

Sarah J. Lessard, PhD

Current Position

Associate Professor

Fralin Biomedical Research Institute at Virginia Tech Carilion, Center for Exercise Medicine Research;
Department of Human Nutrition, Foods, and Exercise; Virginia Polytechnic and State University (Virginia Tech)

Contact Information

Office Address: 4 Riverside Circle, Roanoke, VA, USA

Email: sarahlessard@vtc.vt.edu

Phone: 617-602-6082

Selected Publications:

1. Pattamaprapanont P, Pan H, Dreyfuss JM, Cooney EM, MacDonald TM, Paulo JA, **Lessard SJ***. Matrisome proteomics reveals novel mediators of muscle remodeling with aerobic exercise training. *Matrix Biology Plus*. 2024; 23:100159. PMID: PMC11363848.
2. MacDonald TL, Pathak P, Fernandez L, Freitas EC, Hafida S, Mitri J, Britton SL, Koch LG, **Lessard SJ***. Hyperglycaemia is associated with impaired muscle signalling and aerobic adaptation to exercise. *Nature Metabolism*. 2020; 2:902–917. PMID: PMC8278496
3. MacDonald TL, Pattamaprapanont P, Cooney EM, Nava RC, Mitri J, Hafida S, **Lessard SJ***. Canagliflozin Prevents Hyperglycemia-Associated Muscle Extracellular Matrix Accumulation and Improves the Adaptive Response to Aerobic Exercise. *Diabetes*. 2022; 71:881-893. PMID: PMC9044131.
4. Soares RN, **Lessard SJ***. Low Response to Aerobic Training in Metabolic Disease: Role of Skeletal Muscle. *Exercise & Sports Science Reviews*. 2024; 52:47-53. PMID: PMC10963145.
5. Alvares TS, de Souza LVM, Soares RN, **Lessard, SJ***. Cardiorespiratory Fitness Is Impaired in Type 1 and Type 2 Diabetes: A Systematic Review, Meta-Analysis, and Meta-Regression. *Medicine & Science in Sports & Exercise*. 2024; 56(9):1553-1562. PMID: PMC11327000.
6. Kjaergaard AD, Ellervik C, Jessen N, **Lessard SJ**. Cardiorespiratory fitness, body composition, diabetes, and longevity: a two-sample Mendelian randomization study. *Journal of Clinical Endocrinology & Metabolism*. 2024; Jun 12:doi: 10.1210/clinem/dgae393. Online ahead of print.
7. **Lessard SJ***, MacDonald TL, Pathak P, Han MS, Coffey VG, Edge J, Rivas DA, Hirshman MF, Davis RJ, Goodyear LJ. JNK Regulates Muscle Remodeling via Myostatin/SMAD inhibition. *Nature Communications*. 2018; 9(1): 3030. PMID: PMC6072737

8. Scheiman J, Lubber JM, Tung A, Chavkin TA, MacDonald TL, Punthambaker S, Tierney BT, Loc-Duyen P, Yang Z, Wibowo MC, Hattab M, **Lessard SJ**, Church GM, Kostic AD. Meta'omic analysis of elite athletes identifies a performance-enhancing microbe that functions via lactate metabolism. *Nature Medicine*. 2019; 25:1104-1109. PMID: PMC7368972
9. **Lessard SJ**, Rivas DA, Alves-Wagner AB, Hirshman MF, Gallagher IJ, Constantin-Teodosiu D, Atkins R, Greenhaff P, Qi NR, Gustafsson T, Fielding RA, Timmons JA, Britton SL, Koch LG, Goodyear LJ. Selective breeding for resistance to aerobic training causes metabolic dysfunction and reveals novel exercise-regulated signaling networks. *Diabetes*. 2013; 62: 2717-27. PMID: PMC3023282.
10. **Lessard SJ**, Lo Giudice SL, Lau W, Reid JJ, Turner N, Febbraio MA, Hawley JA, Watt MJ. Rosiglitazone enhances glucose tolerance by mechanisms other than reduction of fatty acid accumulation within skeletal muscle. *Endocrinology*. 2004; 145: 5665-5670.
11. **Lessard SJ**, Chen ZP, Watt MJ, Hashem M, Reid JJ, Febbraio MA, Kemp BE, Hawley JA. Chronic rosiglitazone treatment restores AMPK α 2 activity in insulin-resistant rat skeletal muscle. *Am J Physiol Endocrinol Metab*. 2006; 290: 251-257.
12. **Lessard SJ**, Rivas DA, Chen ZP, Bonen A, Febbraio MA, Reeder DW, Kemp BE, Yaspelkis BBIII, Hawley JA. Tissue-specific effects of Rosiglitazone and exercise in the treatment of lipid-induced insulin resistance. *Diabetes*. 2007; 56: 1856-64.
13. **Lessard SJ***, Rivas DA, Chen ZP, van Denderen BJ, Watt MJ, Koch LG, Britton SL, Kemp BE, Hawley JA. Impaired skeletal muscle beta-adrenergic activation and lipolysis are associated with whole-body insulin resistance in rats bred for low intrinsic exercise capacity. *Endocrinology*. 2009; 150: 4883-4891. PMID: PMC2775978.

A full list of my published work can be found at:

<https://www.ncbi.nlm.nih.gov/myncbi/1-AZPltX-xT5g/bibliography/public/>