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Brown Cancer Center
University of Louisville Medical School
Louisville, KY 40202
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EDUCATION:

1988.1 – 1993.8 Ph.D.
Biology Division
The University of Texas at Austin, Texas
Major Field: Molecular Biology
Supervisor: Dr. Richard Meyer
Dissertation Title: Initiation of Replication of the Broad Host Plasmid R1162

1979.9 – 1982.7 M. S.
Department of Biology
Hangzhou University, Hangzhou, China.
Major Field: Biochemistry.
Supervisor: Dr. Su Tang
Thesis Title: Construction of a Shuttle Vector for Gene Transformation Between *Escherichia coli* and *Bacillus subtilis*

1977.2 – 1979.9 B. S.
Department of Chemical Engineering (Industrial Microbiology)
Wuxi Institute of Light Industry, Wuxi, China.
Major Field: Fermentation and Industrial Microbiology

ACADEMIC APPOINTMENTS

2010.7 to present Associate Professor, Departments of Surgery, and Microbiology and Immunology, University of Louisville, Louisville, KY

2007.7 to 2010. 6 Assistant Professor, Department of Surgery, University of Louisville, Louisville, KY

2002.9 to present Member, Brown Cancer Center
University of Louisville Medical School
Louisville, Kentucky
Cancer Gene Therapy: study virus selective replication in cancer cells, and interactions of virus and cancer cells

2002.9 – 2007.6 Assistant Professor

Departments of Medicine and Microbiology
University of Louisville Medical School
Louisville, Kentucky
Cancer Gene Therapy: study virus selective replication in cancer cells, and interactions of virus and cancer cells

1998.9 – 2002.8 Research Assistant Professor
Departments of Molecular and Human Genetics
Member of Center for Cell and Gene Therapy
Baylor College of Medicine
Houston, Texas
Gene Therapy: develop various adenovirus vector systems for gene therapy, including second-generation adenovirus vector and gutless vector systems.

OTHER EXPERIENCE:

1995.9 – 1998.8 Postdoctoral Fellow (CF foundation fellowship)
Department of Molecular and Human Genetics
Baylor College of Medicine
Houston Texas
Supervisor: Dr. Arthur L. Beaudet
Gene Therapy: gene therapy for cystic fibrosis, development of new viral vectors and complementing cell lines.

1993.9 – 1995.8 Postdoctoral Fellow
Howard Hughes Medical Institute
Baylor College of Medicine
Houston Texas
Supervisor: Dr. Arthur L. Beaudet
Gene Therapy: gene therapy for cystic fibrosis, development of new viral vectors and complementing cell lines.

1988 - 1993 Graduate Research Assistant
Division of Biology
The University of Texas at Austin
Austin, Texas
Supervisor: Dr. Richard Meyer
DNA replication: study plasmid DNA replication with various molecular methods, such as gene fusion, expression, site and region specific mutagenesis.

1990 and 1992 Teaching Assistant
For the classes: Techniques in Molecular Genetics
Department of Microbiology,
The University of Texas at Austin.
Austin, Texas

1987 - 1988 Visiting Scholar
Department of Microbiology
The University of Texas at Austin
Austin, Texas.

1983 - 1987 Scientific Researcher and Group Leader
Genetic Engineering Laboratory
Jiangxi Academy of Sciences
Jiangxi, China

Professional Memberships and Activities
Member, American Association for Cancer Research (# 103108)
Member, American Association for Microbiology (# 56309925)
Member, the American Society of Gene Therapy
Council Membership, Gerson Lehrman Group

Honors and Awards
Member, Honor of Society of PHI KAPPA PHI
Postdoctoral Research Fellowship (F984), North American Cystic Fibrosis Foundation (1995 1998)
Excellent Ph.D. Dissertation, University of Texas at Austin (1993)
Visiting Scholarship, National Education Commission of China (1987 -1988)

Peer Reviewer of Manuscripts of Scientific Journals:
Cancer Research
Clinical Cancer Research
Oncogene
MBC Cancer
Journal of Molecular Medicine
Molecular Cancer Therapeutics
Oncotarget
PLoS ONE
Gene Therapy
Human Gene Therapy
Cancer Gene Therapy
Journal of Virology
Virology
Viruses
Cancer Letters
Gynecologic Oncology
Cancer Biology & Therapy
Cellular & Molecular Biology Letters
Biomedicines
Cell Death & Disease
International Journal of Molecular Sceinces (IJMS)
World J Clin Oncol
Oncolytic Virotherapy (Dove Medical Press)

Reviewer of Research Grand Applications:

The National Science Center, Poland
Cancer Research Wales, Whitchurch, Cardiff, CF14 2TL, United Kingdom
Wellbeing of Women Research Grant, First Floor, Fairgate House, 78 New Oxford Street, London WV1S 1HB, United Kingdom
Worldwide Cancer Research (formerly known as AICR), Madras House, St Andrews, Fife, Scotland, KY16 9E

Teaching and mentoring experience

Serviced as a member of PhD. student qualifying exam committee: Wechman, Stephen Lindsey, Department of Microbiology and Immunology,

Serviced as an advisor in the dissertation committee: PhD student Penny Cheng, Dept. of Pharmacology & Toxicology

Serviced as a member of PhD. student qualifying exam committee: Arlixer McGhee, Department of Microbiology and Immunology,

Serviced as an advisor in the dissertation committee: PhD student Rundong (Ray) Zhang Dept. of Pharmacology & Toxicology

Postdoctors previously supervised and is supervised:
Tiejun Zhao; Ling Li; Xinyu Zheng; Min Wang; Hongying Hao; Jorge Gomez-Gutierrez; Humberto Rodriguez, Lan Chen, et al.

PhD and college students supervised:
Jorge Gomez-Gutierrez; Aracely Garcia-Garcia, Souza Vinicius; Pei Hsin Cheng; et al.

High school students supervised:
Aman Babbarwal, Shray Kapoor, Serena Lian
duPont Manual High School
120 West Lee Street

Pre- and Post-Doctors Mentors and Supervised:

Name	Pre or Post	Training Period	Prior Degrees			Research Project	Current Position
Tiejun Zhao	Post	1998-2002	PhD	1996	China Medical College, China	Adenoviruses with insertion-mutated E1A selectively destroys tumors in vivo	Investigator, Lady Davis Institute for Medical Research, Montreal, Quebec, Canada
Ling Li	Post	2001-2002	MD			Development of E1 deleted oncolytic adenovirus mutants.	Research Associate, Baylor College of Medicine
Wendy Zheng	Post	Summer 1997-2000	MD			Development of E1 deleted oncolytic adenovirus mutants.	Research Associate, Baylor College of Medicine
Yanbin Dong	Pre	1997-2007	MSc MS BS	2007 1994 1991	University of Louisville Peking Union, Medical College, Beijing, China Wuhan University,	Gene therapy for melanoma with recombinant adenovirus expressing wild type and truncated E2F-1	Lab Manager

					China		
Xinyu Zheng	Post	2003-2005	MD PhD	1989 2002	Dalian Medical School Karolinska Institute	A conditionally replicating adenovirus targeting gene therapy of cancer.	Professor, Department of Surgical Oncology, First Affiliated Hospital, China Medical University, Shenyang, China
Vinicius Souza	Pre	2003-2005	No prior degree. Graduated with a Dual major in Biology and Economics in 2004 from University of Louisville	NA	NA	Gene therapy research	Senior Financial Analyst at Oi (major brazilian telecommunication company)
Jamshidi-Parsian Azemat (AJ)	Pre	2003-2005	Bachelor of Science-MS		National University of Iran, Tehran	Gene expression profiling of E2F-1-induced apoptosis	Research Associate, Department of Breast Cancer Research and Development, University of Arkansas for Medical Sciences
Min Wang	Pos	2003	MD			Oncolysis of cancer cells caused by mutated adenoviruses	Research Associate, University of Louisville
Allison Phelps	Pre	2006	BA	2005	Bellarmine, Louisville, KY	Induction of apoptosis signal-regulating Kinase 1 by E2F-1 may not be essential for E2F-1-mediated apoptosis in melanoma cells.	Graduated Medical Student 2008, University of Louisville Medical School
Jorge Gomez-Gutierrez (Finish PhD training in our lab)	Post	2003-present	BS PhD	1996-2001 2001-2006	Universidad Autonoma de Nuevo Leon	Developing adenoviral vectors encoding therapeutic genes and their combination with other chemotherapeutic agents.	Assistant Professor, Division of Surgical Oncology, Department of Surgery, University of Louisville
Hongying Hao	Post	2004-2007	MD MS PhD	1989 1996 2001	Third Military College, PR China Peking University, PR China	Developing a prognostic system incorporating gene signatures for melanoma patients. E2F-1 induces melanoma cell apoptosis via PUMA up-regulation and Bax translocation.	Assistant Professor, Division of Surgical Oncology Research, Department of Surgery, University of Louisville
Canming Chen	Post	2005-2006	MD	1995	Shanghai Medical University	E2F expression mediated by adenovirus induced cancer apoptosis	Associate Professor, Department of Breast Surgery, Cancer Hospital, Fudan University, Shanghai, China
Aracely Garcia-Garcia (finish PhD	Pre	2008-2011	BS MS PhD	2001 2005 2011	Universidad Autonoma de Nuevo Leon	Autophagy as mechanism for cancer treatment caused by mutated E2F	Assistant Professor, Department of Histology, Autonomous University of Nuevo

training in our lab)							Leon, Mexico.
Humberto Rodriguez-Rocha	Post	2009-2011	BS MS PhD	2001 2005 2011	Universidad Autonoma de Nuevo Leon	Autophagy as mechanism for cancer treatment caused by mutated E2F	Assistant Professor, Department of Histology, Autonomous University of Nuevo Leon, Mexico.
Pei-Hsin Cheng (finish PhD training in our lab)	Pre	2008-2014	BS MS PhD	2005 2007 2013	National Sun Yat-Sen University University of Louisville	Adenovirus-induced cyclin E activates CDK2 for virus replication	Post-doc fellow, St. John's Children Hospital
Michael E. Egger	Post	2008-present	BA MD	2004 2008	University of the South Emory University	Adenovirus expressing Forkhead in combination with chemotherapy	Current Surgery Resident
Lan Chen	Post	2011-2013	MD Masters (Med) PhD	1990 1995 2000	Shanghai Second Medical University; Shanghai Insitute of Hematology; Saitama University, Japan	Virology, endocrinology, hematology, and molecular, cellular, and developmental biology.	Research Scholar, Division of Surgical Oncology, Deparment of Surgery, University of Louisville
Serena Lian	Pre	2011-2013					Student, Yale University
Robin Zhao	Pre	2011-2013					Student, University of New York
Harry Gao	Pre	2014					Student, University of Chicago.
Stephen Wechman	Pre	2011-present	B.S	2011	Georgetown College		Current PhD student trained in our lab, University of Louisville

Research Funding:

Title: Dietary Supplement Indole-3-Carbinol in Lung Cancer Therapy and Prevention
Principal Investigators: H. Sam Zhou and Kelly M. McMasters
Agency: Commonwealth of Kentucky Lung Cancer Research Program
Type: Research Grant
Period: 5/2015 to 6/2018
Dollars award: $150,000.
Effort: 10 %
This project is to study effects of dietary supplement indole-3-carbinol (I3C) in adenovirus-induced lung cancer therapy and prevention
Role: PI

R01CA129975
Title: Adenovirus E1B55K Functions Related to Oncolytic Replication.
Principal Investigator: H. Sam Zhou
Agency: NIH/NCI

Type: Research Grant
Period: 3/2009 to 12/2014
Dollars award: $1,105,560
Effort: 30%
This project is to investigate adenovirus E1B55K functions that are related cell cycle regulation and virus replication in cancer cells.
Role: PI

R25-CA134283-01A2
Title: University of Louisville Cancer Education Program
Principal Investigator: David Hein
Agency: NIH/NCI
Period: September 14, 2011 to August 31, 2016
Proposal Budget: $1,560,990 (25 trainees/year)
The long-term objective is to recruit, educate and motivate outstanding undergraduate and professional students to pursue further training and future careers in cancer research.
Role: Faculty Mentor

Title: Selectively inducing apoptosis in cancer cells with truncated E2F-1 lacking transcriptional activity
Principal Investigators: H. Sam Zhou and Kelly M. McMasters
Agency: Commonwealth of Kentucky Lung Cancer Research Program
Type: Research Grant
Period: 2008 to 2010
Dollars award: $50,000.
Effort: 10 %
This project is to combine effects of apoptosis and oncolysis of mutated viruses to destroy lung cancer cells.
Role: PI

Title: Destroy Lung Cancer with Combined Effects of Apoptosis and Oncolysis (G030983)
Principal Investigator: Heshan Sam Zhou
Agency: Commonwealth of Kentucky Lung Cancer Research Program
Type: Research Grant
Period: 07/1/2004 to 06/31/2008
Dollars award: $300,000
Effort: 20 %
This project is to combine effects of apoptosis and oncolysis of mutated viruses to destroy lung cancer cells.
Role: PI

R01CA90784
Title: E2F-1 cancer gene therapy
Principal Investigator: Kelly McMasters
Agency: NIH/NCI
Type: Research Grant
Period: 2002 to 2007
Effort: 5%

This project is to investigate the apoptotic mechanisms by which adenovirus-mediated E2F-1 gene transfer induces apoptosis in tumor cells and to investigate the mechanisms by which E2F-1 cooperates with specific chemotherapeutic agents.
Role: Co-Investigator

Title: Enhance Adenovirus Selective Replication in Cancer Cells
Principal Investigator: Heshan Sam Zhou
Agency: J.G. Brown Cancer Center
Type: Research Pilot Project
Period: 9/1/2003 to 8/31/2004
Dollars award: $30,000
Effort: 20 %
This project is to study whether E1A mutated virus can replicate in cancer cells and whether E1B proteins can complement the mutated E1A gene.
Role: PI

Title: Development of Adenovirus Vector Specifically Replicated in Cancer Cells for Gene Therapy
Principal Investigator: Heshan Zhou, Ph.D.
Agency: Texas Higher Education Coordinating Board
Type: Research Grant.
Period: 1/1/2000 to 8/31/2002
Dollars award: $160,000
Effort: 20 %
This project is to develop adenovirus-mediated liver cancer gene therapy using AFP promoter to control viral replication.
Role: PI

Title: Conditionally Replicative Adenoviral Vector for Selective Oncolysis of Prostate Cancer Cell
Principal Investigator: Heshan Zhou
Agency: NIH SPORE Prostate Cancer at Baylor College of Medicine.
Type: Research Pilot Project
Period: 10/1/2000 to 11/31/2001
Dollars award: $30,000
Effort: 5 %
This project is to develop adenovirus vector using PSA or other promoter to control viral gene expression and DNA replication.
Role: PI

Title: E2 Deletion Adenoviral Vectors and Complementing Cells
Principal Investigator: Heshan Zhou, Ph.D.
Agency: Cystic Fibrosis Foundation
Type: Postdoctoral Research Grant
Period: 5/1/1995 to 4/31/1998
Dollars award: $90,000
Effort: 100%
This project is to develop E2a complementing cell line and adenovirus vector with E2a deletion for cystic fibrosis gene therapy
Role: PI

Articles Published in Peer-Reviewed Journals:

Wechman, S. L., X. M. Rao, J. G. Gomez-Gutierrez, H. S. Zhou, and K. M. McMasters. The role of JNK phosphorylation as a molecular target to enhance adenovirus replication, oncolysis and cancer therapeutic efficacy. Cancer Biology & Therapy [01 Aug 2018:1-11] (PMID:30067431)

Wechman, S. L., X. M. Rao, P. H. Cheng, J. G. Gomez-Gutierrez, K. M. McMasters, and H. S. Zhou. 2016. Development of an Oncolytic Adenovirus with Enhanced Spread Ability through Repeated UV Irradiation and Cancer Selection. Viruses 2016, 8, 167; doi:10.3390/v8060167

Wechman, S. L., X. M. Rao, K. M. McMasters, and H. S. Zhou. 2016. Adenovirus with DNA Packaging Gene Mutations Increased Virus Release. Viruses 2016, 8, 333; doi:10.3390/v8120333

Wechman, S. L., X. M. Rao, K. M. McMasters, and H. S. Zhou. 2016. Improved oncolytic virotherapy by increasing adenovirus spread. Cancer Research 76, 0008-5472;doi: 10.1158/1538-7445.AM2016-3753

Cheng, P. H., X. M. Rao, S. L. Wechman, X. F. Li, K. M. McMasters, and H. S. Zhou. 2015. Oncolytic adenovirus targeting cyclin E overexpression repressed tumor growth in syngeneic immunocompetent mice. BMC Cancer **15:**716.

Cheng, P. H., S. L. Wechman, K. M. McMasters, and H. S. Zhou. 2015. Oncolytic Replication of E1b-Deleted Adenoviruses. Viruses **7:**5767-79.

Cheng PH, Rao XM, Duan X, Li XF, Egger ME, McMasters KM, Zhou HS: Virotherapy targeting cyclin E overexpression in tumors with adenovirus-enhanced cancer-selective promoter. ***J Mol Med*. 93:211-223** 2015

Chen, L., P. H. Cheng, X. M. Rao, K. M. McMasters, and **H. S. Zhou**. Indole-3-carbinol (I3C) increases apoptosis, represses growth of cancer cells, and enhances adenovirus-mediated oncolysis. Cancer Biol Ther 15:1256-67. 2014.

Cheng, P. H., S. Lian, R. Zhao, X. M. Rao, K. M. McMasters, and **H. S. Zhou**. 2013. Combination of autophagy inducer rapamycin and oncolytic adenovirus improves antitumor effect in cancer cells. Virology Journal 10:293. 2013.

Cheng, P. H., X. M. Rao, K. M. McMasters, and **H. S. Zhou**. Molecular basis for viral selective replication in cancer cells: activation of CDK2 by adenovirus-induced cyclin E. **PLoS One 8:**e57340. 2013.

Sahim, E., Egger2, M.E., McMasters, K.M., and Zhou, H.S. Development of Oncolytic Reovirus for Cancer Therapy. *Journal of Cancer Therapy*, 2013, 4, 1100-1115

Garcia-Garcia, A., H. Rodriguez-Rocha, M. T. Tseng, R. Montes de Oca-Luna, **H. S. Zhou,** K. M. McMasters, and J. G. Gomez-Gutierrez. E2F-1 lacking the transcriptional activity domain induces autophagy. Cancer Biol Ther **13:**1091-101. 2012.

Gomez-Gutierrez, J. G., M. E. Egger, H. Hao, **H. S. Zhou, and K. M. McMasters.** Adenovirus-mediated expression of mutated forkhead human transcription like-1 suppresses tumor growth in a mouse melanoma xenograft model. Cancer Biol Ther **13:**1195-204. 2012.

Gomez-Gutierrez, J. G., X. M. Rao, **H. S. Zhou, and K. M. McMasters.** Enhanced cancer cell killing by truncated E2F-1 used in combination with oncolytic adenovirus. **Virology 433:**538-47. 2012.

Hao, H., C. Chen, X. M. Rao, J. G. Gomez-Gutierrez, **H. S. Zhou,** and K. M. McMasters. E2F-1- and E2Ftr-mediated apoptosis: the role of DREAM and HRK. J Cell Mol Med **16:**605-15. 2012.

Rodriguez-Rocha, H., J. G. Gomez-Gutierrez, A. Garcia-Garcia, X. M. Rao, L. Chen, K. M. McMasters, and **H. S. Zhou.** 2011. Adenoviruses induce autophagy to promote virus replication and oncolysis. **Virology 416:**9-15. 2010.

Gomez-Gutierrez, J.G., Garcia-Garcia, A., Hao, H., Rao, X.M., Montes de Oca-Luna, R., **Zhou, H.S**., and McMasters, K.M. Adenovirus-mediated expression of truncated E2F-1 suppresses tumor growth in vitro and in vivo. **Cancer** *116*: 4420-4432. 2010.

Gomez-Gutierrez, J. G., Rao, X. M; Garcia-Garcia, A; Hao, H; McMasters, K. M. and **Zhou, H. S.** Developing adenoviral vectors encoding therapeutic genes toxic to host cells: Comparing binary and single-inducible vectors expressing truncated E2F-1. **Virology 397:**337-345. 2010

Hao H, Zhou HS, McMasters KM: Chemosensitization of tumor cells: inactivation of nuclear factor-kappa B associated with chemosensitivity in melanoma cells after combination treatment with E2F-1 and doxorubicin. *Methods Mol Biol* **542:**301-313. 2009

Zheng X, Rao X-M, Gomez-Gutierrez Jorge G. Hao HY, McMasters K. M., and **Zhou H. S.** Adenovirus E1B55K region is required for inducing cyclin E expression for efficient viral DNA replication in G0-arrested cells. **J Virol** 82: 3415-3427. 2008

Gomez-Gutierrez, J. G., K. G. Elpek, R. Montes de Oca-Luna, H. Shirwan, **H. Sam Zhou**, and K. M. McMasters. Vaccination with an adenoviral vector expressing calreticulin-human papillomavirus 16 E7 fusion protein eradicates E7 expressing established tumors in mice. Cancer Immunol Immunother, 56:997-1007. 2007

Hao, H., Y. Dong, M. T. Bowling, J. G. Gomez-Gutierrez, **H. S. Zhou,** and K. M. McMasters**.** 2007. E2F-1 induces melanoma cell apoptosis via PUMA up-regulation and Bax translocation. BMC Cancer **7:**24. 2007.

Dong, Y. B., A. M. Phelps, H. L. Yang, A. Jamshidi-Parsian, C. Chen, H. Hao, J. G. Gomez-Gutierrez, **H. S. Zhou,** and K. M. McMasters. Induction of Apoptosis Signal-Regulating Kinase 1 by E2F-1 May Not Be Essential for E2F-1-Mediated Apoptosis in Melanoma Cells. Tumour Biol **28:**111-122. 2007

Rao, XM; *Zheng, X*; Waigel, S; Zacharias, W; McMasters, K. and **Zhou HS**. Gene Expression Profiles of Normal Human Lung Cells Affected by Adenoviral E1B. ***Virology***, 2006, 350: 418-428, 2006.

Zheng, Xinyu; Rao, Xiao-Mei; Snodgrass, Christina L; McMasters, Kelly M and **Zhou, H. S**. Selective replication of E1B55K-deleted adenoviruses depends on enhanced E1A expression in cancer cells. *Cancer Gene Ther.* 13:572-83. 2006

Gomez-Gutierrez, J. G., Souza, V., Hao, H. Y., Montes de Oca-Luna, R., Dong, Y. B., **Zhou, H.** S., and McMasters, K. M. Adenovirus-Mediated Gene Transfer of FKHRL1 Triple Mutant Efficiently Induces Apoptosis in Melanoma Cells. *Cancer Biol Ther* **5**: 875-883. 2006.

Hao, H., Dong, Y. B., Bowling, M. T., **Zhou, H. S.,** and McMasters, K. M. Alteration of gene expression in melanoma cells following combined treatment with E2F-1 and doxorubicin. *Anticancer Res* **26:** 1947-56, 2006.

Zheng, X., X. M. Rao, C. Snodgrass, M. Wang, Y. Dong, K. M. McMasters, and **H. S. Zhou**. Adenoviral E1a Expression Levels Affect Virus-Selective Replication in Human Cancer Cells. Cancer Biol Ther 4 (11):1255-1262, 2005.

Wang, Min; Zheng, Xinyu; Rao, Xiao-Mei; Hao, Hongying; Dong, Yanbin; McMasters, Kelly M and **Zhou, H. Sam.** Adenoviral vector systems for gene therapy. Gene Ther Mol Biol 9: 291-300. 2005

Souza, V., Dong, Y., **Zhou, H. S**., Zacharias, W., and McMasters, K. M. SW-620 cells treated with topoisomerase I inhibitor SN-38: gene expression profiling. *J Transl Med* **3**(1)**,** 44. 2005

Wang X, Wang, JP, Rao, XM, Price, JE, **Zhou, H** and Lachman, LB. Prime–boost vaccination with plasmid and adenovirus gene vaccines control HER2/*neu*$^{+}$ metastatic breast cancer in mice**.** ***Breast Cancer Research*** 2005, 7:R580-R588. 2005

Jamshidi-Parsian, A; Dong, Y; Xinyu Zheng, **Zhou, H,** Wolfgang Zacharias, and McMasters, K. M. Gene expression profiling of E2F-1-induced apoptosis. ***Gene.*** 344: 67-77. 2005

Rao, X; Tseng, M. T; Zheng, X; Dong, Y; Jamshidi-Parsian, A; Thompson, T. C; Brenner, M. K; McMasters, K. M; and **Zhou, H.** E1A-induced Apoptosis does not Prevent Replication of Adenoviruses with Deletion of E1b in Majority of Infected Cancer Cells. ***Cancer Gene Ther****.* 11: 585-593 2004. (The featured research article in the issue)

Dong, Y. B; Duncan, B; Souza, V; **Zhou, H. S.** and McMasters, K. M. E2F-1 cancer gene therapy. Gene Ther Mol Biol. 8: 147-155, 2004

Zhao, T; Rao, X; Li, L; Thompson, T; McMasters, K and **Zhou, H**. Adenovirus with insertion-mutated E1a selectively propagates in liver cancer cells and destroys tumors *in vivo*. ***Cancer Research***, 63: 3073-3078, 2003

Zhou, H; T. Zhao, X. M. Rao and A. Beaudet. Production of helper-dependent adenovirus vector relies on helper virus structure and complementing*. J. Gene Medicine*. 4: 498-509, 2002.

Zou, L; Yotnda, P; Zhao, T; Yuan, X; Long, Y; **Zhou, H** and Yang, K. Reduced inflammatory reactions to the inoculation of helper-dependent adenoviral vectors in traumatically injured rat brain. *J Cereb Blood Flow Metab*. 20: 959-970. 2002

Zhou, H; Pastore, L. and Beaudet, A. Helper-Dependent Adenovirus Vector. *Methods in Enzymology*. 346: 177-198, 2002

Zhou, H; T. Zhao, W. Zhang, X.-M. Rao, and A. Beaudet. A Cre Expressing Cell Line and an E1/E2a Double Deleted Helper Virus for Preparation of Helper-Dependent Adenovirus Vector. ***Mol Ther***. 3:613-622, 2001.

Zou, L; Yuan, X; **Zhou, H** and Yang, K. Characterization of helper-dependent adenoviral vector-mediated gene transfer to aged rat brain. ***Human Gene Ther.*** 12:181-191, 2001

Zhou, H and Beaudet, A. A New Cell Line with Inducible E2a for Production of higher titer and safer adenovirus vectors. ***Virol.*** 275:348-357, 2000

Zhou, H*; Zou, L*; Ozol, K; Pastore, L; Shine, D and Yang, K.: Stable Transgene Expression Delivered by Helper-Dependent Adenovirus Vector in Central Nervous System. ***Mol Ther.*** 2: 105-113, 2000

O'Neal, W; **H. Zhou,** N. Morral, C. Langston, R. J. Parks, F. L. Graham, S. Kochanek, and A. L. Beaudet. Toxicity associated with repeated administration of first-generation adenovirus vectors does not occur with a helper-dependent vector. *Mol Med*. 6:179-95. 2000.

O'Neal, W; E. Rose; **H. Zhou,** C. Langston, K. Rice, D. Carey, and A. L. Beaudet. Multiple Advantages of alpha-Fetoprotein as a Marker for in Vivo Gene Transfer. ***Mol Ther***. **2:**640-648. 2000.

Pastore, L; Morral, N; **Zhou, H**; Garcia, R; Parks, R; Kochanek, S; Graham, F; Lee, B and Beaudet, A. Use of a tissue-specific promoter reduces immune response to the transgene in adenoviral vectors. ***Human Gen Ther***. 10:1773-81, 1999.

Morral, N; O'Neal, W; Rice, K; Leland M; Kaplan J; Piedra, P; **Zhou, H**; Parks, R; Schiedner, G; Velji, R; Quinones, J; Aguilar-Cordova, E; Wadsworth, S; Graham, F; Kochanek, S. Langston, C; Carey, K and Beaudet, A.: Long-term transgene expression in nonhuman primates using a gutless adenoviral vector. ***PNAS*** 96: 12816-21, 1999.

Morral, N; Parks, R; **Zhou, H**; Langston, C; Schiedner, G; Quinones, J; Graham, F; Kochanek, S. and Beaudet, A.: High doses of a helper-dependent adenoviral vector yield supraphysiological levels of α_1-antitrypsin with negligible toxicity. *Human Gene Ther*.10: 2709-2716, 1998.

O'Neal, W; **Zhou, H**; Morral, N; Aguilar-Cordova, E; Pestaner, J; Langston, C; Mull, B; wang, Y; Beaudet, A and Lee, B: Toxicological comparison of E2a-deleted and first generation adenoviral vectors expressing α1-antitrypson after systemic delivery. ***Human Gene Ther.*** 9: 1587-1598, 1998.

Wadsworth, S; **Zhou, H**; Smith, A. and Kaplan, J: Adenovirus vector-infected cells can escape adenovirus antigen-specific cytotoxic T-lymphocyte killing *in vivo*. ***J. Virol.*** 71:5189-5196, 1997.

Zhou, H and Beaudet, A: An E2a-deleted adenoviral vector with higher titer and decreased potential for replication competent virus. *Pedi Pulmonal* (S) 14:261, 1997

Morral, N; Oneal, W; **Zhou, H**; Langston, C and Beaudet, A: Immune responses to reporter proteins and high viral dose limit duration of expression with adenoviral vectors: comparison of E2a wild type and E2a deleted vectors. ***Human Gene Therapy*** 8:1275-1286, 1997.

Zhou, H; O'Neal, W; Morral, N and Beaudet, A: Development of a complementing cell line and a system for construction of adenovirus vectors with E1 and E2a deleted. ***J. Virol.*** 70: 7030-7038, 1996.

Becker, E; **Zhou, H** and Meyer, R: Replication of a plasmid lacking the normal site for initiation of one strand. ***J. Bacteriol.*** 178: 4870-4876, 1996

Zhan, X; Tu, Zuxin; **Zhou, H**; Huang, X and Zhang, D. Clone and expression of bacillus subtitles α-amylase gene. *Chinese Journal of Biotechnology,* 18: 334-338. 1992

Zhou, H; Byrd, C and Meyer, R: Probing the activation of the replicative origin of broad host-range plasmid R1162 with Tus, the *E. coli* anti-helicase protein. ***Nucl. Acids Res.*** 19: 5379-5383, 1991.

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