

**Date Submitted:** 2017-06-23 16:41:59

**Confirmation Number:** 675414

**Template:** CIHR Academic

---

## **Dr. Gareth Lim**

Correspondence language: English

Sex: Male

Date of Birth: 8/28

Canadian Residency Status: Canadian Citizen

Country of Citizenship: Canada

## **Contact Information**

The primary information is denoted by (\*)

### **Address**

Primary Affiliation (\*)

CRCHUM  
Tour Viger, Room R08-482  
900 rue St-Denis  
Montreal Quebec H2X0A9  
Canada

### **Telephone**

Work (\*) 1-514-8908000 extension: 12927

### **Email**

Work (\*) [gareth.lim@umontreal.ca](mailto:gareth.lim@umontreal.ca)

### **Website**

Personal <http://crchum.chumontreal.qc.ca/en/researchers/gareth-lim>



Protected when completed

## Dr. Gareth Lim

---

### Language Skills

Language	Read	Write	Speak	Understand
English	Yes	Yes	Yes	Yes
French	Yes	No	No	Yes

### User Profile

Disciplines Trained In: Gastroenterology, Physiology

Research Disciplines: Endocrinology, Physiology

Areas of Research: Diabetes, Digestive System, Endocrine System, Hormones and Growth Factors, Metabolic Disorders, Obesity

Fields of Application: Biomedical Aspects of Human Health, Pathogenesis and Treatment of Diseases

Research Specialization Keywords: 14-3-3 proteins, adipocyte, Beta cell, Diabetes, GLP-1, Insulin, intestine, Obesity, Pancreas, scaffold

### Degrees

- 2006/1 - 2009/8      Doctorate, Doctorate in Philosophy, Physiology- Gastrointestinal hormones, University of Toronto  
Degree Status: Completed  
Supervisors: Dr Patricia Brubaker
- 1999/9 - 2004/6      Bachelor's, Honours Biology and Pharmacology Co-op, Reproductive Biology, McMaster University  
Degree Status: Completed  
Supervisors: Dr. Alison Holloway

### Recognitions

- 2014/7      EASD Travel grant - 1,400 (Euro)  
European Association for the Study of Diabetes  
Prize / Award
- 2014/3      American Diabetes Association Travel Award - 1,000 (United States dollar)  
American Diabetes Association  
Prize / Award

2012/6	EASD Travel Grant - 2,100 (Canadian dollar) European Association for the Study of Diabetes Prize / Award
2010/1	EASD Travel Grant - 2,200 European Association of Diabetes Prize / Award
2010/1	Best Resident/Student Presentation- Basic Science - 500 16th Annual W.B and M.H. Chung Lectureship, Department of Surgery, Vancouver General Hospital Prize / Award
2008/1	Graduate Studentship Trainee Travel Award - 1,000 Banting and Best Diabetes Centre Prize / Award
2008/1	EASD Travel Grant - 1,500 European Association for the Study of Diabetes Prize / Award
2007/1	Graduate Studentship Trainee Travel Award - 1,000 Banting and Best Diabetes Centre Prize / Award
2006/9 - 2007/8	Ontario Graduate Scholarship (Declined) - 15,000 (Canadian dollar) Ministry of Training, Colleges, and Universities Prize / Award
2006/9 - 2009/8	Frederick Banting and Charles Best Canada Graduate Scholarship – Doctoral Award (CGS-D) - 105,000 (Canadian dollar) Canadian Institutes of Health Research Prize / Award
2006/9 - 2009/8	Doctoral Student Research Award (Declined) - 61,500 (Canadian dollar) Canadian Diabetes Association Prize / Award
2006/1	Graduate Studentship Trainee Travel Award - 1,000 Banting and Best Diabetes Centre Prize / Award
2005/9 - 2006/8	Canada Graduate Scholarships-Master's Award - 17,500 (Canadian dollar) Natural Sciences and Engineering Research Council of Canada (NSERC) Prize / Award
2005/1	Graduate Studentship Trainee Travel Award - 1,000 Banting and Best Diabetes Centre Prize / Award
2004/4	Dean's Honor's list - 0 McMaster University Prize / Award

## Employment

2016/9 - 2022/5	Chercheur / Researcher Médecine, Université de Montréal, Centre hospitalier de l'université de Montréal
2016/9 - 2022/5	Professeur-chercheur adjoint Médecine, Médecine, Université de Montréal

2009/9 - 2016/8	Postdoctoral Research Fellow Cellular and Physiological Sciences, Medicine, University of British Columbia
2004/9 - 2009/8	Doctoral Student Physiology, Medicine, University of Toronto
2003/1 - 2003/12	Research Assistant (Co-op student) Obstetrics and Gynecology, Health Sciences, McMaster University
2002/5 - 2002/8	Research Assistant (Co-op student) Health Canada

## Affiliations

The primary affiliation is denoted by (\*)

(*) 2016/9	Professeur-chercheur adjoint, Université de Montréal
2016/9	Chercheur / Researcher, Médecine, Centre hospitalier de l'université de Montréal

## Research Funding History

### Awarded [n=5]

2017/4 - 2022/3 Principal Applicant	Dissecting the regulatory roles of 14-3-3zeta on the adipogenic transcriptional program <b>Funding Sources:</b> 2017/4 - 2022/3      Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery grant Total Funding - 130,000 (Canadian dollar) Funding Competitive?: Yes
2017/4 - 2022/3 Principal Applicant	Targeting molecular scaffolds for the treatment of metabolic diseases <b>Funding Sources:</b> 2017/4 - 2022/3      Canadian Institutes of Health Research (CIHR) Project grant Total Funding - 699,975 (Canadian dollar) Funding Competitive?: Yes
2016/9 - 2018/8 Principal Investigator	CRCHUM/Université de Montréal Startup funds <b>Funding Sources:</b> 2016/9 - 2018/8      Centre de recherche du centre hospitalier de l'université de Montréal (CRCHUM) Startup funds Total Funding - 200,000 (Canadian dollar) Funding Competitive?: No
2017/7 - 2018/7 Principal Applicant	Banting Research Foundation- Evaluating the therapeutic potential of 14-3-3ζ for the treatment of obesity <b>Funding Sources:</b> 2017/7 - 2018/6      Banting Foundation Total Funding - 25,000 (Canadian dollar) Funding Competitive?: Yes
2017/5 - 2018/4 Principal Investigator	Les contributions des protéines d'échafaudage dans l'organisme spatiale et temporelle

**Funding Sources:**

2017/5 - 2018/4      Departement de médecine- Université de Montréal  
 Support à la recherche – Subvention jeune chercheur  
 Total Funding - 22,000 (Canadian dollar)  
 Funding Competitive?: Yes

**Completed [n=4]**

2012/9 - 2015/8  
 Principal Applicant      JDRF Postdoctoral Fellowship

**Funding Sources:**

2012/9 - 2015/8      Juvenile Diabetes Research Foundation  
 Fellowships  
 Total Funding - 160,236 (United States dollar)  
 Funding Competitive?: Yes

2012/9 - 2015/8  
 Principal Applicant      Canadian Diabetes Association Postdoctoral Fellowship

**Funding Sources:**

2012/9 - 2015/8      Canadian Diabetes Association  
 Personnel Award Competition  
 Total Funding - 124,500 (Canadian dollar)  
 Funding Competitive?: Yes

2009/9 - 2012/9  
 Principal Applicant      MSFHR Post-doctoral Fellowship

**Funding Sources:**

2009/9 - 2012/8      MSFHR  
 MSFHR Post-doctoral Fellowship  
 Total Funding - 117,000 (Canadian dollar)  
 Funding Competitive?: Yes

2009/9 - 2012/9  
 Principal Applicant      CIHR Fellowship

**Funding Sources:**

2009/9 - 2012/8      Canadian Institutes of Health Research (CIHR)  
 Fellowships  
 Total Funding - 135,000 (Canadian dollar)  
 Funding Competitive?: Yes

**Under Review [n=2]**

2017/7 - 2020/6  
 Principal Applicant      Deciphering the roles of 14-3-3zeta on pancreatic beta-cell survival and growth

**Funding Sources:**

2017/7 - 2020/6      Diabetes Canada  
 New Investigator Award  
 Total Funding - 375,000 (Canadian dollar)  
 Funding Competitive?: Yes

2017/9 - 2019/8  
 Principal Applicant      Cancer Research Society- 14-3-3 proteins as novel chemotherapeutic targets for colorectal cancer

**Funding Sources:**

2017/9 - 2019/9      Cancer Research Society (The)  
 Total Funding - 120,000 (Canadian dollar)  
 Funding Competitive?: Yes

## Student/Postdoctoral Supervision

### Bachelor's Honours [n=7]

Principal Supervisor	Mina Sadeghi (In Progress) , McMaster University- Co-op student Student Degree Start Date: 2014/9 Project Description: Hons. Biology and Pharmacology Co-op student
Co-Supervisor	Karnjit Sarai (Completed) , University of British Columbia Student Degree Start Date: 2013/9 Present Position: Research Assistant
Co-Supervisor	Micah Piske (Completed) , University of British Columbia Student Degree Start Date: 2010/9 Present Position: Graduate Student- London School of Hygiene and Tropical Medicine
Co-Supervisor	Ling Mu (Completed) , University of British Columbia Student Degree Start Date: 2009/9 Present Position: Medical Resident
Co-Supervisor	Molie Xu (Completed) , University of Toronto Student Degree Start Date: 2007/9 Present Position: Dentist, USA
Co-Supervisor	Guan Huang (Completed) , University of Toronto Student Degree Start Date: 2006/9 Present Position: Radiology Resident, University of Calgary
Co-Supervisor	Nina Flora (Completed) , University of Toronto Student Degree Start Date: 2005/9 Present Position: Research analyst, Centre for Addiction and Mental Health, Toronto, ON

### Master's Thesis [n=2]

Principal Supervisor	Kadidia Diallo (In Progress) , University of Montreal Student Degree Start Date: 2017/7
Principal Supervisor	Idi Shabani (In Progress) , University of Montreal Student Degree Start Date: 2017/7

### Technician [n=1]

Principal Supervisor	Abel Oppong (Completed) , Concordia University Student Degree Start Date: 2017/5
----------------------	---

## Presentations

- (2017). Unexpected roles of 14-3-3 scaffolds in metabolism and metabolic diseases. Department of Anatomy and Cell Biology, McGill University, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes
- (2017). Is 14-3-3(ζ) the secret combination to unlock secrets of the fat cell?. Department of Biology, Concordia University, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes

3. (2017). Unexpected roles of 14-3-3  $\zeta$  in the adipocyte – going above and beyond a ‘scaffold’. Institut de recherches cliniques de Montréal (IRCM), Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes
4. (2017). Unexpected roles of 14-3-3  $\zeta$  in the adipocyte – going above and beyond a ‘scaffold’. Département de biochimie et médecine moléculaire, Université de Montréal, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes
5. (2017). Unexpected roles of 14-3-3 scaffolds in metabolism and metabolic disease. Department of Anatomy and Cell Biology, McGill University, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes
6. (2016). Unlocking metabolic roles of scaffolds with 14-3-3( $\zeta$ ). CRCHUM, University of Montreal, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes
7. (2016). Unlocking the roles of scaffolds in metabolism with 14-3-3 $\zeta$ . Indiana Biosciences Research Institute, Indianapolis, United States  
Main Audience: Researcher  
Invited?: Yes
8. (2016). 14-3-3 $\zeta$ : A new target for treating chronic diseases?. CHRIM, University of Manitoba, Winnipeg, Canada  
Main Audience: Researcher  
Invited?: Yes
9. (2015). 14-3-3 $\zeta$  control adipogenesis through inhibitory actions on hedgehog signaling. 2nd Western Canada Illumina User Group Meeting, Vancouver, Canada  
Main Audience: Researcher  
Invited?: Yes
10. (2015). Unlocking new metabolic roles of scaffolds with 14-3-3 $\zeta$ . Diabetes & Metabolism Research Institute at City of Hope, Duarte, United States  
Main Audience: Researcher  
Invited?: Yes
11. (2015). Multiple roles of 14-3-3 $\zeta$  in metabolism: A potential therapeutic target?”. Novo Nordisk A/S, Copenhagen, Denmark  
Main Audience: Researcher  
Invited?: Yes
12. (2015). 14-3-3 $\zeta$ : A molecular scaffold with novel roles in glucose homeostasis and metabolism. Regeneron Pharmaceuticals Inc, Tarrytown, United States  
Main Audience: Researcher  
Invited?: Yes
13. (2015). Multiple roles of 14-3-3 $\zeta$  in metabolism: A potential therapeutic target?. Department of Physiology and Biophysics, Dalhousie University, Halifax, Canada  
Main Audience: Researcher  
Invited?: Yes
14. (2014). Novel regulation of adipogenesis by 14-3-3 $\zeta$ : A new therapeutic target?. Child & Family Research Institute, Vancouver, Canada  
Main Audience: Researcher  
Invited?: Yes

15. (2014). The skinny on obesity: Not as simple as we think?. School of Health Sciences, University of Northern British Columbia, Prince George, Canada  
Main Audience: Researcher  
Invited?: Yes
16. (2014). 14-3-3 proteins: Novel targets for the treatment of obesity, diabetes, and cancer?. School of Health Sciences, University of Northern British Columbia, Prince George, Canada  
Main Audience: Researcher  
Invited?: Yes

## Broadcast Interviews

- 2015/08/11 - Possible 'obesity gene' discovered at UBC, CTV News, CTV  
2015/08/11
- 2015/08/10 - UBC scientists discover gene that could be possible cause of obesity, Global BC News,  
2015/08/10 Shaw Media

## Text Interviews

- 2015/08/10 UBC scientists say a gene found in every human cell could be a cause of obesity, National Post
- 2015/08/10 UBC scientists discover gene that could be cause of obesity, Metro News

## Publications

### Journal Articles

1. Templeman NM, Filbotte S, Chik JHL, Sinha S, Lim GE, Foster LJ, Nislow C, Johnson JD. (2017). Reduced circulating insulin enhances insulin sensitivity in old mice and extends lifespan. Cell Reports. X: x.  
Co-Author  
Accepted  
Refereed?: Yes  
Number of Contributors: 8
2. Templeman NM, Skovsø S, Page MM, Lim GE, Johnson JD. (2017). A causal role for hyperinsulinemia in obesity. J Endocrinol. 232(3): R173-R183.  
Co-Author  
Published  
Refereed?: Yes  
Number of Contributors: 5
3. Boothe T, Lim GE, Cen H, Skovsø S, Piske M, Li SN, Nabi IR, Gilon P, Johnson JD. (2016). Inter-domain tagged insulin receptors implicate caveolin-1 in receptor trafficking and Erk signalling bias. Mol Metab. 5(5): 366-78.  
Co-Author  
Published  
Refereed?: Yes  
Number of Contributors: 9



4. Lim GE, Piske M, Lulo JE, Ramshaw HS, Lopez AF, Johnson JD.(2016). *Ywhaz/14-3-3 $\zeta$*  deletion improves glucose tolerance through a GLP-1-dependent mechanism. *Endocrinology*. 157(7): 2649-59.  
First Listed Author  
Published  
Refereed?: Yes  
Number of Contributors: 5
5. Lim GE, Johnson JD. (2015). 14-3-3 $\zeta$ : A numbers game in adipocyte function?. *Adipocyte*. 5(2): 232-7.  
First Listed Author  
Published  
Refereed?: Yes  
Number of Contributors: 2
6. Lim GE, Albrecht T, Piske M, Sarai K, Lee JT, Mehran AE, Templeman NM, Ramshaw HS, Sinha S, Guthridge MA, Acker-Palmer A, Lopez AF, Clee SM, Nislow C, Johnson JD. (2015). 14-3-3 $\zeta$  coordinates adipogenesis of visceral fat. *Nat Commun*. 6: 7671.  
First Listed Author  
Published  
Refereed?: Yes  
Number of Contributors: 13
7. Chan MT, Lim GE, Yang YH, Alejandro EU, Hoesli C, Piret JM, Warnock GL, Johnson JD.(2014). Effects of insulin on human pancreatic cancer progression modeled *in vitro*. *BMC Cancer*. 14: 814.  
Co-Author  
Published  
Refereed?: Yes  
Number of Contributors: 8
8. Wang M, Li J, Lim GE, Luciani DS, Johnson JD.(2013). Is dynamic autocrine insulin signaling possible? A mathematical model predicts picomolar concentrations of extracellular monomeric insulin within human pancreatic islets. *PLoS One*. 8(6): e64680.  
Co-Author  
Published  
Refereed?: Yes  
Number of Contributors: 5
9. Lim GE, Piske M, Johnson JD.(2013). 14-3-3 proteins are essential signaling hubs for beta cell survival. *Diabetologia*. 56(4): 825-837.  
First Listed Author  
Published  
Refereed?: Yes  
Number of Contributors: 3
10. Mehran AE, Templeman NM, Brigidi GS, Lim GE, Chu KY, Botezelli JD, Hu X, Asadi A, Hoffman BG, Kieffer TJ, Bamji SX, Clee SM, Johnson JD. (2012). Hyperinsulinemia drives diet-induced obesity independently of brain insulin. *Cell Metab*. 16(6): 723-37.  
Co-Author  
Published  
Refereed?: Yes  
Number of Contributors: 12

## Conference Publications

1. Lim GE, Piske M, Ramshaw HS, Lopez AF, Johnson JD. (2016). Deletion of 14-3-3zeta improves oral glucose tolerance through a GLP-1 dependent mechanism. American Diabetes Association 76th Scientific Sessions  
Abstract  
First Listed Author  
Published, Invited?: No
2. Lim GE, Albrecht T, Sarai K, Lee JTT, Sinha S, Nisow C, Johnson JD. (2015). 14-3-3 $\zeta$  controls adipogenesis through inhibitory actions on hedgehog signaling. American Diabetes Association 75th Scientific Sessions  
Abstract  
First Listed Author  
Published, Invited?: No
3. Lim GE, Albrecht T, Lee J, Nislow C, Johnson JD. (2014). 14-3-3 zeta controls mitotic clonal expansion and adipocyte differentiation via p27Kip1. 2014 EASD Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No
4. Lim GE, Fang NN, Clee SM, Acker-Palmer A, Mayor T, Johnson JD. (2014). Reciprocal effects of 14-3-3zeta knockout and overexpression on murine obesity. American Diabetes Association 74th Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No
5. (2013). Insulin receptor internalisation and Erk signalling require caveolin-1 in pancreatic beta cells. 2013 EASD Annual Meeting  
Abstract  
Co-Author  
Published
6. Lim GE, Ramshaw HS, Guthridge MA, Clee SM, Lopez AF, Johnson JD. (2013). 14-3-3zeta regulates adipogenesis, glucose tolerance and insulin sensitivity in mice. 2013 CDA/CSEM Professional Conference and Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No
7. Lim GE, Ramshaw HS, Guthridge MA, Clee SM, Lopez AF, Johnson JD. (2013). Deletion of 14-3-3zeta causes glucose intolerance, insulin resistance, and impaired adipogenesis. American Diabetes Association 73rd Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No
8. (2012). Caveolin-1 Mediates the Internalization of Functional Insulin Receptors in Beta-Cells. 2012 CDA/CSEM Professional Conference and Annual Meeting  
Abstract  
Co-Author  
Published

9. (2012). 14-3-3 zeta is required for glucose homeostasis, lipid metabolism, and adipogenesis. ASCB Annual Meeting  
Abstract  
First Listed Author  
Published
10. (2012). Caveolin-1 mediates the internalisation of functional insulin receptors in beta cells. 2012 EASD Annual Meeting  
Abstract  
Co-Author  
Accepted
11. Lim GE, Piske M, Ramshaw HS, Guthridge MA, Lopez AF, Johnson JD. (2012). 14-3-3zeta is required for insulin sensitivity and glucose homeostasis in vivo. 2012 CDA/CSEM Professional Conference and Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No
12. Lim GE, Piske M, Ramshaw HS, Guthridge MA, Lopez AF, Johnson JD. (2012). 14-3-3 proteins are required for pancreatic beta cell survival and glucose homeostasis. 2012 EASD Annual Meeting  
Abstract  
First Listed Author  
Published, Invited?: No