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Clinical Image Open Access

Transgenesis through Blastomeres Transfection

Islam M. Saadeldin*

Department of Physiology, Faculty of Veterinary Medicine, Zagazig University, Zagazig, Korea

Clinical Image

Parthenogenetically activated porcine oocytes were subjected to pronase 0.3% (in PBS w/v) for 90 seconds to digest the zona pellucida. Zona-free blastomres were transfected with piggybac transposon DNA using Fugene HD transfection reagent (Promega Corp., Madison, WI, USA).

In contrary to the conventional transgenesis techniques, such as somatic cell nuclear transfer, sperm-mediated transfection and pronuclear injection; this method paves the way to modify the embryo genome in a simple and efficient manner in addition to increase blastocyst total cell count caused by blastomeres aggregation.

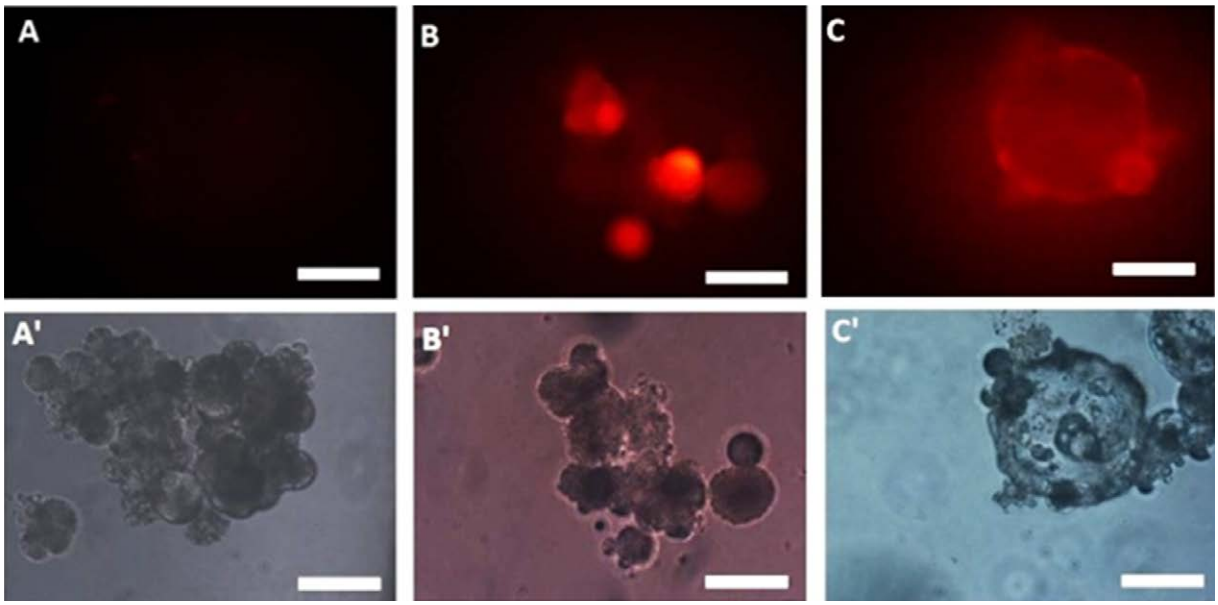

Figure 1: Tnsfection of zona pellucida free blastomeres aggregates with piggyback transposon (pB-CA-cherry red). A. Day 2 control blastomeres with fugene HD transfection reagent and without the DNA. B. Day 2 transfected blastomeres with piggybac DNA, C. transgenic blastocyst resulted from aggregated blastomeres transfection showing cherry red fluorescence. A-C: under UV exposure images. A'-C': under visible light images. Scale bar=200 µm.

***Corresponding author:** Islam M. Saadeldin, Department of Physiology, Faculty of Veterinary Medicine, Zagazig University, 44519, Zagazig, Korea, Tel: +20-11000-24182; E-mail: islamms@snu.ac.kr

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