

Abstract

Primordial gonocytes (PGC) are embryonic germ cells and they are precursors of sperm cells and oocytes. We can identify, isolate and grow them in cell's culture. We can store them in a frozen state in liquid nitrogen for long term. We can transplant these cells into recipient of the same or a close related species, which is sterile in the ideal case. The cells which are transplanted can develop in recipient's body so this recipient can produce the donor's gametes after maturation. Such individual is called germline chimera. The manipulation with germ cells can provide several benefits, for example preservation of germ cells from endangered or valuable species/stains in a gene bank. Or we can shorten generation interval that is convenient for late adolescent species in a case of appropriately chosen recipient. The aim of this thesis is to summarize knowledge about fish PGCs and a possible using of these cells for transplantations.

Keywords: primordial gonocytes, germ stem cells, germline chimera, transplantation, surrogate parents