

**Curriculum Vitae**  
**Sushant Bhatnagar, Ph.D.**

Assistant Professor of Medicine  
Division of Endocrinology, Diabetes, and Metabolism  
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**Education**

- 2008      Ph.D., Biochemistry and Molecular Biology, West Virginia University, Morgantown, WV.  
*Concentration: Biochemistry and Molecular Biology*  
*Thesis Title: Fibroblast growth factor-19 inhibits hepatic fatty acid synthesis.*  
*Thesis Advisor: Dr. Frank B. Hillgartner*
- 2001      M.Sc. (Hons), Chemistry, Panjab University, Chandigarh, India.  
*Concentration: Physical Chemistry*  
*Project Title: Study of Ground Water Quality in the Nawashahar Region of Punjab.*
- 1999      B.Sc. (Hons), Chemistry, Panjab University, Chandigarh, India.

**Academic Appointments**

- 2016–      Member, Diabetes Research Center, University of Alabama (UAB), Birmingham, AL.  
Present
- 2016–      Member, Nutritional and Obesity Research Center (NORC), University of Alabama,  
Present      Birmingham, AL.
- 2016–      Associate Scientist, UAB Center for Exercise and Medicine, University of Alabama,  
Present      Birmingham, AL.
- 09/2015–   Assistant Professor of Medicine, Division of Endocrinology, Diabetes, and Metabolism,  
Present      University of Alabama, Birmingham, AL.
- 06/2012–   Assistant Scientist, Department of Biochemistry, University of Wisconsin, Madison, WI.  
08/2015      *Research Mentor: Dr. Alan D. Attie*
- 01/2009–   Research Associate Postdoctoral Fellow, Department of Biochemistry, University of  
06/2012      Wisconsin, Madison, WI.  
*Research Mentor: Dr. Alan D. Attie*

**Research Interests**

Our laboratory is interested in understanding the mechanisms underlying insulin secretion from the pancreatic islets in obesity and type 2 diabetes. Currently, we are pursuing the following projects:

*Project 1. The role of Tomosyn family of proteins in regulating insulin secretion and glucose homeostasis.*

We positionally cloned Tomosyn-2 under a fasting glucose quantitative trait locus and demonstrated that genetic alterations in the Tomosyn-2 gene increase susceptibility to type 2 diabetes. We also showed that Tomosyn-2 is among the few known endogenous inhibitor of insulin secretion that functions by decreasing the ability of insulin granules to fuse to the plasma membrane. Our data show that Tomosyn-2 acts as a major hub in beta-cells that integrates the nutritional and genetic cues to modulate the proximal steps in the fusion of the insulin granules to the plasma membrane affecting insulin secretion. Currently, we are investigating the molecular mechanism by which Tomosyn-2 inhibits insulin secretion and glucose tolerance in healthy and pathophysiological states. Additionally, we are also investigating the essential role of a similar protein, Tomosyn-1 in insulin secretion, and

type 2 diabetes. Using biochemical and cell biology-based approaches in primary cells and knockout mouse models, our laboratory is understanding the role of Tomosyn proteins in regulating whole-body glucose metabolism in lean and obese metabolic states.

*Project 2. The role of secreted proteins complement-1q like (C1ql) (1-4) and G-protein coupled receptors brain adhesion angiogenesis inhibitor (BAI) signaling pathway in insulin secretion.*

We discovered a novel C1ql3 secreted protein signaling pathway that specifically inhibits cyclic adenosine monophosphate-stimulated insulin secretion from pancreatic beta-cells. We showed that C1ql3's adhesion G-protein coupled receptor, BAI3, mediates the inhibitory effects of C1ql3 on insulin secretion. Our laboratory is now interested in understanding the role of this yet-undescribed C1ql3-BAI3 signaling pathway in beta-cells function. Additionally, we seek to understand the role of C1ql and BAI family of proteins in type 2 diabetes.

*Project 3. Identification and characterization of novel secreted protein regulators of obesity, age, and genetics that affect the function of key metabolic tissues.*

Our lab is interested in developing a methodology to screen for secreted proteins in the tissue of origin and determine their function in the target tissue. For this, we combine the use of gene/protein expression profiling with the coexpression network-based approaches to identify secreted protein regulators and determine their tissue-specific function. Overall, this methodology serves as a 'hypothesis-generating' platform for inter-tissue regulators. We have applied this approach to identify a novel C1ql3 signaling pathway affecting beta-cell function and continue to use this approach to find novel regulators of islet function with therapeutic potential.

## Honors and Awards

- |            |                                                                                                                                         |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 2020       | UAB Pittman Scholar award for academic achievements made by young faculty.                                                              |
| 2019, 2020 | Nominated for the Pittman Scholar award for research achievements by the Department of Medicine, UAB                                    |
| 2019-2020  | Selected as a leadership participant for the Department of Medicine, UAB                                                                |
| 2019       | Oral presentation award (1 <sup>st</sup> place), 2019 Midwest Islet Club conference, Mentor (with Dr. Rajesh Gupta).                    |
| 2019       | Top scoring abstract-Winner of the 2019 Eliezer S. Award for Best Diabetes Research, UAB Diabetes day, Mentor (with Dr. Rajesh Gupta).  |
| 2018       | Poster 1 <sup>st</sup> Place: Darwin Day UAB, Mentor (with Trung Huynh).                                                                |
| 2018       | Oral Award 1 <sup>st</sup> Place: 17 <sup>th</sup> Annual UA Honors Systems Research Conference, Mentor (with Trung Huynh).             |
| 2018       | Goldwater Institutional Nominee, Mentor (with Trung Huynh).                                                                             |
| 2017       | Oral Award 2 <sup>nd</sup> Place: UAB Fall Expo, Mentor (with Trung Huynh).                                                             |
| 2017       | Southeastern Medical Scientist Symposium Travel Grant @Emory (Funded by NIH/NIGM), Mentor (with Trung Huynh).                           |
| 2017       | Oral Award 2 <sup>nd</sup> Place: UAB Summer Expo, Mentor (with Trung Huynh).                                                           |
| 2017       | Oral presentation award (3 <sup>rd</sup> place), 2017 Midwest Islet Club conference, Mentor (with Trung Huynh).                         |
| 2017       | UAB Honors College Experiential Fellowship Program, Mentor (with Trung Huynh).                                                          |
| 2017       | One of the top abstracts at the conference. Young Investigator Travel Grant Award to American Diabetes Association 2017, San Diego, CA. |
| 2012       | Keystone Scholarship: Pathogenesis of Diabetes: Emerging Insights into Molecular Mechanisms (J8), Santa Fe, NM; Jan 29- Feb 3, 2012.    |

- 2008 Best Poster Award: 2008 FASEB Summer Conferences: Molecular Mechanisms Involved in the Nutrient Control of Cellular Function, Carefree, Arizona; July 20–25, 2008.
- 2008 Best Poster Award: 2008 E. J. Van Lier Convocation and Research Day, West Virginia University, WV.
- 2008 Top 10 Abstracts for Oral Presentations – 2008 E. J. Van Lier Convocation and Research Day, West Virginia University.
- 2008 Pfizer Global Research and Development Scholarship Award: Keystone Symposia on Diabetes Mellitus, Insulin Action, and Resistance (A6), Breckenridge, CO; January 22–27, 2008.
- 2008 Graduate Student Travel Award, School of Medicine, West Virginia University, WV.

## **Funding**

- 01/2020–01/2021 UAB AMC21 Multi-PI Grant Sushant Bhatnagar (Co-PI), NIDDK, NIH; Deciphering the interplay of pancreatic alpha- and beta-cells in diabetes.
- 04/2019–03/2024 1R01 DK120684-01, Sushant Bhatnagar (PI), NIDDK, NIH; The role of Tomosyn-2 in insulin secretion and glucose tolerance.  
The goal of this grant is to investigate the role of Tomosyn-2 in regulating whole body glucose homeostasis.
- 01/2018–01/2021 ADA Grant #1-18-PDF-103; American Diabetes Association Postdoctoral fellowship, Mentor, (With Rajesh Gupta (PI)); C1qI3 inhibits GLP-1 incretin-induced insulin secretion by Bia3 adhesion G-protein coupled receptor in pancreatic beta cells.
- 05/2017–05/2019 5P30DK079626-10; UAB DRC Pilot and Feasibility grant award, Sushant Bhatnagar (PI); The role of C1qI3 secreted protein in insulin secretion from pancreatic islets.  
The goal of this study that is supported by UAB DRC Pilot and Feasibility grant award is to generate preliminary data to obtain major funding on the project.
- 2016–2019 4R00DK095975-03, Sushant Bhatnagar (PI), NIDDK, NIH, The role of tomosyn-2 in insulin secretion.  
The goal of this study is to identify the mechanisms that regulate the functional activity of tomosyn-2 in insulin secretion and mechanism by which Tomosyn-2 regulates insulin secretion.
- 2014–2015 K99 NIH Pathways to Independence award (1K99DK095975-01), Sushant Bhatnagar (PI), NIDDK, NIH, The role of tomosyn-2 in insulin secretion.  
The goal of this project to identify cell signaling pathway that regulates Tomosyn-2's ability to inhibit insulin secretion in pancreatic beta cells.
- 06/ 2011–06/2012 American Diabetes Association Mentor-Based Fellowship 7-11-MN-03 07/01/11-06/30/15.

## **Educational Activities and Presentations**

### Classroom Teaching

- 2016–Present Noon conference, Division of Endocrinology, Diabetes, and Metabolism, UAB.
- 2016–Present Endocrinology Grands Rounds, UAB.
- 01/2014–05/2014 Instructor, Course: Biochem 729 Advanced Topics; Graduate Level Course, Department of Biochemistry, University of Wisconsin-Madison, WI.

- 2011 and 2010 Graduate Biochemistry 710, "Regulation of Lipogenic Genes: Role of SREBP-1c". Guest Lecture, Department of Biochemistry, University of Wisconsin-Madison, WI.
- 2004–2005 Small group facilitator and study group leader, School of Medicine, West Virginia University. Course: Medical Biochemistry.
- 2002–2003 Teaching Assistant, Department of Biochemistry and Molecular Biology, West Virginia University.  
*Course: Biochemistry*
- 08/2001–05/2002 Teaching Assistant, Department of Chemistry, University of Houston *Course: Organic Chemistry.*

## Laboratory Mentoring and Training

### Post-docs Research Mentor

- 2019–Present Sayak Bhattacharya, Ph.D., Postdoctoral Researcher, UAB
- 2016–present Rajesh Gupta, Ph.D., ADA Postdoctoral Researcher, UAB

### Graduate Research Mentor

- 2009–2010 Sara Worzella, M.S., Genetics, University of Wisconsin-Madison. (Co-Mentor)
- 2011–2015 Lindsay R. Schneider, Ph.D. Candidate Pathology Graduate Program, University of Wisconsin-Madison, WI. (Co-Mentor)
- 2013–2015 Mufaddal Soni, Ph.D. Candidate Biochemistry Graduate Program, University of Wisconsin-Madison, WI. (Co-Mentor)
- 2018-2019 Itika Arora, Ph.D. GBS Graduate Student, University of Alabama-Birmingham
- 2019-Present Haifa Alsharif, Ph.D. GBS Graduate Student, University of Alabama-Birmingham
- 2019-Present Shujia Liu, M.S (Biotechnology), University of Alabama-Birmingham

### Undergraduate Research Mentor

- 2019 Jennifer Orduno, Jaime Thompson, University of Alabama-Birmingham
- 2016–Present Dan Nguyen, University of Alabama-Birmingham
- 2016–2018 Christopher Truong, Trung C. Huynh, University of Alabama-Birmingham
- 2012–2015 Amber Zhou, Brooke Sample, Josh Taylor
- 2012–2013 Amber Zhou and Kaia Stroud, Medicine 699, Independent Study
- 2012–2013 Kaitlyn Waldron, Medicine 699, Independent Study
- 2012–2012 Minhui Su, Exchange student at University of Wisconsin-Madison
- 2010–2012 Ming Mu, Medicine 699, Independent Study
- 2009–2011 Nathan Truchan, Medicine 699, Independent Study
- 2009–2010 Amanda Fusilier, Medicine 699, Independent Study
- 2010–2010 Tapojyoti Das, Khorana Scholar

## Press Releases

- 2011 Work featured "Diabetes gene identified: tomosyn-2 regulates insulin secretion" in several national and international media (Science Daily, USA; Press Association, UK; Times of India, India; etc.), October, 2011.
- 2008 Work featured, "WVU research shows new class of hormones may reverse diabetes and obesity: Graduate student's presentation wins international award" Health Newsletter, October 2008, West Virginia University.
- 2008 Work featured, "WVU research shows new class of hormones may reverse diabetes and obesity: Graduate student's presentation wins international award" Pittsburgh Post-Gazette, October 2008.

## Service

- 01/2020 Reviewed abstracts for the American Diabetes Association Conference
- 11/2019 Interviewed AIBM candidates for the UAB Department of Medicine
- 11/2019 Interviewed MSTP candidates for the UAB Department of Medicine
- 2019-2022 Member of the IACUC review committee, UAB
- 2019-2022 Member of the Research Development Group, Department of Medicine, UAB
- 09/2019 Reviewed pilot grant from the DRC of the University of Washington, St. Louis
- 06/2019 Reviewed grant applications for the Peer Reviewed Medical Research Program (PRMRP) Discovery Award Diabetes-2 (DIS-DIA-2), Department of Defense
- 2019 Reviewed fellowship grants for GRD709 mock study section, UAB
- 2019 Reviewed late breaking abstracts for poster presentations for the American Diabetes Association conference.
- 2019 Reviewed pre-application grant applications for the Peer Reviewed Medical Research Program (PRMRP) Discovery Award Diabetes-1 (DIS-DIA-1), Department of Defense
- 2019 Reviewed grant for Diabetes UK.
- 06/2019 Session chair for the oral presentations on *Novel Mechanisms in Beta-Cell Insulin Secretion* at American Diabetes Association conference.
- 2018 Reviewed abstracts for oral and poster presentations for the American Diabetes Association conference.
- 2018 Reviewed grant for the Ministry of Health, Jerusalem, Israel.
- 2018-2021 American Diabetes Association Grant Reviewer panel.
- 2018 UAB Department of Medicine peer-mentoring committee.
- 2017-Present Ad Hoc Reviewer for the following scientific journals: a) Molecular Metabolism, b) Diabetes, Obesity, and Metabolism, c) FASEB, d) PLOS one, e) Scientific Reports, f) Diabetes, g) JDRM, h) AJP.
- 2016 Session chair for the oral presentations at Midwest Islet Club conference.
- 2013, 2014 Reviewed abstracts for oral and poster presentations for the Midwest Islet Club conference.

## Membership

- 2019-Present Endocrine Society

2017- Present	Member of American Diabetes Association
2017- Present	Member of ASBMB

### Oral Presentations

1. **Bhatnagar, S.**, Identification and Characterization of Novel Proteins that Inhibit Insulin Secretion. Department of Biochemistry Spring Seminar Series, West Virginia University, Morgantown, WV, January 28, 2020.
2. **Bhatnagar, S.** From genetics and bioinformatics to function: identification and characterization of novel protein inhibitors of insulin secretion. Department of Cell, Developmental and Integrative Biology, University of Alabama, Birmingham, AL, November 20, 2019.
3. **Bhatnagar, S.** From genetics and bioinformatics to function: identification and characterization of novel protein inhibitors of insulin secretion. Department of Medicine, Division of Endocrinology, Diabetes, and Metabolism, University of Pittsburgh, PA, November 13, 2019.
4. **Bhatnagar, S.** Identification and characterization of complement 1q-like 3 secreted protein in  $\beta$ -cell function, Endocrinology Research Meeting, UAB, Birmingham, AL, August 13<sup>th</sup>, 2019.
5. **Bhatnagar, S.** Regulation of insulin secretion from pancreatic beta cells. Endocrinology Grand Rounds, UAB, Birmingham, AL, February 28<sup>th</sup>, 2019.
6. Gupta, R and **Bhatnagar, S.** Complement 1q like-3 Secreted Protein Inhibits Insulin Secretion by an Adhesion G-Protein Coupled Receptor, BAI3 in Pancreatic  $\beta$ -cells. Midwest Islet Club Conference, Ann Harbor, MI, May 2019.
7. Gupta, R and **Bhatnagar, S.** Complement 1q like-3 Secreted Protein Inhibits Insulin Secretion by an Adhesion G-Protein Coupled Receptor, BAI3 in Pancreatic  $\beta$ -cells. University of Alabama Diabetes Research Day, Birmingham, AL, May 2019. **Top scoring abstract-Winner of the 2019 Eliezer S. Award for Best Diabetes Research**
8. Gupta, R and **Bhatnagar, S.** An alpha-cell secreted protein complement 1q like-3 inhibits insulin secretion via BAI3 adhesion G-protein coupled receptor from pancreatic beta-cells. Midwest Islet Club Conference, St. Louis, Missouri, May 2018.
9. **Bhatnagar, S.** From genetics and bioinformatics to function: identification and characterization of novel protein inhibitors of insulin secretion. Department of Physiology, Johns Hopkins University, MD. March 28, 2018.
10. **Bhatnagar, S.** The complement 1q-Like 3 secreted protein acts as an inhibitor of insulin secretion from pancreatic  $\beta$  cells. Keystone Symposia on the Frontiers of Islet Biology, Keystone, CO, February 4–8, 2018.
11. Huynh, T.C., Truong, C., Gupta, R., Schueler, K., Attie, A.D., and **Bhatnagar, S.** Synaptotagmin-9 regulates tomosyn-2 protein abundance to affect early phase of insulin secretion. Boshell Diabetes Research Day, Auburn, AL, February 16, 2018.
12. Gupta, R., Koltjes, J.E., and **Bhatnagar, S.** The complement 1q-like 3 secreted protein inhibits insulin secretion by G-protein coupled receptor, BAI3 from pancreatic  $\beta$ -cells. Boshell Diabetes Research Day, Auburn, AL, February 16, 2018.
13. Huynh TC, Gupta R, **Bhatnagar S.** Regulatory mechanism of the early phase of insulin secretion by tomosyn. UA Systems Honors Research Day, Tuscaloosa, AL, February 3, 2018.
14. Huynh, T.C., Gupta, R., **Bhatnagar, S.** Synaptotagmin-9 regulates tomosyn protein abundance to affect early phase of insulin secretion. UAB Fall Research Expo, Birmingham, AL, November 30, 2017.
15. **Bhatnagar, S.** C1ql3 antagonizes GLP-1-induced insulin secretion by Bai3 adhesion G-protein coupled receptor in pancreatic beta cells. American Diabetes Association Conference: 77<sup>nd</sup> Scientific Sessions, San Diego, CA, June 9–13, 2017. C1ql3 antagonizes GLP-1-induced insulin secretion by Bai3 adhesion G-protein coupled receptor in pancreatic beta cells.

American Diabetes Association Conference: 77<sup>nd</sup> Scientific Sessions, San Diego, CA, June 9–13, 2017. **(Top Scoring Abstract)**

16. Huynh, T.C., Truong, C., Gupta, R., Schueler, K., Attie, A.D., and **Bhatnagar, S.** Synaptotagmin 9 regulates tomosyn-2 protein abundance to affect early phase of insulin secretion. Midwest Islet Club Conference, Madison, WI, May, 2017.
17. Gupta, R., Koltes, J.E., and **Bhatnagar, S.** C1ql3 antagonizes GLP-1 induced insulin secretion by Bai3 adhesion G-protein coupled receptor in pancreatic beta cells. Midwest Islet Club Conference, Madison, WI, May, 2017.
18. Gupta, R., Huynh, T.C., Truong, C., Nguyen, D., and **Bhatnagar S.** An islet secreted protein, C1ql3 inhibits GLP-1 induced insulin secretion via Bai3 adhesion G-protein coupled receptor from beta cells. Boshell Diabetes and Metabolic 10<sup>th</sup> Annual Research Day, Auburn University, AL, March 3<sup>rd</sup>, 2017.
19. Gupta, R. and **Bhatnagar, S.** C1ql3 antagonizes GLP-1 induced insulin secretion by Bai3 adhesion G-protein coupled receptor in pancreatic beta cells. UAB Diabetes Research Day, Birmingham, AL, May 2<sup>nd</sup>, 2017.
20. **Bhatnagar, S.** Phosphorylation and degradation of tomosyn-2 de-represses insulin secretion Boshell Diabetes and Metabolic 9<sup>th</sup> Annual Research Day, Auburn University, AL, Feb 26<sup>th</sup>, 2016.
21. **Bhatnagar, S.** Phosphorylation and degradation of tomosyn-2 de-represses insulin secretion Midwest Islet Conference, Chicago, May 20–21, 2015.
22. **Bhatnagar, S.** Identifying and characterizing novel regulators of insulin secretion. Seminar at the Department of Molecular Medicine, University of South Florida, Tampa, FL, January 14, 2015.
23. **Bhatnagar, S.** Identifying and characterizing novel regulators of insulin secretion. Seminar at the Obesity and Diabetes Center, University of Louisville, Louisville, KY, December 5, 2014.
24. **Bhatnagar, S.** Identifying and characterizing novel regulators of insulin secretion. Seminar at the Comprehensive Diabetes Center, University of Alabama at Birmingham, Birmingham, AL, November 6, 2014.
25. **Bhatnagar, S.** Identifying and characterizing novel regulators of insulin secretion. Faculty Seminar at the School of Biology, Georgia Institute of Technology, Atlanta, GA, August 21, 2014.
26. **Bhatnagar, S.** Identifying and characterizing novel regulators of insulin secretion. Spring Seminar Series, Department of Biochemistry, West Virginia University, Morgantown, WV, February 26, 2013.
27. **Bhatnagar, S.** Positional cloning of a type 2 diabetes quantitative trait locus: *tomosyn-2*, a negative regulator of insulin secretion. Membrane Protein/Trafficking Seminar Series. Bock Laboratories, University of Wisconsin-Madison, WI, May 17, 2012.
28. **Bhatnagar, S.** Positional cloning of a type 2 diabetes quantitative trait locus; *Tomosyn-2*, a negative regulator of insulin secretion. The Midwest Islet Club Conference, University of Wisconsin-Madison, Madison, WI, May 25–27, 2011.
29. **Bhatnagar, S.** Fibroblast Growth Factor-19: A novel factor for inhibiting fatty acid synthesis. E.J. Van Liere Research Convocation and Research Day, West Virginia University, WV, 2008.
30. **Bhatnagar, S.** New insights in eukaryotic transcription termination. Department of Biochemistry and Molecular Pharmacology, West Virginia University, WV, 2005.

## Published Abstracts

1. Koltes, J.E., Arora, I., Gupta, R., Nguyen, D.C., Kimple, M.E., and **Bhatnagar, S.** A Gene Expression Network Analysis of the Pancreatic Islets from Lean and Obese Mice Identifies Complement 1q-Like-3 Secreted Protein as a Regulator of Beta-Cell Function. *Diabetes* 2019 Jun; 68(Supplement 1).
2. Gupta, R., Schiad, M., Kimple, M.E., Koltes, J.E., and Bhatnagar, S. The Complement-1q-Like-3 inhibits insulin secretion by an adhesion G-protein coupled receptor, BAI3 in pancreatic beta cells. *Diabetes* 2018 Jul; 67(Supplement 1).
3. **Bhatnagar, S.** C1qI3 antagonizes GLP-1-induced insulin secretion by Bai3 adhesion G-protein coupled receptor in pancreatic beta cells. *Diabetes* 2017 Jun; 66 (Supplement 1): A1-A100.
4. Gupta, R., Huynh, T.C., Truong, C., and **Bhatnagar, S.** Synaptotagmin-9 regulates tomosyn-2 protein abundance to affect early phase of insulin secretion. *Diabetes* 2017 Jun; 66 (Supplement 1): A565-A584.
5. **Bhatnagar, S.**, Schneider, L.R., Hebert, A., Coon, J.J., and Attie, A.D. (2013). Insulin, cAMP, and phorbol ester-activated cell signaling pathways phosphorylate tomosyn-2 to regulate insulin secretion in pancreatic beta-cells. *Diabetes*, 62 (Suppl. 1); A581.
6. **Bhatnagar, S.**, Herbert, A., Oler, A.T., Rabaglia, M.R., Schneider, L.R., Stapleton DS, Keller M, Schueler KL, and Coon JJ. (2012). An E3-ubiquitin ligase regulates the activity of an inhibitor of insulin secretion. *Diabetes*, 61 (Suppl. 1A); LB19.

#### Poster Presentations

1. Bhattacharya, S., Koltes, E. J., Arora, I., Gupta, R., Schiad, M., Kimple, M.E., and **Bhatnagar, S.** A gene expression network analysis of the pancreatic islets from lean and obese mice identifies complement 1q-like-3 secreted protein as a regulator of  $\beta$ -cell function. Midwest Islet Club Conference, Ann Harbor, MI, May, 2019.
2. Bhattacharya, S., Koltes, E. J., Arora, I., Gupta, R., Schiad, M., Kimple, M.E., and **Bhatnagar, S.** A gene expression network analysis of the pancreatic islets from lean and obese mice identifies complement 1q-like-3 secreted protein as a regulator of  $\beta$ -cell function. University of Alabama Diabetes Research Day, Birmingham, AL, May, 2019.
3. Gupta, R., Nguyen, D., Schaid, M.D., Kimple, M.E., and **Bhatnagar, S.** A Gene Expression Network Analysis of the Pancreatic Islets from Lean and Obese Mice Identifies Complement 1q-Like-3 Secreted Protein as a Regulator of Beta-Cell Function. American Diabetes Association's 79th Scientific Sessions, in San Francisco, CA, June 7–11, 2019.
4. Gupta, R., Nguyen, D., Schaid, M.D., Kimple, M.E., and **Bhatnagar, S.** A Secreted Protein Complement 1q Like-3 Protein Inhibits Insulin Secretion by an Adhesion G-Protein Coupled Receptor, BAI3 in Pancreatic  $\beta$ -Cells. Endocrine Society, New Orleans, LA, March 23–25, 2019. (**Selected for Presidential Poster Competition**)
5. Gupta, R., Schaid, M., Kimple, M., Koltes, J.E., **Bhatnagar, S.** The complement-1q-like-3 inhibits insulin secretion by an adhesion G-protein coupled receptor, BAI3 in pancreatic beta cells. 78<sup>th</sup> American Diabetes Association Scientific Sessions, Orlando, FL, June, 2018.
6. Huynh, T.C., Gupta R., and **Bhatnagar, S.** Early phase insulin secretion regulated by tomosyn abundance via synaptotagmin-9. Darwin Day UAB, Birmingham, AL, February 8, 2018.
7. Huynh, T.C., Gupta, R., and **Bhatnagar, S.** Synaptotagmin-9 regulates tomosyn protein abundance to affect early phase of insulin secretion. Southeastern Medical Scientist Symposium; Atlanta, GA, November 18–19, 2017.
8. Gupta, R., Huynh, T.C., Truong, C., and **Bhatnagar, S.** Synaptotagmin-9 regulates tomosyn-2 protein abundance to affect early phase of insulin secretion. American Diabetes Association Conference: 77<sup>nd</sup> Scientific Sessions, San Diego, CA, June 9–13, 2017.



9. Koltres, J.E., Gupta, R., and **Bhatnagar, S.** Transcriptomics, informatics and functional analyses identify the secreted protein C1ql3 as a regulator of pancreatic beta-cell function. Keystone Symposia: Obesity and Type 2 Diabetes, Keystone, CO, January 22–27, 2017.
10. Wrighton, L., **Bhatnagar, S.**, Keller, M.P., Chapman, E., and Attie, A.D. Sytmaptotagmin-11 is required for the formation of the dense core in insulin granules. Midwest Islet Conference, Chicago, May 20–21, 2015.
11. **Bhatnagar, S.**, Schneider, L.R., Hebert, A., Coon, J.J., and Attie, A.D. Insulin, cAMP, and phorbol ester-activated cell signaling pathways phosphorylate tomosyn-2 to regulate insulin secretion in pancreatic beta-cells. American Diabetes Association Conference: 73<sup>rd</sup> Scientific Sessions, Chicago, IL; June 21–25, 2013.
12. **Bhatnagar, S.**, Schneider, L.R., Hebert, A., Soni, M.S., Keller, M.P., Coon, J.J., and Attie, A.D. Glucose, cAMP, and phorbol ester-activated cell signaling pathways phosphorylate tomosyn-2 to regulate insulin secretion in pancreatic beta-cells. Complex Trait Community 12<sup>th</sup> Annual Meeting, University of Wisconsin-Madison, Madison, WI; May 28–31, 2013.
13. Soni, M.S., Keller, M.P., Rabaglia, M.E., **Bhatnagar, S.**, Shang, J., Li, J., Zhou, H., Zhou, Y.P., Kheterpal, I., Mynatt, R., Newgard, C.B., Howard, A.D., and Attie, A.D. MiRNAs 132 and 212 results in a down-regulation of CACT, leading to an increase in insulin secretion Via fatty acyl-carnitine accumulation. The Midwest Islet Club Conference, University of Michigan, Ann Harbor, MI; May 22–23, 2013.
14. Soni, M.S., Keller, M.P., Rabaglia, M.E., **Bhatnagar, S.**, Shang, J., Zhou, Y.P., Mynatt, R., and Attie, A.D. MiRNAs 132 and 212 results in a down-regulation of CACT, leading to an increase in insulin secretion via accumulation of fatty acyl-carnitine molecules. Keystone Symposia: Diabetes - New Insights into Mechanism of Disease and its Treatment (J6), Keystone, CO; January 27–February 1, 2013.
15. **Bhatnagar, S.**, Schneider, L.R., Hebert, A., Coon, J.J., and Attie, A.D. Insulin, cAMP, and phorbol ester-activated cell signaling pathways phosphorylate tomosyn-2 to regulate insulin secretion in pancreatic beta-cells. Keystone Symposia: Diabetes - New Insights into Mechanism of Disease and its Treatment (J6), Keystone, CO; January 27– February 1, 2013.
16. **Bhatnagar, S.**, Hebert, A., Oler, A.T., Rabaglia, M.E., Schneider, L.R., Stapleton, D.S., Schueler, K.L., Keller, M.P., Coon, J.J., and Attie, A.D. An E3-ubiquitin ligase regulates the activity of an inhibitor of insulin secretion. American Diabetes Association Conference: 72<sup>nd</sup> Scientific Sessions Pennsylvania Convention Center, Philadelphia, PA; June 8–12, 2012.
17. **Bhatnagar, S.**, Oler, A.T., Rabaglia, M.R., Stapleton, D.S., Keller, M., Schueler, K.L., and Attie, A.D. Positional cloning of a type 2 diabetes quantitative trait locus; Tomosyn-2, a negative regulator of insulin secretion. Keystone Symposia: Pathogenesis of Diabetes: Emerging Insights into Molecular Mechanisms (J8), Santa Fe, NM; Jan 29–Feb 3, 2012.
18. **Bhatnagar, S.**, Oler, A.T., Rabaglia, M.R., Stapleton, D.S., Keller, M., Schueler, K.L., and Attie, A.D. Positional cloning of a type 2 diabetes quantitative trait locus; Tomosyn-2, a negative regulator of insulin secretion. The Metabolism of Lipids: Implication in Human Diseases, 34<sup>th</sup> Steenbock Symposium, Madison, WI; May 22–25, 2011.
19. **Bhatnagar, S.**, Oler, A.T., Rabaglia, M.R., Stapleton, D.S., Keller, M., Schueler, K.L., and Attie, A.D. Positional cloning of a type 2 diabetes quantitative trait locus; Tomosyn-2, a negative regulator of insulin secretion. The Midwest Islet Club Conference, University of Wisconsin-Madison, Madison, WI; May 25–27, 2011.
20. **Bhatnagar, S.**, Oler, A.T., Rabaglia, M.R., Stapleton, D.S., Keller, M., Schueler, K.L., and Attie, A.D. The role of tomosyn-2 in insulin secretion. The Midwest Islet Club Conference, Indiana University School of Medicine, Indianapolis, IN; May 26–27, 2010.

21. Oler, A.T., **Bhatnagar, S.**, Rabaglia, M.R., Stapleton, D.S., Keller, M., Schueler, K.L., Fusilier, A.M., and Attie, A.D. Defective insulin secretion attributed to a diabetes susceptibility locus on mouse chromosome 16. The Midwest Islet Club Conference, St Louis, MO; May 27–29, 2009.
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