ROYER Leandro de Oliveira

PhD Student
Department of Molecular Biophysics and Physiology
Rush University Medical Center
Chicago, IL, USA
1 312 942-6022
leandro_royer@rush.edu

Education

2003 – Present	**PhD**, Department of Molecular Biophysics and Physiology, Rush University Medical Center Chicago, USA
2003	**MSc**, Department of Biochemistry, University of Sao Paulo Sao Paulo, Brazil
1998	**BSc**, Molecular Sciences, University of Sao Paulo Sao Paulo, Brazil

Employment

2003 – Present	***PhD Student*** ***Thesis***: Functional effects of altered expression levels of calsequestrin 1 in adult mouse muscle ***Supervisor***: Eduardo Rios
1999 – 2003	***MSc Student*** ***Thesis:*** Mechanisms of the chemiluminescent reaction between peroxynitrite and carbonylic metabolites ***Supervisor:*** Etelvino Bechara

List of Publications

Peer-reviewed Articles

1. Bannwarth M, Correa Jr IR, Fellay C, Aebischen A, Sztretye M, Pouvreau S, **Royer L**, Rios E, Johnsson K. Indo-1 derivatives for local calcium sensing. *J Biol Chem* (submitted).

2. **Royer L**, Pouvreau S, Rios E. Evolution and modulation of intracellular calcium release during long-lasting, depleting depolarization in mouse muscle. *J Physiol* (2008) 586, 4609-4629.

3. Pouvreau S, **Royer L**, Yi J, Brum G, Meissner G, Rios E, Zhou J. Ca^{2+} sparks operated by membrane depolarization require isoform 3 ryanodine receptor channels in skeletal muscle. *Proc Natl Acad Sci USA* (2007) 104, 5235-5240.

4. Rios E, Launikonis BS, **Royer L**, Brum G, Zhou J. The elusive role of store depletion in the control of intracellular calcium release. *J Muscle Res Cell Motil* (2006) 27, 337-350.

5. Launikonis BS, Zhou J, **Royer L**, Shannon TR, Brum G, Rios E. Depletion "skraps" and dynamic buffering inside the cellular calcium store. *Proc Natl Acad Sci USA* (2006) 103, 2982-2987.

6. Zhou J, Yi J, **Royer L**, Launikonis BS, Gonzalez A, Garcia J, Rios E. A probable role of dihydropyridine receptors in repression of Ca^{2+} sparks demonstrated in cultured mammalian muscle. *Am J Physiol Cell Physiol* (2006) 290, C539-553.

7. Launikonis BS, Zhou J, **Royer L**, Shannon TR, Brum G, Rios E. Confocal imaging of [Ca^{2+}] in cellular organelles by SEER, shifted excitation and emission ratioing of fluorescence. *J Physiol* (2005) 567, 523-543.

8. **Royer LO**, Knudsen FS, de Olivera MA, Tavares MF, Bechara EJ. Peroxynitrite-initiated oxidation of acetoacetate and 2-methylacetoacetate esters by oxygen: potential sources of reactive intermediates in keto acidoses. *Chem Res Toxicol* (2004) 17, 1725-1732.

9. **Royer LO**, Knudsen FS, de Olivera MA, Tavares MF, Bechara EJ. Succinylacetone oxidation by oxygen/peroxynitrite: a possible source of reactive intermediates in hereditary tyrosinemia type I. *Chem Res Toxicol* (2004) 17, 598-604.

10. Knudsen FS, Penatti CA, **Royer LO**, Bidart KA, Christoff M, Ouchi D, Bechara EJ. Chemiluminescent aldehyde and beta-diketone reactions promoted by peroxynitrite. *Chem Res Toxicol* (2000) 13, 317-326.

Abstracts

1. **Royer L**, Pouvreau S, Wang Y, Meissner G, Zhou J, Volpe P, Nori A, Fitts R, Bain JW, Riley DA, Rios E. Functional and structural consequences of transiently increasing calsequestrin concentration by ~700% in mouse skeletal muscle. 52nd Annual Meeting of the Biophysical Society, Long Beach, California, USA. *Biophys. J* (2008) 94, 487-f.

2. Pouvreau S, **Royer L**, Zorzato F, Treves S, Zhou J, Rios E. Transient expression of exogenous ryanodine receptor 1 and ryanodine receptor 3 generates different calcium release events in mouse skeletal muscle. 52nd Annual Meeting of the Biophysical Society, Long Beach, California, USA. *Biophys. J* (2008) 94, 2111.

3. Zhou J, Yi J, **Royer L**, Pouvreau S, Rios E. Distribution, responses to Ca^{2+} transients and calibration of mitochondria-targeted cameleon biosensor expressed in muscle of live mice. 52nd Annual Meeting of the Biophysical Society, Long Beach, California, USA. *Biophys. J* (2008) 94, 1245.

4. Zhou J, Yi J, Fu R, Liu E, **Royer L**, Pouvreau S, Siddique T, Rios E, Deng HX. Abnormal mitochondria and Ca^{2+} signaling in the skeletal muscle of a murine model of amyotrophic lateral sclerosis. 52nd Annual Meeting of the Biophysical Society, Long Beach, California, USA. *Biophys. J* (2008) 94, 461.

5. Pouvreau S, **Royer L**, Yi J, Meissner G, Brum G, Rios E, Zhou J. Properties of Ca^{2+} sparks and waves in mouse muscle transiently transfected with rabbit RyR3. 51st Annual Meeting of the Biophysical Society, Baltimore, Maryland, USA. *Biophys. J* (2007) 92, 80a.

6. Zhou J, **Royer L**, Pouvreau S, Yi J, Meissner G, Brum, Rios E. Transient expression of RyR3 in mouse muscle reveals the roles of two channel isoforms in the production of voltage-dependent Ca^{2+}-sparks. 51st Annual Meeting of the Biophysical Society, Baltimore, Maryland, USA. *Biophys. J* (2007) 92, 343a.

7. Zhou J, Launikonis BS, **Royer L**, Shannon TS, Brum G, Rios E. Skraps of Ca^{2+} depletion suggest an alternative source for Ca^{2+} sparks and global Ca^{2+} release in muscle. 50th Annual Meeting of the Biophysical Society, Salt Lake City, Utah, USA. *Biophys. J* (2006) 90, 343a.

8. Launikonis BS, Zhou J, **Royer L**, Shannon TR, Rios E, Brum G. A Ca^{2+} transient inside the sarcoplasmic reticulum accompanies Ca^{2+} release induced by low $[Mg^{2+}]$ in frog skeletal muscle fibers. 50th Annual Meeting of the Biophysical Society, Salt Lake City, Utah, USA. *Biophys. J* (2006) 90, 343a.

9. Santiago DJ, Launikonis BS, **Royer L**, Zhou J, Yi J, Rios E, Brum G. Depletion of the sarcoplasmic reticulum upon Ca^{2+} release elicited by action potentials or voltage-clamp depolarization in skeletal muscle. 50th Annual Meeting of the Biophysical Society, Salt Lake City, Utah, USA. *Biophys. J* (2006) 90, 343a.

10. Qin J, Launikonis BS, **Royer L**, Brum G, Fill M, Rios E. Anti-psychotic phenothiazine derivates open single RyR channels and cause massive Ca^{2+} release in muscle cells. 50th Annual Meeting of the Biophysical Society, Salt Lake City, Utah, USA. *Biophys. J* (2006) 90, 343a.

11. **Royer L,** Launikonis BS, Zhou J, Shannon TS, Brum G, Rios E. SEER (Shifted Excitation and Emission Ratioing) of mag-indo fluorescence. Description, calibration *in situ* and measure of $[Ca^{2+}]$ and dye concentration inside the SR. 49th Annual Meeting of the Biophysical Society, Baltimore, Maryland, USA. *Biophys. J* (2005) 88, 89a.

12. Launikonis BS, Zhou J, **Royer L**, Santiago DJ, Shannon TR, Pizarro G, Brum G, Rios E. Control of calcium release by intra-store Ca^{2+}. 49th Annual Meeting of the Biophysical Society, Baltimore, Maryland, USA. *Biophys. J* (2005) 88, 13a.

Presentations at International Meetings

1. **Royer L**, Pouvreau S, Wang Y, Meissner G, Zhou J, Nori A, Volpe P, Bain JW, Riley DA, Fitts R, Rios E. The effects of severe knock-down of calsequestrin 1 in adult

mammalian muscle. 52nd Annual Meeting of the Biophysical Society, Long Beach, California, USA. *Biophys. J* (2008) 94, 2685.

2. **Royer L**, Pouvreau S, Yi J, Rios E, Nori A, Volpe P, Brum G, Zhou J. Functional consequences of the transient overexpression of calsequestrin (CSQ) in adult mammalian muscle. 51st Annual Meeting of the Biophysical Society, Baltimore, Maryland, USA. *Biophys. J* (2007) 92, 343a.