

Report summary of SABRE placement project: Saif Agha

In the framework of the SABRE placement 2006/2007, I have got a training period by joining the project "*Genetic modifiers of cholesterol and triglycerol content in pig muscle*" in IRTA institute, Lleida, Spain.

The development of this project involved the following tasks:

Task 1: Identification of pigs with higher and lower values for TG and CHOL muscle content. Muscle total RNA was isolated using the RiboPure Kit (Ambion).

Task 2: Quantitative PCR analysis of the expression level of most relevant validated genes from the abovementioned microarray experiment. A real-time ABI7500 PCR device was used in conjunction with SYBRgreen reagents for two of these genes (AQP5 and VCAD2). In addition, two endogenous controls were used to normalise data (HPRT and RPL32).

Task 3: Sequencing and characterisation of proximal promoter in animals with extreme expression values for these genes. PCRs were performed from genomic DNA in PTC-200 thermocyclers (MJ Research) which allow establishing a gradient of temperature at the annealing stage. After dimmer primer removal (QIAGEN PCR purification kit) PCR fragments were sequenced using the BigDye Terminator Sequencing kit v3.1 (Applied Biosystems) and resolved in the capillary electrophoresis ABI-3100 system. Amplification was successful only for AQP5 promoter.

The action of this placement has allowed me to increase my knowledge on the new molecular genetics techniques in the field of Animal Breeding and Genetics. I had a great opportunity to increase my lab skills in functional genomics (gene expression analysis, qPCR and sequencing). The experience I took from this placement will help me in doing research projects with the Egyptian livestock breeds. Furthermore, I am able now to transfer the knowledge and technology I got from advanced research institutions (IRTA) to research/teaching institutions and universities in Egypt. On the other hand, from my stay in Spain there is a great chance to initiate networking and communications with researchers and scientists in relevant institutions in Spain and Europe for future collaboration.

I am thankful to **SABRE project**, for generously offering a grant to me to get trained on the molecular genetic techniques and funding my placement project in Spain.

I would like to express my sincere gratitude to **Dr. Romi Pena**, for her valuable advice, propose the point of research and for her kind care during the progress and also for providing the training and the facilities in the lab during this work.

I am particularly grateful to **IRTA institute**, Lleida, Spain, for hosting me in the lab of animal genetics during this placement.