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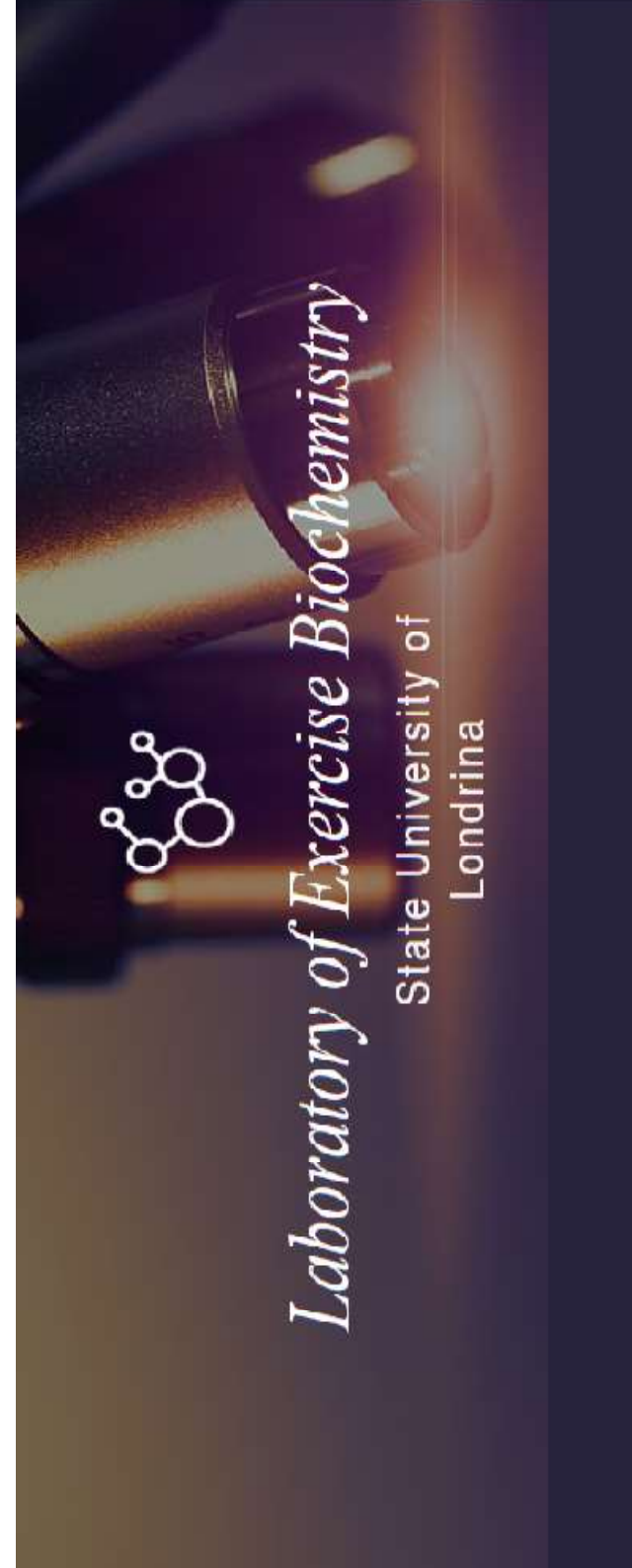
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Research Interest

Our research focuses on understand the mechanisms that underly skeletal muscle degeneration and muscle wasting induced by diseases. Our primary interest is in cancer cachexia and HIV/AIDS promoting muscle wasting and weakness. We are also interested on strategies to enhance resolution of muscle damage and wasting thought physical exercise and nutrition. We utilize animal models and human clinical trial to dissect the molecular processes that are central to muscle repair, and routinely alter gene expression in target pathways involved in muscle wasting. Our work has potential therapeutic applications in mitigate muscle wasting and weakness associated to cancer and HIV/AIDS.

Actual Projects and Grants

- Exercise control redox imbalance of skeletal muscle atrophy in cancer cachexia (Grants from Capes-Brazil). In collaboration with Prof. José Alberto Duarte – University of Porto, Portugal.
- Creatine supplementation for cancer cachexia using Walker-256 tumor model (Grants from CNP-q and Fund. Araucária-Brazil).
- Resistance exercise for people living with HIV/AIDS (Grants from SETI-Brazil).
- Creatine supplementation in fat-liver disease (Grants from Fapesp-Brazil). In collaboration with Dr. Phil Jhon T. Brosnan Memorial University of Newfoundland, Canada.

Laboratory People

Laboratory Leader:

Prof. Rafael Deminice, PhD

Adjunct Professor,

Dept. Physical Education



- Ph.D. in Biomedicine, University of São Paulo, with collaborative period in Memorial University of Newfoundland, Canada (2009)
- M.Sc Biomedicine, University of São Paulo (2006)
- B.S. in physical education, State University of São Paulo (2004)

Collaborating Researchers

- Flávia Alessandra Guarnier, PhD - State University of Londrina, Brazil.
- Alceu Afonso Jordao, PhD - University of São Paulo, Brazil.
- Fernando Trevisan Frajacomo, PhD – National Cancer Institute, Brazil.
- José Alberto Duarte, PhD – University of Porto, Portugal.
- Jhon T. Brosnan, Dr. Phil – Memorial University of Newfoundland, Canada.

Postdoctoral Reseachers

- Poliana Camila Marinello, PhD
- Fabricio Azevedo Voltarelli, PhD

Graduate Students

- Camila de Souza Padilha
- Vitor Hugo Fernando de Oliveira
- Donizete Cícero Xavier
- Diogo Farias Ribeiro
- Mayra Testa
- Paola Cella
- Kessi Cassiane Iarosz
- Philippe Bovo Guirro

Selected Publications

1. Frajacomo FT, de Souza Padilha C, Marinello PC, Guarnier FA, Cecchini R, Duarte JA, **Deminice R**. Solid Ehrlich carcinoma reproduces functional and biological characteristics of cancer cachexia. *Life Sci*. 2016 Aug 11. pii: S0024-3205(16)30471-4.
2. **Deminice R**, Padilha Cde S, Borges F, da Silva LE, Rosa FT, Robinson JL, Cecchini R, Guarnier FA, Frajacomo FT. Resistanc e exercise prevents impaired homocysteine metabolism and hepatic redox capacity in Walker-256 tumor-bearing male Wistar rats. *Nutrition*. 2016 ;32(10):1153-8.
3. **Deminice R**, de Castro GS, Brosnan ME, Brosnan JT. Creatine supplementation as a possible new therapeutic approach for fatty liver disease: early findings. *Amino Acids*. 2016 Aug;48(8):1983-91.
4. Campos-Ferraz PL, Gualano B, das Neves W, Andrade IT, Hangai I, Pereira RT, Bezerra RN, **Deminice R**, Seelaender M, Lancha AH. Exploratory studies of the potential anti-cancer effects of creatine. *Amino Acids*. 2016 Aug;48(8):1993-2001
5. **Deminice R**, Cella PS, Padilha CS, Borges FH, da Silva LE, Campos-Ferraz PL, Jordao AA, Robinson JL, Bertolo RF, Cecchini R, Guarnier FA. Creatine supplementation prevents hyperhomocysteinemia, oxidative stress and cancer-induced cachexia progression in Walker-256 tumor-bearing rats. *Amino Acids*. 2016 Aug;48(8):1983-91
6. de Castro GS, **Deminice R**, Cordeiro Simões-Ambrosio LM, C Calder P, A Jordão A, Vannucchi H. Dietary docosahexaenoic Acid and eicosapentaenoic Acid influence liver triacylglycerol and insulin resistance in rats fed a high-fructose diet. *Mar Drugs*. 2015 Apr 1;13(4):1864-81
7. **Deminice R**, de Castro GS, Francisco LV, da Silva LE, Cardoso JF, Frajacomo FT, Teodoro BG, Dos Reis Silveira L, Jordao AA. Creatine supplementation prevents fatty liver in rats fed choline-deficient diet: a burden of one-carbon and fatty acid metabolism. *J Nutr Biochem*. 2015 Apr;26(4):391-7.
8. Frajacomo FT, Kannen V, **Deminice R**, Geraldino TH, Pereira-da-Silva G, Uyemura SA, Jordão-Jr AA, Garcia SB. Aerobic Training Activates Interleukin 10 for Colon Anticarcinogenic Effects. *Med Sci Sports Exerc*. 2015 Sep;47(9):1806-13. d