

The path towards immortality: a collaboration on the intersection of art and science
by Luis Graca and Marta de Menezes

Immortality has been a long held objective of artists and scientists alike. Bronze statues, anti-aging creams, and cryopreservation are among the different avenues that have been pursued with the aim of achieving immortality. Recent advances of biomedical research allowed a more literal achievement of immortality – through the understanding of cancer biology. Indeed, cancer cells, in order to acquire their persistent ability to keep proliferating without evidence for senescence are often referred as immortal cells. Some of those cancer cells achieved widespread dissemination and *de facto* immortality – it is the case, for instance, of HeLa cells derived from Henrietta Lacks. We, an artist and a biomedical researcher, developed a collaborative project exploring the opportunities offered by biological materials in the visual arts. This has led to the development of *Immortality for Two*. In this project the artist and her collaborator (her partner) immortalized each other white blood cells. This was achieved by introducing cancer-inducing genes in those cells using a viral vector. The immortal cells, although derived from two people in love, cannot be together. This perpetual isolation is due to the fact those cells derive from immune cells involved in the body defense and, as such, would reject cells from a different person. Thus, immortality, as always, comes at a price – and that price is isolation. The live cells are exhibited in the absence of any visible lab equipment, and the tension created by their isolation is emphasized through two live projections of the growing cells that partially overlap. Only in the virtual space of their projection the immortal cells can interact.

Brief biographical notes

Luis Graca has an MD from the University of Lisbon, Portugal; and a PhD in transplant immunology from the University of Oxford, UK. He developed his post-doctoral research first in Oxford and later at the Institute for Child Health Research, in Perth, Australia. He is currently Associate Professor at the Lisbon Medical School, directing a research group in cellular immunology at Instituto de Medicina Molecular. His most significant scientific contributions have been related with the development of strategies to teach the immune system not to reject transplanted organs, also known as immune tolerance. Currently he is extending his findings to the fields of allergy and autoimmunity (where the immune system attacks its own body). Luis Graca is author of more than 60 peer-reviewed publications, cited over 2500 times, three patents, and co-founder of Acellera Therapeutics. Besides his scientific research he has been interested in the intersection between art and science. In this field Luis Graca has collaborated with several artists, including a long-term relationship with Marta De Menezes, and he is now scientific advisor for Ectopia and Cultivamos Cultura – two Portuguese institutions involved in fostering art-science collaborations. He has three publications in this field, describing the scientist view of art-science interactions.