

## CURRICULUM VITAE

**NAME:** Bei Liu, M.D., M.S., M.P.H.

**CITIZENSHIP:** U.S.A.

### RESEARCH INTERESTS

Innate Immunity  
Mucosal Immunology  
Immunotherapy of cancer  
Stem cell and cancer vaccine

### EDUCATION

1981-1986 **M.D.** Medicine, Tianjin Medical University, Tianjin, China  
1996-1999 **M.S.** Tumor immunology, Gynecologic Oncology Center, People's Hospital, Beijing Medical University, Beijing, China  
2006-2009 **M.P.H.** Public Health, University of Connecticut School of Medicine, Farmington, CT

### PROFESSIONAL EXPERIENCES

1986-1992 Residency (Obstetrics & Gynecology), Tianjin Central Hospital of Obstetrics and Gynecology, Tianjin, China  
1992-1996 Attending Physician (Obstetrics & Gynecology), Tianjin Central Hospital of Obstetrics and Gynecology, Tianjin, China  
1999-2000 Assistant Professor, Tianjin Central Hospital of Obstetrics and Gynecology, Tianjin, China  
2000-2006 Postdoctoral Fellow, Center for Immunotherapy of Cancer and Infectious Diseases, University of Connecticut School of Medicine, Farmington, CT  
2006-2010 Research Associate, Department of Immunology, Neag Comprehensive Cancer Center, University of Connecticut School of Medicine, Farmington, CT  
2010-2011 Research Assistant Professor, Department of Microbiology & Immunology, Medical University of South Carolina, Charleston, SC  
2011-2016 Assistant Professor, Department of Microbiology & Immunology, Hollings Cancer Center, Medical University of South Carolina, Charleston, SC  
2016-present Graduate Program Director, Department of Microbiology and Immunology, Medical University of South Carolina, Charleston, SC  
2017-present Associate Professor, Department of Microbiology & Immunology, Hollings Cancer Center, Medical University of South Carolina, Charleston, SC

### PROFESSIONAL SERVICES

#### Government Services:

2014 Reviewer, NIH SBIR Immunology Study Section (ZRG1 IMM-G).  
2015 Reviewer, DoD CDMRP Breast Cancer Immunology Panel.  
2017 Reviewer, DoD CDMRP Breast Cancer Immunology Panel.

#### Other Professional Services:

#### **Editorial Board:**

2013-Present Editorial board, Science Postprint

2013-Present Editorial board, Austin Journal of Clinical Immunology

**Other grant review experience:**

2013 Grant Reviewer, Dutch Cancer Society Project Grant  
2014 Grant Reviewer, University of Virginia Cancer Center  
2015 Grant Reviewer, The Netherlands Organisation for Scientific Research (NWO/ZonMW)

**Ad hoc reviewer for the following Journals:**

Austin Journal of Pharmacology and Therapeutics  
Bone Marrow Research  
BMC Cancer  
Cancer Biomarkers  
Clinical Cancer Research  
Cancer Immunology, Immunotherapy  
Clinical & Translational Immunology.  
Experimental Hematology & Oncology  
Expert Review of Hematology  
Journal of Hematology & Oncology  
Molecular Cancer Therapeutics  
Oncotarget  
Pharmacology & Therapeutics  
PLOS ONE  
Scientific Reports

**HONORS AND AWARDS**

1996 Third Place of Science and Technology Advancement Award awarded by Tianjin Municipal People's Government.  
1997 The Third Place of Science and Technology Advancement Award awarded by Tianjin Municipal People's Government.  
1997 Science and Technology Achievement Award awarded by the Committee of Tianjin Science and Technology.  
1998 Science and Technology Achievement Award awarded by the Committee of Tianjin Science and Technology.  
1998 Honor of excellent graduate student awarded by Beijing Medical University.  
2000 Honor of excellent paper of young scientist awarded by Tianjin Public Health Bureau.  
2007/2009 AAI Junior Faculty Travel Award  
2010-2013 NIH/KL2 Scholar Award  
2011/2013 AAI Junior Faculty Travel Grant  
2013 Certificate of achievement in recognition of commitment to excellence in teaching and successful completion of requirements of "Foundations in Teaching and Learning", The Apple Tree Society, MUSC  
2015 AAI Junior Faculty Travel Grant  
2016 AAI Travel Grant for International Congress of Immunology  
2016 MUSC Developing Scholar Award  
2017 AAI Trainee Abstract Award (Mentor-Liu, PI-Iwanowycz)  
2017 AAI Laboratory Travel Grant  
2017 AAI Session Chair for Innate Immune Responses and Host Defense.

**PROFESSIONAL ORGANIZATIONS**

1986-2000 Member, Chinese Medical Society  
1990-2000 Member, Chinese Biochemical and Molecular Biological Society  
2007-2010 Member, University of Connecticut Stem Cell Institute

2004-present Member, American Association of Immunologists (AAI)  
 2010-present Member, Cancer Immunology Program, Hollings Cancer Center, MUSC  
 2011-present Member, International Society for Stem Cell Research (ISSCR)  
 2012-2016 Associate Member of the Graduate Faculty, MUSC  
 2012-present Member, Center for Oral Health Research, MUSC  
 2013-present Member, American Association for Cancer Research (AACR)  
 2016-present Member, College of Medicine Infrastructure Committee, MUSC  
 2016-present Full Member of the Graduate Faculty, MUSC  
 2017-present Member, Society for Mucosal Immunology (SMI)

## **PATENT AND INVENTION**

1. US provisional patent: 61/281,889  
 Title: Pluripotent stem cells as cancer vaccines
  
2. PCT/US2013/028852  
 Title: Hsp90 Inhibitors for the Treatment of Cancer and Inflammatory Diseases

## **TEACHING/MENTORING EXPERIENCES**

### **Students and postdoctoral fellows supervised:**

04/2008-07/2009	Yi Li, M.D., Ph.D. Postdoctoral fellow Current position: Associate Professor, Peking University People's Hospital, China
07/2010-11/2011	Jianping Chen, Ph.D. Postdoctoral fellow Current position: Vice general manager, Beijing Health Guard Biotechnology Inc.
04/2012-01/2014	Yunpeng Hua, M.D., Ph.D., Postdoctoral fellow Current position: Associate Professor, Department of Hepatobiliary Surgery, Sun Yat-sen University, China
2012 (one semester)	Aissatou Ba, undergraduate student Current position: Volunteer, Medical University of South Carolina
12/2012-03/2013	Xiaohong Chang, M.D., Ph.D. Visiting Scholar Current position: Associate Professor, Peking University People's Hospital, China
01/2013-06/2013	Shai White-Gilbertson, Ph.D., Postdoctoral fellow Current position: Cancer registrar, Medical University of South Carolina
10/2013-04/2014	Yuan Yan, M.D., Ph.D., Postdoctoral fellow Current position: Unknown.
06/2014-08/2014	Shikha Patel, rotation student, M.D., Ph.D. candidate Current position: MSTP student, Medical University of South Carolina
06/2014-08/2014	Andraia Ruoxun Li, undergraduate student Current position: undergraduate student, Clemson University
05/2015-07/2015	Xingtong Liu, undergraduate student Current position: undergraduate student, New York University
06/2016-08/2016	Alice Kim, rotation student, M.D., Ph.D. candidate Current position: MSTP student, Medical University of South Carolina
05/2016-present	Stephen Iwanowycz, Ph.D. Postdoctoral fellow
08/2016-present	Yingqi Li, B.S. Research Specialist
10/2016-present	Jennifer Gutierrez, B.S. Research Specialist
02/2017-present	Xiaofeng Duan, visiting student, Ph.D. candidate
02/2017-04/2017	Alexander McQuiston, rotation student, Ph.D. candidate
05/2017-07/2017	Victoria Wilson, high school student
06/2017-08/2017	Blake Torrance, undergraduate student
09/2017-11/2017	Julia Lefler, rotation student, Ph.D. candidate

### **Theses committee:**

Crystal Morales,	Ph.D. (graduated in 2012)
Eva Karam,	M.S. (graduated in 2013)
Danielle Brandon,	M.S. (graduated in 2013)
Bethany Herbert,	D.M.D., Ph.D. (graduate in 2016)
Tomika Caldwell,	M.S. (graduate in 2016)
Lillian Neal,	M.S. (graduate in 2017)
Fahmin Basher,	M.D., Ph.D. candidate
Caroline Wallace,	Ph.D. candidate ( <b>Co-mentor</b> )
Steven Schutt,	Ph.D. candidate
Nicole Wastlick	M.S. candidate
Brian Riesenber	Ph.D. candidate
Kunal Patel	Ph.D. candidate

### **Courses:**

2013-2016	Co-director and lecturer, Intro Micro Immuno Methods (MBIM 738)
2015-present	Lecturer, Cancer Immunotherapy Lessons (MBIM 786)
2016-present	Lecturer, Advanced Immunology (MBIM 735)
2017-present	Lecturer, Immunobiology (CGS 784)

### **INVITED PRESENTATIONS**

- 1999 “Construction, expression and characterization of a fusion protein of ovarian carcinoma anti-idiotypic antibody 6B11ScFv and murine GM-CSF” The 6<sup>TH</sup> Conference on Cancer Biotherapy, Guilin, China
- 2007 “Heat shock protein gp96 is a critical chaperone for Toll-like receptor 9” The American Association of Immunologists 94<sup>th</sup> Annual Meeting, Miami Beach, Florida
- 2009 “Basophil-specific and post-translational silencing of a major endoplasmic reticulum heat shock protein gp96 (grp94, HSP90b1) for TLR and integrin” The American Association of Immunologists 96<sup>th</sup> Annual Meeting, Seattle, Washington
- 2009 “Vaccination with Human Pluripotent Stem Cells Generates a Broad Spectrum of Immunological and Clinical Response against Colon Cancer” New England Stem Cell Consortium, 1<sup>st</sup> Annual Junior Investigator Symposium, University of Massachusetts, Massachusetts
- 2011 “Novel roles of gp96 and CNPY3 complexes in the biogenesis of Toll-like receptor 9” The American Association of Immunologists 98<sup>th</sup> Annual Meeting, San Francisco, California
- 2011 “It Takes Two to Dance: The Study of Stem Cells and Dendritic Cells for Immunotherapy” Department of Microbiology & Immunology Seminar, Medical University of South Carolina
- 2012 “Ovarian Cancer Immunotherapy” Fifth Ovarian Cancer and Endometriosis Treatment Progress Symposium, People’s Hospital, Peking University, Beijing, China
- 2012 “Roles and Regulation of Dendritic Cells by gp96 in Mucosal Immunity” Department of Microbiology & Immunology Seminar, Medical University of South Carolina
- 2014 “gp96-Wnt Pathway: a Novel Therapeutic Target for Multiple Myeloma” Department of Microbiology & Immunology Seminar, Medical University of South Carolina



Extrinsic and intrinsic factors regulating commensal-specific T helper-17 cells  
The goal of this proposal is to elucidate the mechanisms of SFB-specific Th17 cell induction.  
Role: PI

1P01CA177575 Li (PI) 09/01/2015-08/31/2020  
NIH/NCI  
"Endoplasmic Reticulum Chaperones in Cancer Biology and Therapy"  
The goals of this program are to improve the structural knowledge of grp94 (gp96), to understand its role in cancer and immunity, and to develop grp94-targeted cancer therapeutics.  
Role: Co-leader (Project 1)

R01 CA188419 Li (PI) 04/01/2015-03/31/2020  
NIH/NCI  
"Thrombocytes in Cancer Immunity"  
This proposal will test the hypothesis that platelets (thrombocytes) play a role in the immune suppression of cancer by suppressing T cell anti-tumor functions and promoting myeloid-derived suppressor cells (MDSC), towards developing anti-platelet agents as adjuncts for cancer immunotherapy.  
Role: Co-investigator

1R01DK105033 Li (PI) 12/10/2015-11/30/2020  
NIH/NIDDK  
"Novel Mechanisms of UPR Sensing and Nonalcoholic Fatty Liver Disease"  
The goal of this proposal is to uncover the molecular mechanism of UPR sensing by genetic screening for novel players in the ER and to understand critically the roles of UPR in NAFLD.  
Role: Co-investigator

K08 DE025337 Novince (PI) 04/01/2016-03/31/2021  
NIH/NIDCR  
"Impact of the Microbiome on Osteoimmunology and Skeletal Development"  
The goal of this project is to determine how specific commensal bacteria, prominent in the gut during post-natal development, impact bone formation in the growing skeleton.  
Role: Co-mentor

**Pending Research Support:**

3R01CA193939-03S1 Liu (PI) 07/01/2018-03/31/2021  
NIH/NCI  
"Evaluation of molecular chaperone as a novel biomarker for disease outcome in multiple myeloma"  
The goal of this proposal is to evaluate molecular chaperone grp94 as a diagnostic and prognostic biomarker for multiple myeloma.  
Role: PI

**Completed Research Support:**

06SCA03 Liu (PI) 05/01/2007-07/31/2009  
DPH, State of Connecticut  
*Outcome:* A paper has been published in Stem Cells demonstrating the utility of hES cells to stimulate anti-tumor immunity. This study has received world-wide press coverage.

KL2 RR029880 Liu (PI) 10/15/2010-03/15/2013  
NIH/NCRR, South Carolina Clinical & Translational Research Institute, Medical University of South Carolina's CTSA  
The goal of this study is to develop a stem cell based cancer vaccine.

5P20 RR017696 Kirkwood (PI) 07/01/2011-05/31/2013  
MUSC Center for Oral Health Research  
Sub-award "Role of CD24-Siglec Signaling in the Initiation and Progression of Oral Cancer"

IRG-97-219-14 Liu (PI) 05/01/2013-12/31/2013  
ACS IRG  
The goal of this study is to investigate the role of gp96 in regulating multiple myeloma and develop new gp96 target therapeutics for treatment of myeloma.

MUSC Bridge Funding Liu (PI) 10/01/2013-09/30/2014  
The goal of this study is to investigate the role of gp96 in regulating plasma cells and multiple myeloma.

## PUBLICATIONS

### Articles: (\*Corresponding author)

1. Liu B and Wang Y The atrial natriuretic factor level of the pregnancy observed by RIA. *Journal of Radioimmunology*, 1991; 3(6): 538-539
2. Liu B, Wang Y, Sun Z, and Yue L (1991) The influence of Dannazol on hormone in blood observed by RIA. *Journal of Radioimmunology*, 4(5): 312-314.
3. Liu B and Zhu M Advance study of gestagenic contraceptive agent "Gestodene". *Foreign Medical Sciences, Family Planing Fascicle*, 1992; 11(1): 10-13.
4. Liu B, Wang Y, and Yuan X The clinical significance of serum SOD of the patient with endometriosis determined by RIA. *Journal of Radioimmunology*, 1995; 8(3): 142-143.
5. Liu B and Zhu M Advance study of postcoital contraception. *Foreign Medical Sciences, Family Planing Fascicle*, 1996; 15(4): 202-204.
6. Wang Y, Liu B, Guo H, Yuan X, Yu X, and Shi J The relationship of trace element selenium with embryo growth and intrauterine fetal growth. *Guangdong Trace Elements Science*, 1996; 3(1): 27-29.
7. Liu B, Wang Y, Li S, Cheng Z, and Zhang Y The value of chemiluminescence measurement of lymphocytes from patients with gynecologic tumor. *Chin J Obstet Gynecol*, 1997; 32(7): 446-447.
8. Yang F, Qian H, Feng J, Cui H, Liu B, Cao S, Fu T, and Ye X In vitro study of 6B11GM to induce cellular immunity in patients with ovarian carcinoma. *Chin J Obstet Gynecol*, 1999; 34(11): 1-4.
9. Yang F, Qian H and Liu B In vitro study of the stimulative effect of ovarian cancer anti-idiotypic antibody 6B11scFv/hGM-CSF fusion protein on immunocytes. *J Beijing Med Univ*, 1999; 31:9-12
10. Liu B, Cui H, and Feng J Recombinant cytokine fusion protein and tumor therapy. *Foreign Medical Sciences, Oncology Fascicle*, 2000; 27:58-60
11. Liu B, Cui H, Feng J, Ye X, Li Y, Cao S, Ge H, Fu T, Yao Y, and Qian H The expression and activity examinations of fusion protein of 6B11scFv with murine GM-CSF. *Acta of Anatomy*, 2000; 31(3); 226-230

12. Cui H, Li Y, Tong C, Cheng Y, **Liu B**, Ge H, and Qian H The study of reconstitution of human ovarian carcinoma-severe combined immunodeficiency mice model. *J Beijin Med Univ*, 2000; 32(6); 488-491
13. Cao S, Qian H, Feng J, Fu T, Ye X, and **Liu B** Cisplatin-resistant changes of HPV16E6E7 transformed ovarian carcinoma cell lines. *Acta of Anatomy*, 2000; 31(2): 148-151
14. Li Z, Dai J, Zheng H, **Liu B** and Caudill M An integrated view of the roles and mechanisms of heat shock protein gp96-Peptide complex in eliciting immune response. *Frontiers in Bioscience*, 2002; 7:731-751
15. **Liu B**, DeFilippo AM, and Li Z Overcoming immune tolerance to cancer by heat shock protein vaccines. *Molecular Cancer Therapeutics*, 2002; 1:1147-1151
16. Cui H, Chang X, Feng J, **Liu B**, Cao S, Li X, and Qian H The Construction and Expression of Humanized Ovarian Carcinoma anti-idiotypic Antibody. *Chinese Journal of Clinical Obstetrics and Gynecology*, 2002; 3(1):44-47
17. Cui H, Chang X, Feng J, **Liu B**, Cao S, and Qian H Humanization of Ovarian Carcinoma Anti-idiotypic Single-chain (VL-VH-CH3) Antibody. *Chinese Journal of Biochemistry and Molecular Biology*, 2002; 18(4):490-494
18. Dai J, **Liu B**, Caudill MM, Zheng H, Qiao Y, Podack E and Li Z Cell surface expression of heat shock protein gp96 enhances cross-presentation of cellular antigens and the generation of tumor-specific T cell memory. *Cancer Immunity* 2003; 3:1-11
19. Chang X, Cui H, Feng J, Li Y, **Liu B**, Cao S, Cheng Y, and Qian H Preparation of Humanized Ovarian Carcinoma Anti-Idiotypic Minibody. *Hybridoma and Hybridomics* 2003; 22(2):109-115
20. **Liu B**, Dai J, Zheng H, Stoilova D, Sun S and Li Z Cell surface expression of an endoplasmic reticulum residential heat shock protein gp96 triggers MyD88-dependent systemic autoimmune diseases. *Proc Natl Acad Sci USA* 2003; 100:15824-9
21. Cui H, Chang X, **Liu B**, Feng J, Li Y, Ye X, Cao S, Fu T, Yao Y, and Qian H The anti-tumor immune responses induced by a fusion protein of ovarian carcinoma anti-idiotypic antibody 6B11ScFv and murine GM-CSF in BALB/c mice. *Int J Gynecol Cancer* 2004; 14(2): 234-241
22. Li Z, Qiao Y, **Liu B**, Laska EJ, Chakravarthi P, Kulko JM, Bona RD, Fang M, Hegde U, Moyo V, Tannenbaum SH, Menoret A, Gaffney J, Glynn L, Runowicz CD, Srivastava PK Combination of imatinib mesylate with autologous leukocyte-derived heat shock protein and chronic myelogenous leukemia. *Clin Cancer Res.* 2005; 11(12):4460-8
23. **Liu B**, Yang Y, Dai J, Medzhitov R, Freudenberg MA, Zhang PL and Li Z TLR4 Up-Regulation at Protein or Gene Level Is Pathogenic for Lupus-Like Autoimmune Disease. *J Immunol* 2006; 6880-6888
24. Yang Y, **Liu B**, Dai J, Srivastava PK, Zammit DJ, Lefrançois L and Li Z Heat shock protein gp96/grp94 is a master chaperone for Toll-like receptors and plays critical roles in the innate function of macrophages. *Immunity* 2007; 26:215-226
25. Dai J, **Liu B**, Cua D and Li Z Essential roles of IL-12 and DC but not IL-23 and macrophages in lupus-like diseases initiated by cell surface heat shock protein gp96. *Eur J Immunol* 2007; 37(3): 706-715



26. Dai J, **Liu B**, Ngoi SM, Sun S, Vella AT and Li Z Toll-like receptor 4 hyperresponsiveness via cell surface expression of heat shock protein gp96 potentiates suppressive function of regulatory T cells. *J Immunol* 2007; 178(5): 3219-3225
27. Han JM, Park SG, **Liu B**, Park B-J, Kim JY, Jin CH, Song YW, Li Z and Kim K AIMP1/p43 controls endoplasmic reticulum retention of heat shock protein gp96: its pathological implications in lupus-like autoimmune diseases. *Am J Pathol* 2007; 170(6):2042-2054
28. Wang Z, **Liu B**, Wang P, Dong X, Fernandez-Hernando C, Li Z, Hla T, Li Z, Claffey K, Smith JD, Wu D Phospholipase C beta3 deficiency leads to macrophage hypersensitivity to apoptotic induction and reduction of atherosclerosis in mice. *J Clin Invest* 2008; 118(1):195-204
29. Li W, Cui H, Meng FQ, Chang XH, Zhang G, **Liu B**, Li Z New T cell epitopes identified from an antiidiotypic antibody mimicking ovarian cancer associated antigen. *Cancer Immunol Immunother* 2008; 57(2):143-154
30. Qiao Y, **Liu B** and Li Z Activation of human NK cells by HSP70 by the induction of NKG2D ligand on dendritic cells. *Cancer Immunity* 2008; 8:12
31. **Liu B** and Li Z Heat shock protein HSP90b1 (grp94, gp96) optimizes B cell function via chaperoning integrins and Toll-like receptors but not immunoglobulins. *Blood* 2008; 112(4): 1223-1230
32. Dai J, **Liu B\***, Li Z Regulatory T cells and Toll-like receptors: what is the missing link? *Int Immunopharmacol.* 2009; 9(5):528-533
33. Li Y, Zeng H, Xu RH, **Liu B\***, Li Z Vaccination with Human Pluripotent Stem Cells Generates A Broad Spectrum of Immunological And Clinical Response Against Colon Cancer. *Stem Cells* 2009; 27:3103-3111
34. Staron M, Yang Y, **Liu B**, Li J, Shen Y, Zuniga-Pflucker JC, Aguila HL, Goldschneider I, and Li Z gp96, an endoplasmic reticulum master chaperone for integrins and Toll-like receptors, selectively regulates early T and B lymphopoiesis. *Blood*, 2010; 115 (12):2380-2390.
35. McAleer JP, **Liu B**, Li Z, Ngoi S, Dai J, Oft M, and Vella AT Potent intestinal Th17 priming through peripheral lipopolysaccharide-based immunization. *J Leukoc Biol*, 2010; 88:21-31
36. **Liu B\***, Nash J, Runowicz C, Swede H, Stevens R and Li Z Ovarian Cancer Immunotherapy: Opportunities, Progresses and Challenges. *J. Hemato Oncol.* 2010; 3:7
37. **Liu B**, Yang Y, Qiu Z, Staron M, Hong F, Li Y, Wu S, Li Y, Hao B, Bona R, Han D, Li Z Folding of Toll-Like receptors by the HSP90 paralogue gp96 requires a substrate-specific cochaperone. *Nat Commun.* 2010; 1:79
38. Staron M, Wu S, Hong F, Stojanovic A, Du X, Bona R, **Liu B**, and Li Z Heat shock protein gp96/grp94 is an essential chaperone for platelet glycoprotein Ib-IX-V complex. *Blood.* 2011; 117 (26):7136-44
39. Wu S, Hong F, Gewirth D, Guo B, **Liu B** and Li Z The molecular chaperone gp96/GRP94 interacts with Toll-like receptors and integrins via its C-terminal hydrophobic domain. *J Biol Chem.* 2012; 287 (9): 6735-42

40. Wu S, Dole K, Hong F, Noman AS, Isaacs J, **Liu B** and Li Z Chaperone gp96-independent inhibition of endotoxin response by chaperone-based peptide inhibitors. *J Biol Chem.* 2012; 287(24):19896-903
41. **Liu B\***, Staron M, and Li Z Murine but Not Human Basophil Undergoes Cell-Specific Proteolysis of a Major Endoplasmic Reticulum Chaperone. *PLoS ONE* 2012; 7(6): e39442. doi:10.1371/journal.pone.0039442
42. **Liu B**, Staron M, Hong F, Wu BX, Sun S, Morales C, Crosson CE, Tomlinson S, Kim I, Wu D, and Li Z Essential Roles of grp94 in Gut Homeostasis Via Chaperoning Canonical Wnt Pathway. *Proc Natl Acad Sci USA* 2013; 110(17):6877-82
43. Hong F, **Liu B**, Chiosis G, Gewirth DT, Li Z Alpha 7 helix region of alpha I domain is crucial for integrin binding to ER chaperone gp96: a potential therapeutic target for cancer metastasis. *J Biol Chem.* 2013; 288:18243-48
44. Zhang Y, Helke KL, Coelho SG, Valencia JC, Hearing VJ, Sun S, **Liu B**, Li Z Essential role of the molecular chaperone gp96 in regulating melanogenesis. *Pigment Cell Melanoma Res.* 2013; Sep 12. doi: 10.1111/pcmr.12165. [Epub ahead of print] PMID: 24024552
45. White-Gilbertson S, Hua Y, **Liu B\*** The role of endoplasmic reticulum stress in maintaining and targeting multiple myeloma: a double-edged sword of adaptation and apoptosis. *Front Genet.* 2013; 4: 109. PMCID: PMC3678081
46. Hua Y, White-Gilbertson S, Kellner J, Rachidi S, Usmani SZ, Chiosis G, DePinho R, Li Z, **Liu B\*** Molecular chaperone gp96 is a novel therapeutic target of multiple myeloma. *Clin Cancer Res.*, 2013; Nov 15; 19(22):6242-51
47. Kellner J, **Liu B**, Kang Y, Li Z Fact or fiction--identifying the elusive multiple myeloma stem cell. *J Hematol Oncol.*, 2013; Dec 7;6:91
48. Morales C, Rachidi S, Hong F, Sun S, Ouyang X, Wallace C, Zhang Y, Garret-Mayer E, Wu J, **Liu B**, Li Z Immune Chaperone gp96 Drives the Contributions of Macrophages to Inflammatory Colon Tumorigenesis. *Cancer Res.*, 2014; Jan 15; 74(2):446-59.
49. **Liu B\*** Editorial: Heat Shock Protein gp96 as an Immune Chaperone of Inflammation and Cancer. *Austin J Clin Immunol.* 2014; 1(3): 2.
50. Thaxton JE, **Liu B**, Zheng P, Liu Y, Li Z Deletion of CD24 Impairs Development of Heat Shock Protein gp96-Driven Autoimmune Disease through Expansion of Myeloid-Derived Suppressor Cells. *J Immunol.* 2014; 192(12):5679-5686.
51. Rachidi S, Sun S, Wu BX, Jones E, Drake RR, Ogretmen B, Cowart LA, Clarke CJ, Hannun YA, Chiosos G, **Liu B**, Li Z Endoplasmic Reticulum Heat Shock Protein gp96 Maintains Liver Homeostasis and Promotes Hepatocellular Carcinogenesis . *J Hepatol.* 2015; Apr 62 (4):879-88.
52. Zhang Y, Wu BX, Metelli A, Thaxton JE, Hong F, Rachidi S, Ansa-Addo E, Sun S, Vasu C, Yang Y, **Liu B**, Li Z GP96 is a GARP Chaperone and Controls Regulatory T Cell Functions. *J Clin Invest.* 2015; Feb 2;125 (2):859-69.
53. Chhabra S, Jain S, Wallace C, Hong F, **Liu B\*** High expression of endoplasmic reticulum chaperone grp94 is a novel molecular hallmark of malignant plasma cells in multiple myeloma. *J Hematol Oncol.*, 2015 Jun 25; 8(1):77. [Epub ahead of print] PubMed PMID: 26108343.

54. Nelson MH, Bowers JS, Bailey SR, Diven MA, Fugle CW, Kaiser AD, Wrzesinski C, **Liu B**, Restifo NP, Paulos CM. Toll-like receptor agonist therapy can profoundly augment the antitumor activity of adoptively transferred CD8(+) T cells without host preconditioning. *J Immunother Cancer.*, 2016; Feb 16;4:6. doi: 10.1186/s40425-016-0110-8.
55. Ansa-Addo EA, Thaxton J, Hong F, Wu BX, Zhang Y, Fugle CW, Metelli A, Riesenber B, Williams K, Gewirth DT, Chiosis G, **Liu B**, Li Z. Clients and Oncogenic Roles of Molecular Chaperone gp96/grp94. *Curr Top Med Chem.* 2016; 16(25):2765-78.
56. Fugle CW, Zhang Y, Hong F, Sun S, Westwater C, Rachidi S, Yu H, Garret-Mayer E, Kirkwood K, **Liu B\***, Li Z. CD24 blunts oral squamous cancer development and dampens the functional expansion of myeloid-derived suppressor cells. *Oncoimmunology.* 2016; 5(10): e1226719. PubMed [journal]PMID: 27853649 PMCID: PMC5087297
57. Guo B, Fu S, Zhang J, **Liu B**, Li Z. Targeting inflammasome/IL-1 pathways for cancer immunotherapy. *Scientific reports.* 2016; 6:36107. PubMed [journal]PMID: 27786298 PMCID: PMC5082376
58. Metelli A, Wu BX, Fugle CW, Rachidi S, Sun S, Zhang Y, Wu J, Tomlinson S, Howe PH, Yang Y, Garrett-Mayer E, **Liu B**, Li Z. Surface Expression of TGF $\beta$  Docking Receptor GARP Promotes Oncogenesis and Immune Tolerance in Breast Cancer. *Cancer research.* 2016; 76(24):7106-7117. PubMed [journal]PMID: 27913437
59. Hong F, Mohammad Rachidi S, Lundgren D, Han D, Huang X, Zhao H, Kimura Y, Hirano H, Ohara O, Uono H, Meng S, **Liu B\***, Li Z. Mapping the Interactome of a Major Mammalian Endoplasmic Reticulum Heat Shock Protein 90. *PloS one.* 2017; 12(1): e0169260. PubMed [journal]PMID: 28056051 PMCID: PMC5215799
60. Ansa-Addo EA, Zhang Y, Yang Y, Hussey GS, Howley BV, Salem M, Riesenber B, Sun S, Rockey DC, Karvar S, Howe PH, **Liu B**, Li Z. Membrane-organizing protein moesin controls Treg differentiation and antitumor immunity via TGF- $\beta$  signaling. *J Clin Invest.* 2017 Mar 13. doi: 10.1172/JCI89281. [Epub ahead of print]
61. Hua Y, Yang Y, Sun S, Iwanowycz S, Westwater C, Reizis B, Li Z, **Liu B\***. Gut homeostasis and regulatory T cell induction depend on molecular chaperone gp96 in CD11c<sup>+</sup> cells. *Sci Rep.* 2017 May 19;7(1):2171. doi: 10.1038/s41598-017-02415-7. PMID:28526855
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