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ISOLATION AND CULTURE OF CELLS FROM THE PITUITARY OF THE RAINBOW TROUT : IMMUNOLOGICAL AND PHYSIOLOGICAL CHARACTERIZATION OF THE PURIFIED CELLS

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In order to study the possible paracrine interactions between gonadotrophs (GtH cells) and somatotrophs (GH cells), the isolation of enriched populations of each cell type was undertaken. The separation was based on the difference in density of the cells using Percoll as the density gradient-forming agent.

Using collagenase dispersed pituitary cells from spermiating rainbow trout, it was possible to obtain a 85% to 65%-enriched population of somatotrophs (density 1.081-1.063) containing 11% of gonadotrophs as assessed by their immunological identification. On the other hand, using the same technique, the purification of one population of GtH cells was not possible in spermiating males or early vitellogenic females. In both cases, GtH cells appear to have variable densities (varying from 1.081 to 1.040) which might correspond to different degrees of maturity as described in mammals.

The separated cells are able to be cultured and to respond to specific secretagogue. In the case of GH cell enriched population, somatostatine induced a decrease in growth hormone (GH) release while salmon gonadotropin releasing hormone (sGnRH) increased GtH release from the GtH cells contained in the different cell fractions.