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| NAME JING CHEN | | POSITION TITLE Assistant Scientist | | |
| **EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)* | | | | |
| **INSTITUTION AND LOCATION** | **DEGREE** | | **YEAR(s)** | **FIELD OF STUDY** |
| West China University of Medical Sciences, China | MD | | 1995 | Clinical Medicine |
| Yamanashi Medical University, Japan | Ph.D. | | 2003 | Biochemistry |
| The Jackson Laboratory, Bar Harbor, Maine | Postdoctoral | | 2003-2005 | Immunology and genetics |
| University of Pittsburgh, Pittsburgh, PA | Postdoctoral | | 2005-2007 | Immunology and genetics |

1. **Positions and Honors.** List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any public or private advisory committee.

Positions and Employment

1995/7-1998/2 Resident, Department of Endocrinology and Metabolism, First Affiliated Hospital, West China University of Medical Sciences. Chengdu, Sichuan, People's Republic of China

1998/2-1998/9 Chief Resident, Department of Endocrinology and Metabolism, First Affiliated Hospital, West China University of Medical Sciences. Chengdu, Sichuan, People's Republic of China

2003/5-2005/10 Postdoctoral Associate, The Jackson Laboratory, ME

2005/11-2007/9 Postdoctoral Associate, University of Pittsburgh, PA

2007/10- Assistant Scientist, Department of Pathology, Immunology and Laboratory Medicine, University of Florida, FL

Other Experience and Professional Memberships

1999-2003 Professional Member, Japan Diabetes Society

2006- Professional Member, American Diabetes Association

2006- Professional Member, American Association of Immunologists

2010- Professional Member, Immunology of Diabetes Society

Honors

1998-2003 Japanese Government Scholarship, Japan

2002 Excellent oversea student thesis in Yamanashi Medical University, Japan

2009 American Diabetes Association’s Young Investigator Travel Grant Award, Scientific Sessions

2010 Immunology of Diabetes Society’s Young Investigator Travel Grant Award, 11th IDS meeting

2012 Federation of Clinical Immunology Societies Travel Award, 2012 FOCIS meeting

1. **Selected peer-reviewed publications (in chronological order)**
2. Lightfoot YL, **Chen J**, Mathews CE. Oxidative Stress and Beta Cell Dysfunction (2012). *Methods Mol. Med.* 900:347-62.
3. Lightfoot YL, **Chen J**, Mathews CE. Immune-mediated β-cell death in type 1 diabetes (2012). Eur J Clin Invest. In Press
4. **Chen J**, Grieshaber S, Mathews CE (2011). Methods to assess beta cell death mediated by cytotoxic T lymphocytes. J Vis Exp. Jun 16;(52). pii: 2724. doi: 10.3791/2724.
5. **Chen J**, Gusdon AM, Mathews CE (2011). Role of genetics in resistance to type 1 diabetes. Diabetes/Metabolism Research & Review. Nov;27(8):849-53
6. **Chen J**, Gusdon AM, Piganelli JD, Leiter EH, Mathews CE (2011). *mt*-Nd2a modifies resistance against autoimmune Type 1 diabetes in NOD mice at the level of the pancreatic beta cell. *Diabetes.* 60(1):355-9.
7. Lightfoot YL, **Chen J**, Mathews CE (2011). Role of the Mitochondria in Immune-Mediated Apoptotic Death of the Human Pancreatic β Cell Line βLox5. PLoS One. 6(6):e20617. Epub 2011 Jun 27.
8. Thayer TC, Delano M, Liu C, **Chen J**, Padgett LE, Tse HM, Annamali M, Piganelli JD, Moldawer LL, Mathews CE (2011). Superoxide Production by Macrophages and T Cells Is Critical for the Induction of Autoreactivity and Type 1 Diabetes. Diabetes. Aug;60(8):2144-51.
9. Li J, Liu X, Ran X, **Chen J**, Li X, Wu W, Huang H, Huang H, Long Y, Liang J, Cheng J, Tian H. (2010). Sterol regulatory element-binding protein-1c knockdown protected INS-1E cells from lipotoxicity. *Diabetes Obes Metab.* 12(1):35-46
10. Gusdon AM, **Chen J**, Votyakova TV, Mathews CE (2009). Quantification, localization, and tissue specificities of mouse mitochondrial reactive oxygen species production. *Methods Enzymol.* 456:439-57.
11. **Chen J**, Gusdon AM, Thayer TC, Mathews CE (2008). Role of increased ROS dissipation in prevention of T1D: Lessons from the ALR mouse. *Ann N Y Acad Sci*. Dec; 1150:157-66.
12. Zhang M, **Chen J**, Guo Z, Li L, Zhang Y, Li J (2009). Rosiglitazone inhibits RANTES expression by human epidermal keratinocytes. Eur J Dermatol. Mar 1;19(2):176-177.
13. **Chen J**, Lu Y, Lee C-H, Li RH, Leiter EH, Mathews CE (2008). Comparative Genetics of Spontaneous Autoimmune versus Chemically-Induced Diabetes in Mice. *Free Radic Biol Med*. Nov 1;45(9):1263-70
14. **Chen J**, Hatori, Y, Nakajima K, Eizawa T, Ehara T, Koyama M, Hirai T, Fukuda Y, Kinoshita M, Suguyama A, Hayashi J-I, Onaya T, Kobayashi T, Tawata M(2006). Mitochondrial complex I activity is significantly decreased in a patient with maternally inherited type 2 diabetes mellitus and hypertrophic cardiomyopathy associated with mitochondrial DNA C3310T mutation: a cybrid study. *Diabetes Res Clin Pract.* Nov;74(2):148-53
15. [**Chen J**, Chen YG, Reifsnyder PC, Schott WH, Lee CH, Osborne M, Scheuplein F, Haag F, Koch-Nolte F, Serreze DV, Leiter EH (2006).](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16585549&query_hl=1&itool=pubmed_docsum) Targeted disruption of CD38 accelerates autoimmune diabetes in NOD/Lt mice by enhancing autoimmunity in an ADP-ribosyltransferase 2-dependent fashion. *J Immunol*. Apr 15;176(8):4590-9.
16. [Lee CH, Chen YG, **Chen J**, Reifsnyder PC, Serreze DV, Clare-Salzler M, Rodriguez M, Wasserfall C, Atkinson MA, Leiter EH(2006).](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16380490&query_hl=1&itool=pubmed_docsum) Novel leptin receptor mutation in NOD/LtJ mice suppresses type 1 diabetes progression: II. Immunologic analysis. *Diabetes*. Jan;55(1):171-8.
17. Chen Y-G, **Chen J**, Osborne MA, Chapman HD, Besra GS, Porcelli SA, Leiter EH, Wilson B, Serreze D (2006) CD38 is required for the peripheral survival of immunotolerogenic CD4+ iNKT-cellsin NOD mice. *J Immunol*. Sep 1;177(5):2939-47
18. **Chen J**, Reifsnyder PC, Scheuplein F, Schott WH, Mileikovsky M, Soodeen-Karamath S, Nagy A, Dosch HM, Ellis J, Koch-Nolte F, Leitei EH (2005). "Agouti NOD": Identification of a CBA-derived Idd locus on Chromosome 7 and its use for chimera production with NOD embryonic stem cells" *Mammalian Genome****.*** Oct;16(10):775-83
19. Lee C-H, Reifsnyder PC, Naggert JK, **Chen J**, and Leiter EH (2005). Novel Leptin Receptor Mutation in NOD/LtJ Mice Suppresses Type 1 Diabetes Progression. I. Pathophysiologic analysis. *Diabetes*.Sep;54(9):2525-32.
20. Ohkubo E, Aida K, **Chen J**, Hayashi JI, Isobe K, Tawata M, Onaya T (2000). A patient with type 2 diabetes mellitus associated with mutations in calcium sensing receptor gene and mitochondrial DNA. *Biochem Biophys Res Commun*. 278(3): 808-13.
21. Aida K, Ikegishi Y, **Chen J**, Tawata M, Ito S, Maeda S, Onaya T (2000). Disruption of aldose reductase gene (Akr1b1) causes defect in urinary concentrating ability and divalent cation homeostasis. *Biochem Biophys Res Commun*. 277(2):281
22. Tawata M, Hayashi JI, Isobe K, Ohkubo E, Ohtaka M, **Chen J**, Aida K, Onaya T (2000). A new mitochondrial DNA mutation at 14577 T/C is probably a major pathogenic mutation for maternally inherited type 2 diabetes. *Diabetes*. 49(7):1269-7

**ABSTRACTS:**

1. **Chen J**, Knapp S, Li J-W, Zhang S-Y, Leon L, Annamalai M, Mathews CE. *Idd22* protects against autoimmune diabetes by preventing T cell trafficking to target beta cells. Poster. The 12th International Congress of the Immunology of Diabetes Society. Victoria, Canada. 2012
2. **Chen J**, Lightfoot YL, Mathews CE. *mt-Nd2a* Protects Mouse and Human β Cells Against Immune Insults. Poster. The 12th International Congress of the Immunology of Diabetes Society. Victoria, Canada. 2012
3. **Chen J**, Li J-W, Cassidy R, Welch D, Mathews CE. Mitochondria in T Cells of Type 1 Diabetic patients and at risk individuals exhibit inner membrane hyperpolarization. Poster. FOCIS 2012. Vancouver, BC, Canada
4. Lightfoot YL, **Chen J**, Mathews CE. *mt-ND2a* Protects Human β Cells from Immune-Mediated Destruction. Oral presentation. 72nd ADA annual meeting. Philadelphia, PA. 2012
5. **Chen J**, Gallo L, Pliner V, Annamalai M, Mathews CE. *Idd22* Prevents T1D by Providing Beta Cell Resistance Against Autoimmune Destruction. Poster. The 11th International Congress of the Immunology of Diabetes Society. Incheon, Korea. 2010
6. **Chen J**, Mathews CE. mt-ND2a Allele Provides on Type 1 Diabetes (T1D) Resistance at Beta cell level. Poster. 70th ADA annual meeting. Orlando, FL. 2010
7. **Chen J**, Mathews CE. Susceptibility to Free Radical-Mediated and Autoimmune Diabetes is Controlled by Retrogenetic Interactions of the Nuclear and Mitochondrial Genomes. 69th ADA annual meeting. Oral presentation. New Orleans, LA. 2009.
8. **Chen J**, Leiter EH, Mathews CE. Susceptibility to Free Radical-Mediated and Autoimmune Diabetes is Controlled by Retrogenetic Interactions of the Nuclear and Mitochondrial Genomes. Setting the Pace in Mitochondrial Medicine conference. Poster. Indianapolis, Ind. 2008
9. **Chen J**, Gusdon AM, Marhews CE. mt-Nd2a Protects a Beta Cell Line Against Immune- and Free Radical- Mediated Cell Death. 68th ADA annual meeting. Oral presentation. San Francisco, Ca. 2008.
10. **Chen J**, Mathews CE, Leiter EH. Susceptibility to Free Radical-Mediated and Autoimmune Diabetes is Controlled by Interactions of the Nuclear and Mitochondrial Genomes. 67th ADA annual meeting, Oral presentation. Chicago, IL. 2007
11. **Chen J**, Mathews CE, Leiter EH. Diabetes Resistance at the ß Cell Level: Searching for Common ALR/Lt Genetic Protection Against Autoimmune and Free Radical-Induced Diabetes. 66th ADA annual meeting, Oral presentation. Washington DC. 2006
12. **Chen J**, Chen Y-G, Serreze DV, Leiter EH. Intact ART2 is Necessary for the Acceleration of Autoimmune Diabetes by CD38 Deficiency in NOD/Lt mice. 66th ADA annual meeting, Oral presentation. Washington DC. 2006
13. **Chen J**, Chen Y-G, Serreze DV, Leiter EH. CD38 deficiency accelerated autoimmune diabetes in NOD/Lt mice. 65th ADA annual meeting, Oral presentation. San Diego, CA. 2005
14. Chen Y-G, **Chen J**, Wilson SB, Leiter EH, Serreze DV. Accelerated Type 1 Diabetes in CD38-Deficient NOD Mice through a Further Loss of Disease Protective NKT Cells and Mature Dendritic Cells. 65th ADA annual meeting, Oral presentation. San Diego, CA. 2005
15. Campbell-Thompson M, Lee C-H, Wasserfall CH, Ryfsnyder,PC, Tenace L**, Chen J**, Atkinson MA, Leiter EH. Obesity and Beta-Cell Regeneration in Spontaneous Leptin Receptor Mutation NOD/LtJ Mice. 65th ADA annual meeting, poster. San Diego, CA. 2005
16. **Chen J**, Leiter EH. Genetic Basis of ALR/Lt Resistance to Free Radical-Mediated Diabetes Identified By Outcross with NOD/Lt Mice. 64th ADA annual meeting, publication only. Orlando, FL, 2004
17. **Chen J**, Hayashi Y, Sugiyama A, Hayashi J-I, Kobayashi T, Tawata M. Mitochondrial complex I activity is slightly decreased in a patient with diabetes mellitus and cardiomyopathy associated with mtDNA C3310T mutation: a cybrid study. The 11th Korea-Japan Symposium on Diabetes Mellitus. Oral presentation. Pusan, Korea, 2001
18. Shindo H, Shima I, Saito T, **Chen J**, Sugiyama A, Tawata M, Onaya T. Inhibitory effect of high glucose on mitochondrial respiratory function and its mechanism in SH-SY5Y human neuroblastoma cells. Poster. Philadelphia, PA, 2001
19. **Grant Support:**

Ongoing Research Support

R01 DK074656 (PI Clayton Mathews) 7/1/2006-6/31/2017

**Source**: National Institutes of Health (NIDDK)

**Title**: *mt-Nd2* and resistance to autoimmune diabetes

**Project Role**: Co-Investigator

**Objective**: Understand the role that the sequence variation in mitochondrial genome *mt-Nd2* plays in resistance to T1D.

ADA Grant #7-12-IN-09 Chen (PI) 7/1/2012-6/31/2014

**Source**: American Diabetes Association

**Title**: Role of T cell mitochondrial function in the pathogenesis of Type 1 Diabetes

**Project Role**: PI

**Objective**: To investigate T cell mitochondrial function changes and their consequence in T cell function during the pathogenesis of human Type 1 diabetes. To characterize CD4+ T cell metabolic activity in patients with T1D, and assess metabolic substrate utilization in human CD4+ TH subsets in patients with T1D

JDRF Grant 17-2012-595 Chen (PI) 10/1/2012-9/30/2014

**Source**: Juvenile Diabetes Research Foundations

**Title**: Lymphocyte Mitochondrial Dysfunction in Type 1 Diabetes

**Project Role**: PI

**Objective**: To investigate lymphocyte mitochondrial function changes and metabolomics during the pathogenesis of human Type 1 diabetes.

Completed Research Support

TJL fellowship Chen (PI) 06/01/03-05/31/04

**Source**: The Jackson Laboratory

**Title**: Role of mitochondria in diabetes resistance of ALR mice

**Project Role**: PI

**Objective**: To investigate the role of mitochondria in the protection of beta cells against immune attacks in ALR and NOD mouse model.

EPIG grant Chen (PI) 09/01/08-05/31/09

**Source**: Department of Pathology, Immunology and Laboratory Medicine, University of Florida, FL

**Title**: Creation of human ρ0 beta cell line and Human ρ0 T cell line

**Project Role**: PI

**Objective**: The goal of this project was to create beta cell line and T cell line that deprived of mitochondrial DNA, to provide tools for further study of the role of mitochondria in the pathogenesis of autoimmune diseases including Type 1 diabetes.