



Evaluation of extended *in vitro* culture of somatic cells from six-banded armadillos (*Euphractus sexcinctus* Linnaeus, 1758) as a step towards for cloning by nuclear transfer



D.P. Fernandes^{1*}, É.A. Praxedes¹, J.V.S. Viana¹, C.I.A. Freitas², A.F. Pereira¹

¹Laboratory of Animal Biotechnology, UFERSA, Mossoró, RN, Brazil; ²Laboratory of Studies in Immunology and Wild Animals, UFERSA, Mossoró, RN, Brazil

*E-mail: denilsas2@hotmail.com

INTRODUCTION

The six-banded armadillo is a wild mammal with an important ecological role because it is an intermediary link in food networks, being responsible for the balance of termite and ant colonies, as well as for the cycling of nutrients. Although its populations are considered stable, conservation strategies need to be employed, aiming at the conservation of biodiversity. An interesting conservation strategy would be one aimed at the development of cryobanks. In general, the characterization of the cells during prolonged culture represents an important step in the formation of these banks.

OBJECTIVE

To evaluate the effects of culture time (fourth, seventh, and tenth passages) on the functional parameters of somatic cells derived from six-banded armadillos (Fig. 1).

MATERIAL AND METHODS

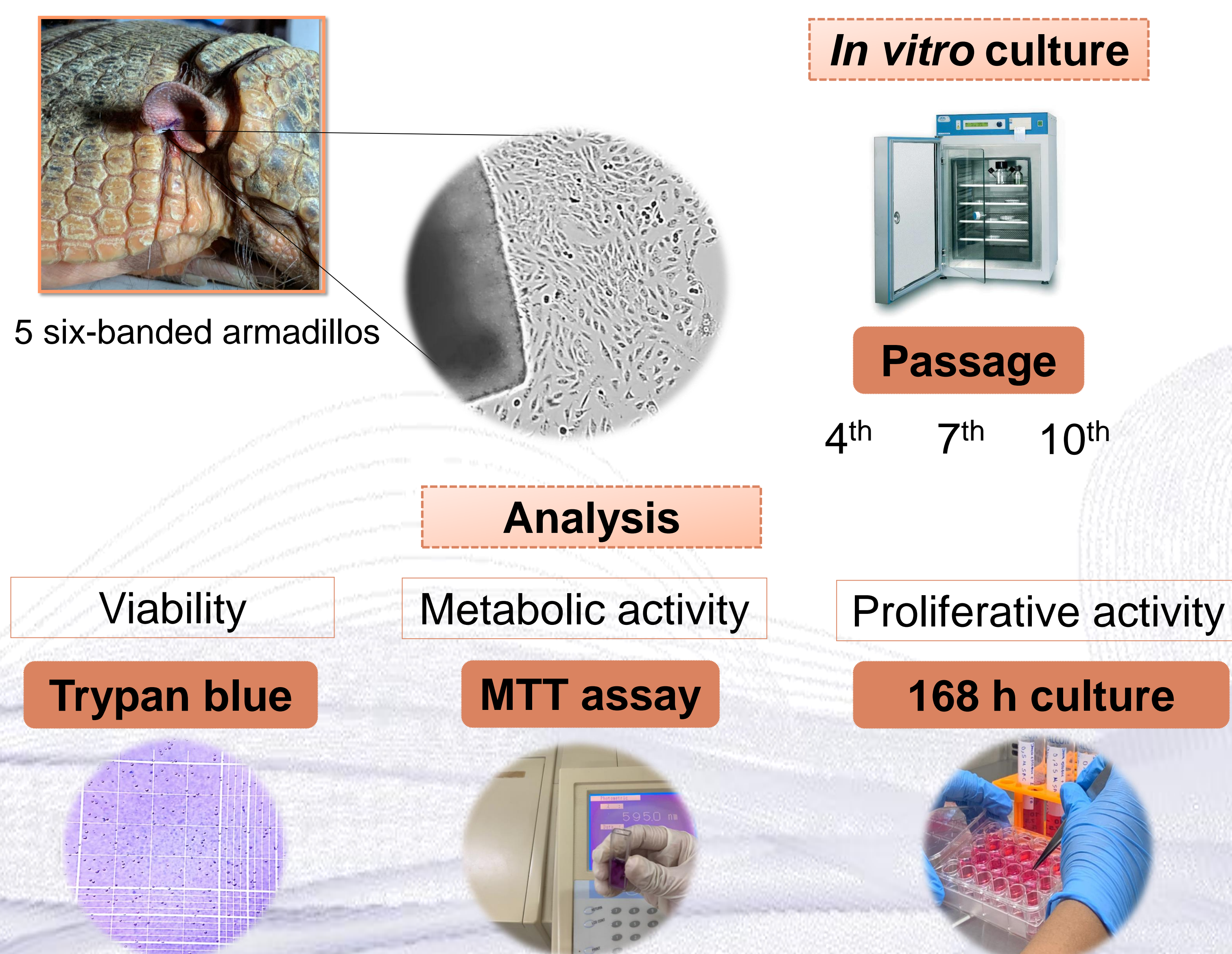


Figure 1. Isolation, *in vitro* culture, and evaluation of viability, metabolic activity and proliferative activity of somatic cells derived from ear skin of six-banded armadillos.

RESULTS AND DISCUSSION

The viability remained high throughout the three different passages evaluated, with values above 85% (Table 1).

Table 1. Evaluation of number of passages effect on viability, metabolic activity and population doubling time (PDT) of somatic cells derived from six-banded armadillos. Data represented as mean \pm S.E.

Passage	Viability (%)	Metabolic activity (%)	PDT (168 h)
4 th	90.6 \pm 3.3	100.0 \pm 21.9	15.2 \pm 2.0
7 th	95.1 \pm 2.3	99.2 \pm 8.9	14.3 \pm 0.9
10 th	87.1 \pm 3.6	100. \pm 5.7	21.5 \pm 2.7

P > 0.05; S.E.: standard error.

Additionally, high metabolic activity was maintained throughout the different passages (Table 1). No difference was observed among the passages for proliferative activity (Table 1 and Fig. 2).

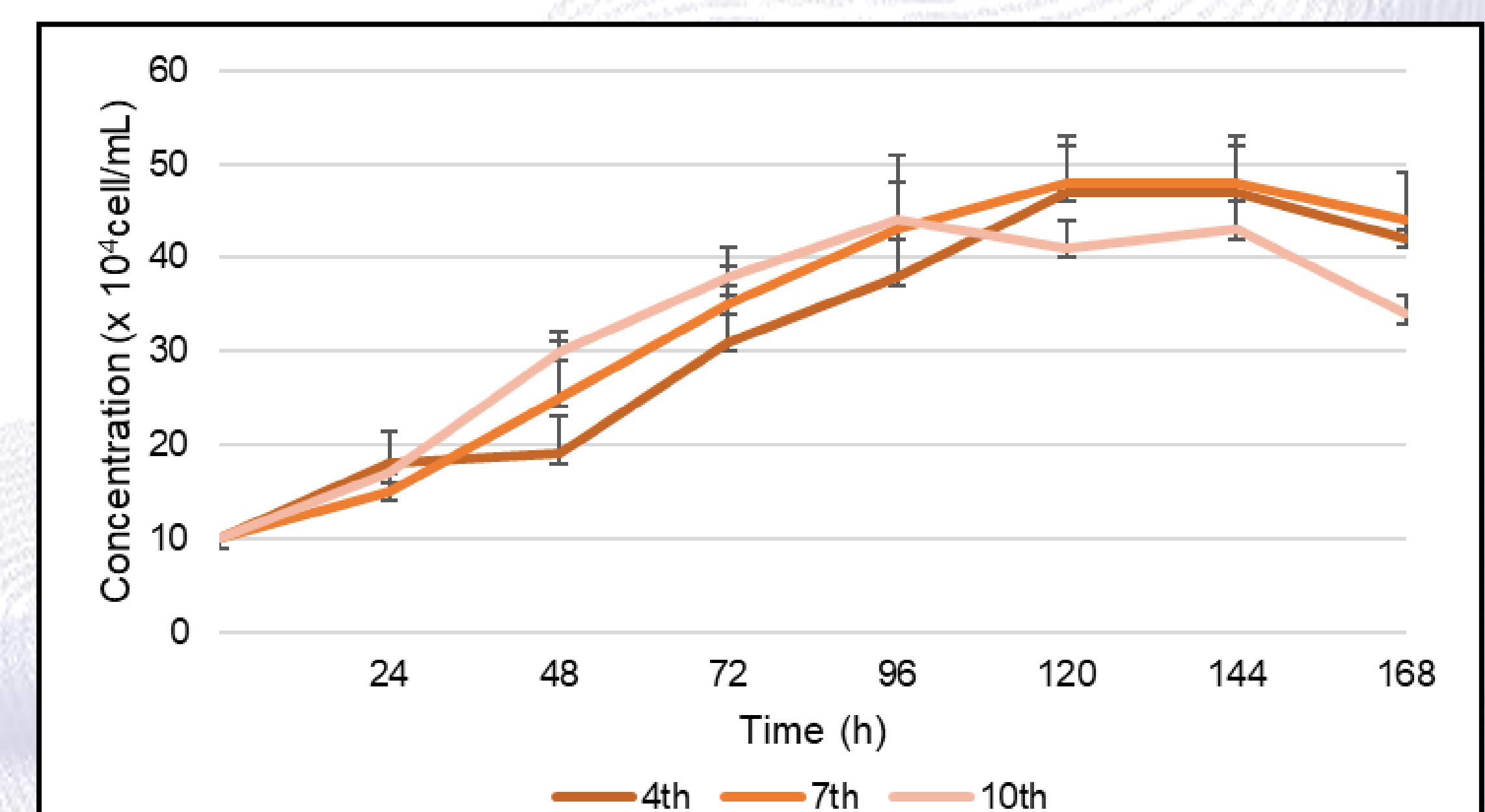


Figure 2. Growth curves of skin cells derived from somatic tissue of six-banded armadillos during 4th, 7th and 10th passage.

CONCLUSION

We were able to isolate somatic cells derived from six-banded armadillo skin, associated with high viability rates, and high metabolic activity after extended *in vitro* culture. These results provide security for the application of these cells in reproductive biotechnologies in the species.