

STSM Report

REFERENCE: Short Term Scientific Mission, Cost Action FA1205

Code: ECOST-STSM-FA1205-110416-070807

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Period: from 29/03/16 to 28/05/16

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The objective of my stay was to get my first introduction to organ cultures of European eel ovary. In total, 3 cultures of 6 days were performed. The 1st culture aimed test i) best culture medium ii) use of Ultrosor iii) most suitable storage solution. The 2nd culture aimed to test i) culture insert ii) effect of estradiol on specific gene expression. The 3rd culture aimed test i) effects of European eel recombinant LH and FSH on specific gene expression, with CHO cell medium as control ii) effects of salmon and carp pituitary extracts, on specific gene expression.

The results show that the optimal culture conditions are: M199 medium without Ultrosor, without inserts and storing samples in RNALater.

QPCR revealed a specific decrease of aromatase expression after culturing. This indicates that a factor present *in vivo*, actively stimulates aromatase expression, which decreases *in vitro* without this factor. This decrease was more pronounced after estradiol treatment. In contrast, slight increases in expression of LHR1 and FSHR after estradiol treatment were seen.

3rd culture samples and samples for histology, will be shipped to Valencia for RNA extraction, qPCR and histology.

This STSM has given me the basis to develop my work with organ cultures. As my PhD thesis focuses on reproduction of European eel males, I intent to utilize my newly gain knowledge to perform eel testis cultures in Valencia to combine *in vitro* and *in vivo* investigations.

Many thanks go to COST AQUAGAMETE for financing this STSM, allowing me to learn new scientific tools, and giving me the opportunity to visit the BOREA laboratory at MNHN, Paris. I am grateful to Drs. Sylvie Dufour, Anne-Gaëlle Lafont, Gersende Maugars and Karine Rousseau for hosting me and teaching me during my stay.

Paris, May 26, 2016



Sylvie DUFOUR, Director BOREA



Christoffer Rozenfeld, PhD student STSM beneficiary