

VINCENT S. TAGLIABRACCI
UNIVERSITY OF TEXAS, SOUTHWESTERN MEDICAL CENTER
DEPARTMENT OF MOLECULAR BIOLOGY
6000 HARRY HINES BLVD
DALLAS, TX 75390-9148
EMAIL: Vincent.tagliabracci@UTSouthwestern.edu

EDUCATION

- 2010** *Indiana University, Indianapolis, IN*
Ph.D. Department of Biochemistry and Molecular Biology
Thesis Advisor: Peter J. Roach
Metabolism of the Covalent Phosphate in Glycogen
- 2005** *University of Indianapolis, Indianapolis, IN*
Bachelor of Science, Department of Chemistry
Bachelor of Science, Department of Biology

PROFESSIONAL EXPERIENCE

- 2010** *Postdoctoral Fellow/Howard Hughes Medical Institute*
University of California, San Diego
Department of Pharmacology
Advisor: Jack E. Dixon
- 2015** *Assistant Professor*
University of Texas, Southwestern Medical Center
Department of Molecular Biology

HONORS AND AWARDS

- 2015** *Endowed Scholar, UT Southwestern*
- 2015** *Cancer Prevention Research Institute of Texas (CPRIT) Scholar, UT Southwestern*
- 2015** *Science Teacher Access to Resources at Southwestern (STARS), UT Southwestern*
- 2012** *Best Poster Award: FASEB Science Research Conference on Protein Phosphatases.*
- 2011** *Esther L. Kinsley PhD Dissertation Award (a single prize considered across all academic fields)*
- 2010** *Sigma Xi. Graduate Student Research Competition. Raymond Paradise Award for 1st Place.*
- 2010** *Jack Davis Award for Best Seminar by a Graduate Student.*
- 2010** *Peggy Gibson Award for Best Paper by a Graduate Student.*
- 2009** *IUSM/CTSI Poster Session, 1st Place Student Category.*
- 2008** *Department of Biochemistry and Molecular Biology Student Representative.*
- 2008** *Biochemistry Retreat Poster Award.*
- 2008** *Sigma Xi, Graduate Student Research Competition. 2nd Place.*

- 2004 *Collegiate All American Scholar Award.*
- 2004 *Phi Alpha Epsilon Honor Society of America.*
- 2003 *Alpha Chi Honor Society of America.*
- 2003 *Outstanding student in chemistry award, University of Indianapolis.*
- 2002 *Rho Chapter of Sigma Zeta Honorary Society.*
- 2000-04 *Academic All Conference Team in Men's Golf at the University of Indianapolis.*
- 2001 *The National Deans List of America.*

PUBLICATIONS

23. **Tagliabracci, V.S.**,* Wiley, S.E.,* Guo, X., Kinch, L.N., Durrant, E., Wen, J., Xiao, J., Cui, J., Engel, J.L., Coon, J., Grishin, N., Pinna, L.A., Pagliarini, D.J., and Dixon, J.E. A Single Kinase Generates the Majority of the Secreted Phosphoproteome. *Cell* (2015) *In press.*
* co-first authors
22. Sreelatha, A., Kinch, L.N., **Tagliabracci, V.S.*** The Secretary Pathway Kinases *BBA-Proteins Proteom* (2015) *In press*
* corresponding author
21. Cui, J., Xiao, J., **Tagliabracci, V.S.**, Wen, J., Rahdar, M., and Dixon, J.E. A secretory kinase complex regulates extracellular protein phosphorylation. *eLife* 4.
20. Jewell, J.L., Kim, Y.C., Russell, R.C., Yu, F., Park, H.W., Plouffe, S.W., **Tagliabracci, V.S.**, and Guan, K.L. Differential Regulation of mTORC1 by Leucine and Glutamine. *Science* 347, 194-198 (2015).
19. **Tagliabracci, V.S.**, Engel, J.L., Wiley, S.E., Xiao, J., Gonzalez, D.J., Appaiah, H.N., Koller, A., Nizet, V., White K.E., and Dixon, J.E. Dynamic regulation of FGF23 by Fam20C phosphorylation, GALNT3 glycosylation and Furin proteolysis. *Proc Natl Acad Sci U S A* 111 5520-5525 (2014).
18. Ruiz, R., Jideonwo, V., Ahn, M., Surendran, S., **Tagliabracci, V. S.**, Hou, Y., Gamble, A., Kerner, J., Irimia Dominguez, J. M., Puchowicz, M. A., DePaoli-Roach, A., Hoppel, C., Roach, P., and Morral, N. Sterol Regulatory Element-binding Protein-1 (SREBP-1) Is Required to Regulate Glycogen Synthesis and Gluconeogenic Gene Expression in Mouse Liver, *J Biol Chem* 289, 5510-5517 (2014).
17. Chikwana, V. M., Khanna, M., Baskaran, S., **Tagliabracci, V. S.**, Contreras, C. J., DePaoli-Roach, A., Roach, P. J., and Hurley, T. D. Structural basis for 2'-phosphate incorporation into glycogen by glycogen synthase, *Proc Natl Acad Sci U S A* 110, 20976-20981 (2013).
16. **Tagliabracci, V.S.**, Xiao, J., and Dixon, J.E. Phosphorylation of substrates destined for secretion by the Fam20 kinases. *Biochem Soc Trans* 41: 1061-1065 (2013).
15. Xiao, J., **Tagliabracci, V.S.**, Wen, J., Kim, S.A., and Dixon, J.E. Crystal structure of the Golgi casein kinase. *Proc Natl Acad Sci U S A* 110: 10574-10579 (2013).
14. **Tagliabracci, V.S.**, Pinna, L.A., and Dixon, J.E. Secreted protein kinases. *Trends Biochem Sci* 38: 121-130. (2012).
13. **Tagliabracci, V.S.**, Engel, J.L., Wen, J., Wiley, S.E., Worby, C.A., Kinch, L.N., Xiao, J., Grishin, N.V., and Dixon, J.E. Secreted kinase phosphorylates extracellular proteins that regulate biomineralization. *Science* 336: 1150-1153 (2012).

12. Roach, P.J., Depaoli-Roach, A.A., Hurley, T.D., and **Tagliabracci, V.S.** Glycogen and its metabolism: some new developments and old themes. *Biochem J* 441: 763-787 (2012).
 11. Guo, X., Engel, J.L., Xiao, J., **Tagliabracci, V.S.**, Wang, X., Huang, L., and Dixon, J.E. UBLCP1 is a 26S proteasome phosphatase that regulates nuclear proteasome activity. *Proc Natl Acad Sci U S A* 108: 18649-18654 (2012).
 10. Jewell, J.L., Oh, E., Ramalingam, L., Kalwat, M.A., **Tagliabracci, V.S.**, Tackett, L., Elmendorf, J.S., and Thurmond, D.C. Munc18c phosphorylation by the insulin receptor links cell signaling directly to SNARE exocytosis. *J Cell Biol* 193: 185-199 (2011).
 9. **Tagliabracci, V.S.**, Heiss, C., Karthik, C., Contreras, C.J., Glushka, J., Ishihara, M., Azadi, P., Hurley, T.D., DePaoli-Roach, A.A., and Roach, P.J. Phosphate incorporation during glycogen synthesis and Lafora disease. *Cell Metab* 13: 274-282 (2011).
 8. **Tagliabracci, V.S.**, and Roach, P.J. Insights into the mechanism of polysaccharide dephosphorylation by a glucan phosphatase. *Proc Natl Acad Sci U S A* 107:15312-15313 (2010).
 7. Jiang, S., Heller, B., **Tagliabracci, V.S.**, Zhai, L., Irimia, J.M., DePaoli-Roach, A.A., Wells, C.D., Skurat, A.V., and Roach, P.J. Starch binding domain-containing protein 1/genethonin 1 is a novel participant in glycogen metabolism. *J Biol Chem* 285:34960-34971 (2010).
 6. DePaoli-Roach, A.A., **Tagliabracci, V.S.***, Segvich, D.M., Meyer, C.M., Irimia, J.M., and Roach, P.J. Genetic depletion of the malin E3 ubiquitin ligase in mice leads to lafora bodies and the accumulation of insoluble laforin. *J Biol Chem* 285: 25372-25381 2010.
- * co-first authors**
5. Heyen, C.A., **Tagliabracci, V.S.**, Zhai, L., and Roach, P.J. Characterization of mouse UDP-glucose pyrophosphatase, a Nudix hydrolase encoded by the Nudt14 gene. *Biochem Biophys Res Commun* 390: 1414-1418 (2009).
 4. **Tagliabracci, V.S.**, Girard, J.M., Segvich, D., Meyer, C., Turnbull, J., Zhao, X., Minassian, B.A., Depaoli-Roach, A.A., and Roach, P.J. Abnormal metabolism of glycogen phosphate as a cause for Lafora disease. *J Biol Chem* 283: 33816-33825 (2008).
 3. Wei, X., Ma, Z., Fontanilla, C.V., Zhao, L., Xu, Z.C., **Tagliabracci, V.S.**, Johnstone, B.H., Dodel, R.C., Farlow, M.R., and Du, Y. Caffeic acid phenethyl ester prevents cerebellar granule neurons (CGNs) against glutamate-induced neurotoxicity. *Neuroscience* 155: 1098-1105 (2008).
 2. **Tagliabracci, V.S.**, Turnbull, J., Wang, W., Girard, J.M., Zhao, X., Skurat, A.V., Delgado-Escueta, A.V., Minassian, B.A., Depaoli-Roach, A.A., and Roach, P.J. Laforin is a glycogen phosphatase, deficiency of which leads to elevated phosphorylation of glycogen in vivo. *Proc Natl Acad Sci U S A* 104: 19262-19266 (2007).
 1. Lin, S., **Tagliabracci, V.S.**, Chen, X., and Du, Y. Albumin protects cultured cerebellar granule neurons against zinc neurotoxicity. *Neuroreport* 16: 1461-1465 (2005).

INVITED LECTURES

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| 2014 | <i>Inhibitors of Protein Kinases, Warsaw, Poland.</i> |
| 2014 | <i>Gordon Research Conference: Protein Processing, Trafficking & Secretion</i> |
| 2014 | <i>UT Southwestern Faculty Recruitment Symposia</i> |
| 2013 | <i>FASEB Science Research Conference on Protein Kinases and Phosphorylation, Niagara Falls, NY</i> |
| 2013 | <i>Celebrating Science with Jack Dixon, HHMI, Chevy Chase, MD.</i> |
| 2013 | <i>Exploring kinomes: pseudokinases and beyond, Cambridge, UK.</i> |

- 2012** *Inhibitors of Protein Kinases, Warsaw, Poland.*
- 2012** *FASEB Science Research Conference on Protein Phosphatases, Snowmass, CO.*
- 2010** *Progressive Myoclonus Epilepsies in the New Millenium. Venice, Italy.*
- 2009** *Protein Phosphatases in Development and Disease, Egmond Ann Zee, the Netherlands.*
- 2008** *FASEB Science Research Conference on Protein Phosphatases, Snowmass, CO.*

RESEARCH SUPPORT

Ongoing: 08/01/13-07/31/18

NIH Pathway to Independence Award (K99/R00) National Institute of Health 1 K99 DK099254-01

Perfect Impact Score (10)

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

Phosphorylation of FGF23 coordinates crosstalk between the skeleton and kidney

Role: PI

The overall goal of this project is to determine the molecular mechanisms by which the secreted kinase Fam20C regulates FGF23 processing and activity.

Completed

NCI Ruth L. Kirschstein NRSA T32CA009523

Identification of a Family of Secreted Protein Kinases

Role: PI

The overall goal of this project is to structurally and functionally characterize a novel family of atypical, secreted protein kinases.

Completed

American Heart Association Pre-Doctoral Fellowship

Metabolism of the Covalent Phosphate in Glycogen

Role:PI

The overall goal of this project was to determine how the covalent phosphate in glycogen is metabolized with emphasis on laforin, a glycogen phosphatase implicated in Lafora disease, a fatal, teenage onset, progressive myoclonic epilepsy.

Completed

Devault Diabetes Fellowship

Glycogen Phosphate and Lafora Disease

Role:PI

The overall goal of this project was to determine how mutations in laforin cause the formation of Lafora bodies in patients with Lafora Disease.