

Yuwen Zhu
CURRICULUM VITAE

1. Personal history

Current Position Assistant Professor
 Division of GI, Tumor and Endocrine
 Department of Surgery
 University of Colorado Anschutz Medical Campus

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2. Education

1994-1998 BA, Microbiology, Nankai University
 1998-2001 MS, Molecular Biology, Institute of Microbiology, CAS
 Advisor: Jianguo Liu
 2001-2006 PhD, Immunology, Mayo Clinic Collage of Medicine
 Advisor: Dr. Lieping Chen
 2006-2010 Postdoctoral Fellowship, Cancer Immunology, Johns Hopkins University
 Advisor: Dr. Lieping Chen

3. Academic appointments

2013- pres. Assistant Professor, Department of Surgery, University of Colorado
 Anschutz Medical Campus
 2011-2013 Associate Research Scientist, Department of Immunobiology,
 Yale University

4. Hospital, government or other professional positions

N/A

5. Honors, special recognitions and awards

- 2016 AAI Early Career Faculty Travel Grant, Seattle, WA.
- Travel Grant and Finalist for 2nd Annual Immuno-Oncology Young Investigators' Forum, Houston, TX (2016).

6. Membership in professional organizations

2010- pres. American Association for Cancer Research (member 285644)
 2014- pres. American Association for Immunology (member)

7. Major Committee and Service Responsibilities

AEF Seed Grant committee, Department of Surgery University of Colorado (chaired by Dr. Richard Schulick)

8. Licensure and board certification

N/A

9. Inventions, intellectual property and patents held or pending

U.S. Provisional Application No.: 62/213,305

Filed: September 2, 2015

Title: COMPOSITIONS AND METHODS FOR MODULATING T-CELL MEDIATED IMMUNE RESPONSE

Inventors: Yuwen Zhu, Barish H. Edil, Richard D. Schulick, Alessandro Paniccia, Michelle Koenig, and Alexander C. Schulick

Your File: CU3851H-PPA

10. Review and referee work

2010- present	Ad hoc reviewer for Cellular Immunology.
2012- present	Reviewer for Annals of Surgical Oncology
2015- present	Reviewer for Oncotarget
2015- present	Reviewer for PloS ONE
2015- present	Reviewer for American Journal of Pathology
2015- present	Reviewer for the Therapeutic Advances in Gastroenterology
2015- present	Reviewer for Cancer Letters
2015- present	External Reviewer for Cancer Research UK

11. Invited extramural lectures, presentations and visiting professorships

- November 17, 2005: Co-signal alone is sufficient for the growth and innate immune functions of memory T cell, Institute of Biophysics, CAS, Beijing, P.R.China.
- September 10, 2012: New ligand-receptor interactions in T cell costimulation, Department of Surgery seminar, University of Colorado Anschutz Medical Campus, Aurora, CO.
- November 28, 2012: Characterizing New Ligand-receptor Interactions in T cell Costimulation, Department of Immunology seminar, National Jewish Health, Denver CO.
- November 1, 2013: Characterizing new T cell cosignaling pathways for cancer immunotherapy, Zhengjiang People's Hospital, Hangzhou, P.R.China.
- May 9th, 2015: Block Symposium: PD-1+CD28H+ selectively identifies for superior tumor-reactive T lymphocytes in pancreatic cancer, 2015 AAI Annual Meeting, New Orleans, LA.

- September 3rd, 2015: Exploring new T cell checkpoints for cancer therapy, 16th Annual Colorado Immunology Conference, Vail, CO.
- March 12st, 2016: Identifying CD112R as a New Immune Checkpoint in Cancer Immunity, Second Annual Immuno-Oncology Young Investigators' Forum, Houston, TX.

12. Teaching record

A. Research Fellowship mentor

- 2013- 2014 Joshua T Byers, Medical student/Trainee: The role of B7-H5/CD28H axis in human pancreatic cancer.
- 2013- 2015 Alessandro Paniccia MD, Surgery resident: Characterization of a new cosignaling pathway and its role in cancer immunity.
- 2014-2015 Justin Scott Merkow MD, Surgery resident: Characterizing a novel target for the treatment of human T-ALLs.

B. Trainees

- Alex Schulick, Undergraduate, The Johns Hopkins University (Summer 2013).
- Tao Ma MD, Visiting Resident, The Secondary affiliated Hospital Zhejiang University, P.R. China (02-05/2014)
- Wei Chen MD, Visiting Resident, The Secondary affiliated Hospital Zhejiang University, P.R. China (04-07/2014)
- Qi Zhang MD, Visiting Resident, The Secondary affiliated Hospital Zhejiang University, P.R. China (08-11/2014)
- Junichi Suzuki, Visiting Medical Student, Yamaguchi University, Japan (08-11/2014)
- Alex Schulick, Undergraduate, The Johns Hopkins University (Summer 2015).
- Xiazhen Yu MD, Visiting Resident, The Secondary affiliated Hospital Zhejiang University, P.R. China (08-10/2015)

C. Course Director

2013- present Weekly Surgical Oncology Journal Club (attendees include faculties, residents and medical students)

D. Graduate and Medical School Lectures

Spring 2015, 2016: Lecture "Immunoregulation of T lymphocytes" for Special Topics in Tumor Immunology, IMMU 7602 (Course coordinator, Jing, H. Wang).

13. Grant support

07/01/2013- 06/30/2015 AEF Seed Grant, Surgery Department, University of Colorado, "the role of the B7-H5/CD28H pathway in the microenvironment of human pancreatic cancer", PI, TDC: \$50,000.00.

07/01/2014- 06/30/2016 AEF Seed Grant, Surgery Department, University of Colorado, "A new T-Cell Co-Receptor: the CD112/CD112R pair", Co-I, TDC: \$40,000.00.

12/01/2014-11/31/2015 Sponsored Research Grant by Amplimmune, Inc, "The B7-H5/CD28H pathway and cancer immunotherapy", PI, TDC: \$100,000.00.
01/01/15-06/30/2016 ACS IRG/UCCC Seed Grant, "Targeting the B7-H5/CD28H pathway for immunotherapy of human pancreatic cancer", PI, TDC: \$30,000.00.
07/01/2015- 06/30/2017 AEF Seed Grant, Surgery Department, University of Colorado, "Blocking the PD-1/B7-H1 pathway to unleash anti-tumor immunity during chemotherapy", PI, TDC: \$40,000.00.

14. Bibliography

Papers published in peer-reviewed journals

1. **Zhu YW**, Li GX, and Liu JG (2001). Cloning and expression of MGMT cDNA and analysis of the DNA repair activity of the recombinant protein. *Sheng Wu Gong Cheng Xue Bao*. 17:396-9.
2. Choi IH, Zhu G, Sica GL, Strome SE, Cheville JC, Lau JS, **Zhu Y**, Flies DB, Tamada K, Chen L (2003). Genomic organization and expression analysis of B7-H4, an immune inhibitory molecule of the B7 family. *J. Immunol.* 171, 4650-4. PMID: 14568939
3. **Zhu Y**, Zhu G, Luo L, Flies A, Chen L (2007). CD137 Stimulation Delivers an Antigen-Independent Growth Signal for T Lymphocytes with Memory Phenotype. *Blood*. 109, 4882-9. PMID: 17244673
4. Huang GN, Huso DL, Bouyain S, Tu J, McCorkell KA, May MJ, **Zhu Y**, Lutz M, Collins S, Dehoff M, Kang S, Whartenby K, Powell J, Leahy D, Worley PF (2008). NFAT binding and regulation of T cell activation by the cytoplasmic scaffolding Homer proteins. *Science*. 319, 476-81. PMID: 18218901
5. Yao S, Wang S, **Zhu Y**, Luo L, Zhu G, Flies S, Xu H, Ruff W, Broadwater M, Choi IH, Tamada K, Chen L (2009). PD-1 on dendritic cells impedes innate immunity against bacterial infection. *Blood*. 113, 5811-8. PMID: 19339692
6. Narazaki H, **Zhu Y**, Luo L, Zhu G, Chen L (2010). CD137 agonist antibody prevents cancer recurrence through antigen-specific memory T cells: contribution of CD137 on both hematopoietic and non-hematopoietic cells. *Blood*. 115, 1941-8. PMID: 20068221
7. Yao S, **Zhu Y**, Zhu G, Augustine M, Zheng L, Goode D, Broadwater M, Ruff W, Flies S, Xu H, Flies D, Lou L, Wang S, Chen L (2011). B7-H2 is a costimulatory ligand for CD28 in human. *Immunity*. 34(5):729-40. PMID: 21530327
8. **Zhu Y**, Yao S, Iliopoulou B, Han X, Augustine M, Xu H, Phennicie R, Flies S, Broadwater M, Ruff W, Taube J, Zheng L, Lou L, Zhu G, Chen J, Chen L (2013). B7-H5 costimulates human T cells via CD28H. *Nat. Commun.* 4:2043. PMID: 23784006
9. Byers JT, Paniccia A, Kaplan J, Koenig M, Kahn N, Wilson L, Chen L, Schulick RD, Edil BH, **Zhu Y** (2015). Expression of the Novel Costimulatory Molecule B7-H5 in Pancreatic Cancer. *Ann Surg Oncol*. 22:S1574-S1579. PMID: 25519928
10. Luo L, Zhu G, Xu H, Yao S, Zhou G, **Zhu Y**, Tamada K, Huang L, Flies AD, Broadwater M, Ruff W, van Deursen JM, Melero I, Zhu Z, Chen L (2015). B7-H3 Promotes Pathogenesis of Autoimmune Disease and Inflammation by Regulating the Activity of Different T Cell Subsets. *PLoS One*. 10(6):e0130126. PMID: 26065426
11. **Zhu Y***, Paniccia A, Schulick AC, Chen W, Koenig MR, Byers JT, Sheng Yao, Bevers S, Edil BH*. Identification of CD112R as a novel checkpoint for human T cells. *J. Exp. Med.* 213(2):167-176. (*co-corresponding authors).
12. Bastman JJ, Serracino HS, **Zhu Y**, Koenig MR, Mateescu V, Sams SB, Davies KD, Raeburn CD, McIntyre RC, Haugen BR Jr, French JD. Tumor-infiltrating T Cells and the PD-1 Checkpoint Pathway in Advanced Differentiated and Anaplastic Thyroid Cancer. *J*

Clin Endocrinol Metab. 2016 Apr 5;jc20154227. PMID: 27045886

13. **Zhu Y**, Yao S, Augustine M, Xu H, Wang J, Sun J, Broadwater M, Ruff W, Luo L, Zhu G, Tamada K, Chen L (2016), Neuron-specific SALM5 limits inflammation in the CNS via its interaction with HVEM. Sci. Adv. 2, e1500637 (Highlighted by **Nature** 532, 151 (14 April 2016) doi:10.1038/532151e)

Book chapters and Reviews

1. **Zhu Y**, and Chen L (2003). Cancer therapeutic monoclonal antibodies targeting lymphocyte co-stimulatory pathways. Curr. Opin. Investig. Drugs. 4691-5. PMID: 12901227
2. **Zhu Y**, and Chen L (2006). CD137 in the Regulation of T cell Response to Antigen. Book Chapter in CD137 Pathway: Immunology and Diseases. Springer.
3. **Zhu Y** and Chen L (2009). Turning the tide of lymphocyte costimulation. J. Immunol. 182(5):2557-8. PMID: 19234146
4. **Zhu Y**, Yao S, Chen L (2011). Cell surface signaling molecules in the control of immune responses: a tide model. Immunity. 34(4):466-78. PMID: 21511182
5. Yao S, **Zhu Y**, Chen L (2013). Advances in targeting cell surface signalling molecules for immune modulation. Nat. Rev. Drug. Discov. 12:130-146. PMID: 23370250
6. **Zhu Y** and Chen L (2014). CD137 as a biomarker for tumor-reactive T cells: finding gold in the desert. Clin. Cancer Res. 20(1):3-5. PMID: 24166912
7. Paniccia A, Merkow J, Edil BH, **Zhu Y** (2015). Immunotherapy for pancreatic ductal adenocarcinoma: an overview of clinical trials. Chin J Cancer Res. 27(4):376-91. PMID: 26361407
8. Yu X, Koenig MR, **Zhu Y** (2015). Plasma miRNA, an emerging biomarker for pancreatic cancer. Ann Transl Med. 3(19):297. PMID: 26697457

Scientific Abstracts

1. Yao S, **Zhu Y**, Zhu G, Augustine M, Goode D, Wang J, Zheng L, Han X, Luo L, Broadwater M, Ruff W, Chen L (2012). The B7-CD28 paradigm revisited--- a systemic receptor array approach. J. Immunol, 2012, 188, 178.19.
2. Byers JT, **Zhu Y**, Paniccia A, Kaplan J, Koenig M, Kahn N, Wilson L, Chen L, Schulick RD, Edil BH (2014). Expression of B7-H5 in normal pancreas and pancreatic cancer, Pancreas Club, P015.
3. Paniccia A, **Zhu Y**, Byers JT, Kahn N, Mehrotra S, Schulick RD, Edil BH (2014), Oxaliplatin and 5-FU upregulate B7-H1 expression in human pancreatic cancer cell lines. Pancreatic Club, P082.
4. Koenig M, Paniccia A, Byers JT, Kaplan J, Kahn N, Merkow JS, Chen L, Schulick RD, Edil BH, **Zhu Y** (2015). PD-1+CD28H+ selectively identifies for tumor-reactive T lymphocytes in pancreatic Cancer. Annual Colorado Immunology Conference, poster.
5. Paniccia A, **Zhu Y**, Byers JT, Koenig M, Kahn N, Mehrotra S, Schulick RD, Edil BH (2014), Oxaliplatin and 5-FU upregulate B7-H1 expression in human pancreatic cancer cell lines. Annual Colorado Immunology Conference, poster.
6. **Zhu Y**, Byers JT, Paniccia A, Kaplan J, Koenig M, Schulick RD, Edil BH (2015). Expression of B7-H5 in human pancreatic cancer, Cancer Res, 2015, 75, 1279.
7. **Zhu Y**, Koenig M, Paniccia A, Byers JT, Kaplan J, Kahn N, Merkow JS, Chen L, Schulick RD, Edil BH (2015). PD-1+CD28H+ selectively identifies for superior tumor-reactive T lymphocytes in pancreatic cancer. J. Immunol, 2015, 194, 142.2.