonWeizsacker, Fritz M.D., Ph.D 1990-2 Post-Doctoral Fellow
Current Status: Clinical Associate Professor of Medicine
University of Berlin, Berlin, Germany

Hasegawa, Kiyoshi M.D. 1990-2 Post Doctoral Fellow
Current Status: Associate Professor of Medicine
Tokyo Women's College, Tokyo, Japan

Nakada, Tetsuya M.D. 1990-2 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Jekei University, Tokyo, Japan

Volkman, Martin M.D. 1991-2 Post Doctoral Fellow
Current Status: Member, Department of Medicine
University of Heidelberg, Heidelberg, Germany

Ponchel, Frederique Ph.D 1991-2 Post-Doctoral Fellow
Current Status: Lecturer in Pharmacology
University of Paris, Paris, France

Sasaki, Yutaka M.D. 1991-3 Post Doctoral Fellow
Current Status: Professor of Medicine
Osaka University, Osaka, Japan

Zhang, Zhen-Sheng M.D., Ph.D 1991-3 Post Doctoral Fellow
Current Status: Staff Scientist
Ntl Institute of Health, Bethesda, MD

Lavaissiere, Laurent Ph.D 1991-4 Pre-Doctoral Fellow
Current Status: Assoicate Professor in Pharmacology
Lab. Molecular Biology, Univ. Paris, Paris, France

Bhavani, Kasibhatla Ph.D 1992-4 Post-Doctoral Fellow
Current Status: Research Scientist
Proctor and Gamble, Cincinnati, OH

Lee, Joung-Il M.D. 1992-3 Post-Doctoral Fellow
Current Status: Professor of Medicine
Kyung-Hee University Hospital, Seoul, Korea

Ikuko, Haruta M.D. 1991-4 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Tokyo Women's College, Tokyo, Japan

Xu, Yong-Yao Ph.D 1991-4 Post-Doctoral Fellow
Current Status: Research Scientist
Millenium Corp., Boston, MA

Fujimoto, Jiro M.D. 1992-4 Post-Doctoral Fellow
Current Status: Professor and Chairman, Surgery
College of Medicine, Hyogo, Japan

Wakita, Takaji M.D., Ph.D 1991-5 Post-Doctoral Fellow
Current Status: Director, Institute of Virology
Tokyo Metropolitan Institute, Tokyo, Japan

Moradpour, Darius M.D. 1993-5 Post-Doctoral Fellow
Current Status: Professor of Medicine
Univ. of Lauzon, Lauzon, Switzerland

Niwamoto, Hirofumi M.D., Ph.D 1993-4 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Hyogo College of Medicine, Hyogo, Japan

Hanada, Shuici M.D. 1993-4 Post-Doctoral Fellow
Current Status: Assistant Professor
Jikei University, Tokyo, Japan

Maia, Mauricio Ph.D 1993-5 Post-Doctoral Fellow
Current Status: Research Scientist, Dept. Virology
Mass. Dept. Public Health, Boston, MA

Ito, Toshifumi M.D. 1993-5 Post-Doctoral Fellow
Current Status: Clinical Assoicate Professor of Medicine
Osaka University, Osaka, Japan

Tokushige, KatsutoshiM.D., Ph.D 1993-5 Post-Doctoral Fellow
Current Status: Clincial Assistant Professor of Medicine
Tokyo Women's College, Tokyo, Japan

Gardner, Bill M.D. 1994-5 Pre-Doctoral Fellow
Current Status: Member of Department of Pathology
Columbia University, NY

Tanaka, Shinji M.D., Ph.D 1994-5 Post-Doctoral Fellow

Current Status: Associate Professor of Surgery
Tokyo Medical and Dental University, Tokyo, Japan

Melegari, Margherita M.D., Ph.D 1992-8 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Univ of Texas Southwestern, Dallas, TX

Tong, Shu-Ping M.D., Ph.D 1993- Post-Doctoral Fellow
Current Status: Associate Professor of Medicine
Brown Medical School, Providence, RI

Li, Ji-Su M.D., Ph.D 1993- Post-Doctoral Fellow
Current Status: Associate Professor of Medicine
Brown Medical School, Providence, RI

Scaglioni, Pier Paolo M.D. 1994-8 Post-Doctoral Fellow
Current Status: Associate Professor of Medicine
Univ of Texas Southwestern, Dallas, TX

Geissler, Michael M.D. 1994-8 Post-Doctoral Fellow
Current Status: Clinical Associate Professor of Medicine
Freiburg University Sch. Medicine, Germany

zu Putlitz, Jasper M.D. 1995-8 Post-Doctoral Fellow
Current Status: President
Bosche Healthcare, Pao Alto, CA

Mohr, Leonhard M.D. 1995-8 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Freiburg University School Medicine, Germany

Encke, Jens M.D. 1996-8 Post-Doctoral Fellow
Current Status: Associate Professor of Medicine
Heidelberg University, Germany

Yoon, Seung-Kew M.D., Ph.D 1996-98 Post-Doctoral Fellow
Current Status: Professor of Medicine
Catholic University, Seoul, Korea

Heintges, Tobias M.D. 1996-98 Post-Doctoral Fellow
Current Status: Associate Professor of Medicine
Heinrich-Heine University, Dusseldorf, Germany

Banerjee, Kakoli Ph.D 1997 - 98 Post-Doctoral Fellow
Current Status: Research Scientist
All India Inst. Medical Sciences, New Delhi, India

Ince, Nedim M.D. 1997 - 2000 Post-Doctoral Fellow
Current Status: Clincial Associate Professor of Medicine
University of Iowa Health Science Center
Iowa City, Iowa

Hasan, Shahid Ph.D 1998 - 99 Post-Doctoral Fellow
Current Status: Research Fellow in Medicine
Harvard Medical School, Boston, MA

Fukotomi, Takayoshi M.D. 1999 - 2001 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Kyushu University, Fukioka, Japan

Ghisetti, Valeria M.D. 1999 – 2000 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Via Giacinto Collegno 45
10138 Torino, Italy

Khamzina, Leila M.D., Ph.D 1999 - 2001 Post-Doctoral Fellow
Current Status: Associate Professor of Biochemistry
Lavall University, Quebec, Canada

Lee, Hong Bock M.D., Ph.D 1999 – 2002 Post-Doctoral Fellow
Current Status: Medical Director
Hepahope Inc.
San Diego, CA

Maeda, Takashi M.D., Ph.D 1999 – 2001 Post-Doctoral Fellow
Current Status: Assistant Professor of Surgery
Kyushu University, Fukatoka, Japan

Spangenberg, Hans C. M.D. 1999 – 2001 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
University of Freiburg,
Hugstetterstrasse 55
79106 Freiburg, Germany

Tamaki, Seishu M.D., Ph.D 1999 - 2000 Post-Doctoral Fellow
Current Status: Assistant Professor of Medicine
Dojin Hospital
2606 Gusukuma
Urasoe City
Okinawa 901-2133, Japan

Wiedmann, Marcus M.D. 1999 - 2001 Post-Doctoral Fellow

Current Status: Assistant Professor of Medicine
Univ Leipzig
Philipp-Rosenthal Str. 27
04103 Leipzig, Germany

Chen, William M.D. 2000 - 1 Post-Doctoral Fellow
Current Status Clinical Assistant Professor of Medicine
Brown Medical School, Providence, RI

Eguchi, Hidetoshi M.D., Ph.D 2000 – 3 Post-Doctoral Fellow
Current Status Assistant Professor of Surgery
Osaka Med. Ctr for Cancer/Cardiovascular Diseases
Dept. Surgery
3-Nakamichi, 1-chome, Higashinari-ku
Osaka, Japan 537-8511

Gong, Xiaoming Ph.D., DVM 2000 – 3 Post-Doctoral Fellow
Current Status Assistant Professor of Pediatrics
Women & Infants Hospital
Associated Research Scientist
101 Dudley St.
Providence, RI

Kawai, Shigenobu M.D., Ph.D 2000 – 3 Post-Doctoral Fellow
Current Status Assistant Professor of Medicine
Chiba Univ. Sch. Medicine
1-8-1 Inokana, Chuo-ku
Chiba, Japan 260-8670

Maggio, Paul M.D. 2000 – 2 Post-Doctoral Fellow
Current Status Assistant Professor of Surgery
University of Michigan Medical Center
East Landsing, Michigan

Sungarian, Arno M.D. 2000 - 1 Post-Doctoral Fellow
Current Status Assistant Professor of Neurosurgery
Univ of Mass Medical Center
Worcester, MA

Wu, Tong M.D., Ph.D 2000 – 1 Post-Doctoral Fellow
Current Status Research Scientist
UCLA @ Berkeley
Dept. Nutritional Sci/Toxicol
50 Morgan Hall

Ahn, Sang Hoon M.D., Ph.D 2001 – 3 Post-Doctoral Fellow

	Current Status	Associate Professor of Medicine Yonsei University College of Medicine Department Internal Medicine CPO Box 8044 Seoul, Korea 120-752	
Chen, Guojun	M.D., Ph.D	2001 – 2	Post-Doctoral Fellow
	Current Status	Chongquing Medical University Chongquin, China	
Dumoulin, Franz Ludwig	M.D., Ph.D	2001 – 3	Post-Doctoral Fellow
	Current Status	Assistant Professor of Medicine University of Bonn Sigmund Freud Str. 25 D-53127 Bonn, Germany	
Kuzushita, Noriyoshi	M.D.	2001 - 4	Post-Doctoral Fellow
	Current Status	Clinical Assistant Professor of Medicine Osaka University, Osaka Japan	
Merle, Philippe	M.D., Ph.D	2001 – 3	Post-Doctoral Fellow
	Current Status	Professor of Medicine Inserm U271 Lyon, France	
Yeon, Jong Eu	M.D., Ph.D	2001 – 2	Post-Doctoral Fellow
	Current Status	Korea Univ. Guro Hospital Internal Medicine Guro-gu Gil 97 Seoul, Korea 152-703	
Zheng, Dong	Ph.D	2001 – 2	Post-Doctoral Fellow
		Brown University Dept. Molec Pharmacol, Biotechnology Providence, RI	
Dumoulin, Franz Ludwig	M.D., Ph.D	2001 – 3	Post-Doctoral Fellow
	Current Status	Dept. medicine I University of Bonn Sigmund Freud Str. 25 D-53127 Bonn, Germany	
Kuzushita, Noriyoshi	M.D.	2001 - 4	Post-Doctoral Fellow
	Current Status	The Liver Research Center Brown Medical School, Providence, RI	

Aloman, Costica	M.D.	2003 – 4	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine Mt. Sinai School of Medicine NY, NY		
Berthiaume, Eric	M.D.	2003 – 4	Post-Doctoral Fellow
Current Status	University Gastroenterology Providence, RI		
Derdak, Zoltan	M.D.	2003 -	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine The Liver Research Center Brown Medical School, Providence, RI		
Fulop, Peter	M.D.	2003 – 4	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine Debreen Medical School Budapest, Hungary		
Gehring, Stephan	M.D.	2003 – 5	Post-Doctoral Fellow
Current Status	Assistant Professor of Pediatrics University of Mainz Munich, Germany		
Gong, Wenrong	M.D.	2003 – 4	Post-Doctoral Fellow
Current Status	The Liver Research Center Brown Medical School, Providence, RI		
Gupte, Anand	M.D.	2003 – 4	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine University of Florida Medical Center Gainsville, FL		
Horimoto, Masayoshi	M.D., Ph.D	2003	Post-Doctoral Fellow
Current Status	Clinical Assistant Professor of Medicine Osaka University, Osaka, Japan		
Kim, Kyun-Hwan	Ph.D	2003 - 5	Post-Doctoral Fellow
Current Status	Assistant Professor of Biochemistry Yonsi Medical University, Seoul, Korea		
Kim, Sung Soo	Ph.D	2003 - 4	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine Uijongbu St. Mary's Hospital, Seoul, Korea		

Wang, Xuemin	M.D., Ph.D	2003 - 5	Post-Doctoral Fellow
Current Status	Assistant Professor of OB-GYN Women & Infants Hospital Brown Medical School, Providence, RI		
Lee, Han Chu	MD, Ph.D.	2004 – 6	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine Asan Medical Center Seoul, Korea		
Li, Ke	MD, Ph.D.	2004 – 5	Post-Doctoral Fellow
Current Status	Professor of Medicine Hospital PLA 302 Beijing, China		
Tian, Bo	MD, Ph.D.	2004 – 5	Post-Doctoral Fellow
Current Status	Research Scientist Emory University School of Medicine Atlanta, GA		
He, Jiman	MD	2005 – 9	Post-Doctoral Fellow
Current Status	Professor of Medicine Southern University of Medicine Guangzhou, China		
Kim, Eun	PhD	2005 –07	Post-Doctoral Fellow
Current Status	Research Scientist University of Pittsburgh Pittsburgh, PA		
Pang, Maoyin	MD	2005 –06	Post-Doctoral Fellow
Current Status	Resident in Medicine Roger Williams Hospital Providence, RI		
Tong, Ming	MD	2005 –	Post-Doctoral Fellow
Current Status	Research Scientist The Liver Research Center Brown Medical School, Providence, RI		
Wintermeyer, Philip	MD	2005 –08	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine University of Heidelberg Heidelberg, Germany		

Ito, Kiyoaki	MD	2006 –08	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine University of Tokyo, Tokyo, Japan		
Kassai, Andrea	MD	2006 – 08	Post-Doctoral Fellow
Current Status	Medical Student University of Massachusetts Boston, MA		
Lee, Jin-Woo	MD, PhD	2006 –08	Post-Doctoral Fellow
Cuttent Status	Assistant Professor of Medicine Incheon University Incheon, South Korea		
Toyama, Takashi	MD, PhD	2006 – 08	Post-Doctoral Fellow
Current Status	Assistant Professor of Medicine Osaka University, Osaka, Japan		
Koga, Hironori	MD, PhD	2007- 09	Post-Doctoral Fellow
Current Status	Research Center for Innovative Cancer Therapy Kurume University Japan		
Shimoda, Masafumi	MD, PhD	2007- 09	Post-Doctoral Fellow
Current Status	Assistant Professor of Surgery Osaka University, Osaka, Japan		
Wen, Sicheng	MD	2007- 11	Post-Doctoral Fellow
Current Status	Rhode Island Hospital, Orthopedics Research, Providence, RI		
Feng, Dechun	MD, PhD	2008-10	Post-Doctoral Fellow
Current Status	Staff Scientist National Institutes of Health Bethesda, MD		
Noda, Takehiro	MD, PhD	2008- 10	Post-Doctoral Fellow
Current Status	Assistant Professor of Surgery Osaka University, Osaka, Japan		
Setshedi, Mashiko	MD	2008- 11	Post-Doctoral Fellow
Current Status	Associate Professor of Gastroenterology University of Cape Town Capetown, South Africa		
Beseme, Sarah	PhD	2009 – 2011	Post-Doctoral Fellow

Current Status	Principal Scientist Beech Tree Labs Brown University Providence, RI		
Yan, Tao	MD	2009- 10	Post-Doctoral Fellow
Current Status	Associate Prof of Medicine Hospital of PLA 302 Beijing, China		
Shapiro, Jason	MD	2009 - 12	Post-Doctoral Fellow
	Assistant Professor of Pediatrics Warren Alpert Medical School of Brown University Providence, Ri		
Zhang, Songhua	PhD	2009 - 12	Post-Doctoral Fellow
Current Status	Assistant Prof of Medicine The Liver Research Center Providence, RI		
Tomimaru, Yoshito	MD, PhD	2011 - 2013	Post-Doctoral Fellow
Current Status	Assistant Prof of Surgery Osaka University Osaka, Japan		
Aihara, Airihiro	MD, PhD	2012 – 2014	Post-Doctoral Fellow
Current Status	Assistant Prof. of Surgery Tokoyo Medical and Dental University Tokoyo, Japan		
Huang, Chung-Kuei	PhD	2013 - 2015	Post-Doctoral Fellow
Current Status	Assistant Prof of Medicine The Liver Research Center Providence, RI		
Iwagami, Yoshifumi	MD	2014 - 2016	Post-Doctoral Fellow
Current Status	Assistant Professor of Surgery Osaka University, Osaka, Japan		
Ogawa, Kousuke	MD, PhD	2015 - 2017	Post-Doctoral Fellow
Current Status	Assistant Professor Tokyo Medical and Dental University Tokyo, Japan		
Casulli, Sarah	PhD	2015 - 2017	Post-Doctoral Fellow
Current Status	Clinical Research Associate		

DRCI
Paris, France

Nagaoka, Katsuya MD, PhD 2016 - 2018 Post-Doctoral Fellow
Current Status Assistant Professor
Kumamoto University
Japan

Bai, Xuewei MD 2017 - 2019 Post-Doctoral Fellow
Current Status Assoicate Professor, Harbin Medical Univ., China

Zhou, Yanmei MD 2017 - 2019 Post-Doctoral Fellow
Current Status Assoicate Professor, Harbin Medical Univ., China

Liu, Dan MD, PhD 2019 - 2020 Post-Doctoral Fellow
Associate Professor, First Affiliated Hospital of Zhengzhou Univ.
Current Status

Zhai, Bo MD, PhD 2019 - 2020 Post-Doctoral Fellow
Associate Professor, The Fourth Hospital of Harbin Medical Univ.
Current Status

Zhang, Guangquan MD 2019 - 2020 Post-Doctoral Fellow
Associate Professor, The First Affiliated Hospital of Harbin Univ.
Current Status

Yokota, Yuki MD 2021 - Post-Doctoral Fellow
Assistant Professor, Tokushima University, Japan
Current Status Liver Research Center, Prov., RI

Masumoto, Yoshihiro MD, PhD 2021 - Post-Doctoral Fellow
Assistant Professor, Kyushu University, Japan
Current Status Liver Research Center, Prov., RI

Graduate/Medical Students

Lahousse, Stephanie 1999 – 2004
Current Status Research Scientist
NIEHS
Research Triangle Park, NC

Parekh, Sameer 1999 – 2000
Current Status: Cardiology Fellow
Columbia Medical Center
NY, NY

Guarnieri, Michael 1999 – 2003
Current Status: MD, PhD student

	University of Colorado Denver, CO	
Robinson, Deidre	Spellman College	1999
Cannon, Jennifer		1999-2000
Current Status	Resident Vanderbilt University, Nashville, TN	
Han, Michael		1999-2000
Current Status	Resident Ohio State University, Columbus, OH	
Khan, Nasser		2000 – 1
Current Status	Resident, Internal Medicine Massachusetts General hospital	
Maron, Brad		2000 – 1
Current Status	Medical Student Brown Medical School, Providence, RI	
Perdigoto, Ana	Pre-Doctoral Student	2000 – 1
Current Status	Department of Pathology Harvard Medical School, Boston, MA	
Sepe, Paul		2000 – 1
Current Status	Medical Student Harvard Medical School, Boston, MA	
Silbermann, Rebecca	Medical Student	2000 – 4
Current Status	Resident, Internal Medicine U Rochester, NY	
Herschenhous, Nicole		2000
Current Status	Medical Student Brown University, Providence, RI	
Terry, Benjamin	Predoctoral Student	2000 – 1
Current Status	Medical Student, Dartmouth University, New Hampshire	
Tsai, Adrienne	Predoctoral Student	2000 – 2
Current Status	Resident in Medicine U Pennsylvania Philadelphia, PA	

Baik, Annie	Predoctoral Student	2001 – 2
Current Status	Medical Student Brown Medical School, Providence, RI	
Califano, Nicky	Predoctoral Student	2001
Current Status	Medical Student NYU, NY	
Carter, J	Graduate Student	2001 – 2
Current Status	Pathobiology Program Brown University, Providence, RI	
Sanyal, S	Predoctoral Student	2001
Current Status	Harvard Medical School Boston, MA	

Graduate/Medical Students 2003

Carter, Jade	Brown Graduate Student
Doiron Kathryn	Research Assistant
Hermann, Marc	45A Rue D'Oberhausbergen 67201 Eckbolsheim, France
Lahousse, Stephanie	Brown Graduate Student
Monti, Nola	Research Assistant, Mt. Holyoke University
Silberman, Rebecca	Brown Medical Student
Xu, Juli	Brown Graduate Student

Undergraduate Students 2003

Carpenter, Stephanie	Brown University
Guarnieri, Michael	Rhode Island College
Parikh, Ami	Brown University
Park, Min Jung	Brown University
Steen, Eric	Brown University

Graduate/Medical Students 2005

Gewaily, Dina	Brown University
Konkin, Tamako	Brown University
Longato, Lisa	University of Padova, Italy
Soscia, Stephanie	Brown University
Orkhontuya, Tsedensodnom	Brown University
Yilmaz, Atilgan	Brown University

Undergraduate Students 2005

Attiba, Anna Marie	Brown University
Chu, Jennifer	Brown University
Cohen, Ariel	Brown University
Lester Coll, Nat	Brown University
Dong, Matthew	Brown University
Elwood, Gwen	Brown University
Hartley, Rochelle	Brown University
Kwei, Karen	Brown University
Lieu, Charmiane	Brown University
Mark, Nick	Brown University
Roper, Nitin	Brown University
Sheets, Tony	Brown University
Wong, Leslie	Brown University

Graduate/Medical Students 2006

Chaudhry, Rajeev	
Chung, Waihong	
Eken, Ahmet	
Spaisman, Amy	Brown University

Undergraduate Students 2006

Duan, Kevin
Kim, Andrew
Machida, Raiki
Perrin, Hannah
Preskill, Carina
Rommel, John
Rosenberg, Stephen
Rubin, Anna
Segalla, Emily

Graduate/Medical Students 2007

DeNucci, Sarah	Brown Med Sch/RI Hospital
Gutelius, Danielle	

Undergraduate Students 2007

Bedyoa, Armando
Bowling, Nathaniel
Bidgi , Stefano
Fischer, J
Lawton, M

Lee G,
Lian J,
Lon Y,
Monoz, N
Moskal P
Moua, Billy
Neusner, Alex
Pendergast, Christopher
Rhee, Jenny
Ho Shin, Tai
Ouh, Jiyun
Rosenberg, Steven
Rubin, Anna

Graduate/Medical Students 2008

Victoria Ruiz

Undergraduate Students 2008

Ahmad Rana
Carroll, Jacqueline
Gilligan, Jeffrey
Mark, Princess
Park, Joseph
Shin, Tai-Ho
Walker, Evan
Yu, Jovian
Ziplow, Jason

Undergraduate Students 2009

Chen, William
Haberman, Rebecca
Hang, Steve
Khander, Amrin
Le, Tran
Lee, George
Loevinsohn, Gideon
Nguyen, Van
Rainville, Austin
Watson, Grace

Graduate Students 2010

Diana Lizarazo

Teresa Ramirez

Undergraduate Students 2010

Andreani, Tomas
Bhutta, Abdul
Faiz, Jessica
Nambiar, Kalyani
Ooi, Gavyn
Re, Eddie
Sachdev, Monisha
Sack, Jordan
Sibley, Meredith
Tai, Marlene
Villegas, Kristine

Undergraduate Students 2011

Abdul Bhutta
Eddie Re
Gavyn Ooi
Jessica Faiz
Jordan Sack
Kalyani Nambiar
Marlene Tai
Meredith Sibley
Monisha Sachdev
Tomas Andreoni

Undergraduate Students 2012

Alyssa Guarracino
Chetram Deochand
Eva Chen
Gina Calco
Kelsey Stafstrom
Tomas Andreoni

Undergraduate Students 2013

Asa Ohsaki
Kavin Nunez
Michelle Xiong
Rhiannon Morrissey Salve Regina University
Saloni Mehrotra
Tomas Andreani

Yasaman Jafari
Zohra Kalani

Undergraduate Students 2014

Julia McGirr
Shannon Monahan
Tamar Kaminski
Ryan Taylor
Stefanie Balbuca
Sanjana Kalagara
Roshini Kalagara
Sophie Luks Boston College

Undergraduate Students 2015

Cheickna Fofana
Cesar Dominguez
Raiane Leao
Carla Pineyro

Undergraduate Students 2016

Marina Palumbo
Irio Schiano Quinnipiac University
Jonathan Lawerence University of RI
Keri Brooks

Graduate Students 2017

Billy Gotama
Claire Lee
Kevin Cao
Mengqi Lin
Hongyu Zhang

Undergraduate Students 2017

Nada Abdallah
Dustine Reich
Natalia Moriel
Bill Mueller
Connie Liou

Graduate Students 2018

Kevin Cao
Mengqi Lin

Undergraduate Students 2018

Joud Mulla
David Bautista
Connie Liou
Natalia Moriel
Camilla Homans

Undergraduate Students 2019

Rishi Jain
Amalia Bay
Oriol Figueras
James Robbins
Anuva Goel

Undergraduate Students 2021

Hikaru Hayashi
Nader Maarouf

Graduate Students 2021

Yuzhou Wang
Wenqing Yuan
Dongying Zhou