

Supplementary Material

Therapy with cardiomyocytes derived from pluripotent cells in chronic chagasic cardiomyopathy

Guilherme Visconde Brasil^{1†}, Danúbia Silva dos Santos^{1†}, Elias Ataíde Mendonça¹, Fernanda Cristina Paccola Mesquita¹, Tais Hanae Kasai Brunswick^{1,2,3}, Sandro Torrentes da Cunha¹, Cibele Ferreira Pimentel¹, Andreia de Vasconcelos-dos-Santos¹, Rosália Mendez-Otero^{1,3}, Clério Francisco de Azevedo Filho⁴, Fernanda Freire Tovar Moll^{3,4}, Regina C. S. Goldenberg^{1,3} and Antonio C. Campos de Carvalho^{1,2,3*}

¹Carlos Chagas Filho Institute of Biophysics, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

²National Center for Structural Biology and Bioimaging - CENABIO, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

³National Institute of Science and Technology for Regenerative Medicine-REGENERA, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

⁴D'Or Institute for Research and Education, Rio de Janeiro, Rio de Janeiro, Brazil.

* Correspondence: acarlos@biof.ufrj.br;

† These authors have contributed equally to this work.

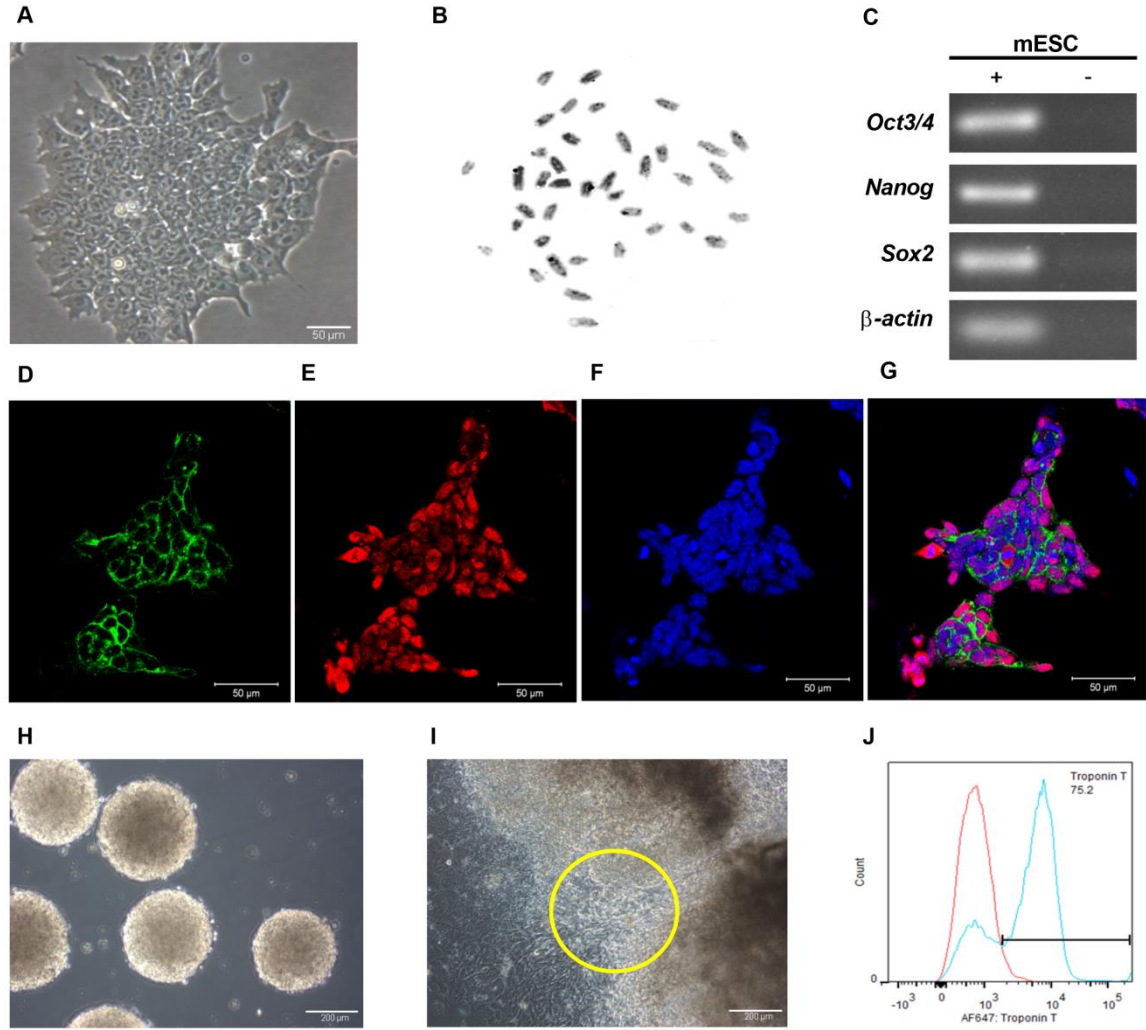


Figure S1. Characterization and differentiation of mESC. (A) Undifferentiated mESC line E14TG2A in culture. (B) Normal karyotype (40 chromosomes). (C) RT-PCR of the transcription factors *Oct3/4*, *Sox2*, and *Nanog* in mESC. Expression of SSEA-1 (D) and Oct3/4 (E) in mESC by immunofluorescence. The nuclei were labeled with Topro (F). Images overlay (G). (H) Embryoid bodies (EBs) formation 2 days after the differentiation. (I) Adhered EBs after 7 days of differentiation. Some cells exhibited spontaneous contraction (yellow circle). (J) Cardiac troponin T expression was analyzed by flow cytometry in differentiated cells. Histogram overlay differentiated cells stained with secondary antibody (blue) and cells positive for cardiac troponin T (red). mESC mouse embryonic stem cells. Scale bars: (A, D-G) 50 μ m; (H, I) 200 μ m.

Table S1. Primers sequences for mESC pluripotency gene expression.

Gene product	Sequence	Size (base pairs)
<i>Oct3/4</i>	F - AGCCTGAGGGCGAAGCAGGA R - CCCAGGGTGAGCCCCACAT	236
<i>Nanog</i>	F - CAGCCCTGATTCTTCCACCAGTCCC R - TGGAAGGTTCCCAGTCGGGTTCAACC	391
<i>Sox2</i>	F - AGCTACAGCATGATGCAGGA R - GGTCATGGAGTTGTACTGCA	126
<i>β-actin</i>	F - CATCACTATTGGCAACGAGCG R - ATGGATGCCACAGGATTCCA	85

F - forward; R - reverse.