

Year of CfP: 2008

Project No 0801-005

Project title: An international platform for the elucidation of gene function using rice as a model species: the Rice Functional Genomics (REFUGE) Platform

Units submitting the project: AGAP (Genetic improvement and Plant adaptation) (CIRAD, INRA, Montpellier SupAgro) and LGDP, Genome and plant development (CNRS, UPVD)

Project leader: Emmanuel Guiderdoni (guiderdoni(a) cirad.fr)

Countries involved in the project: Italy, Vietnam, Brazil, Spain, UK, Germany, Australia, Tunisia

Research units from the Foundation's scientific network involved: BPMP

Sub-thematic axes: IPB-1 (Integrative Plant Biology 1: *Genetics and genomics, plant breeding, ecophysiology*), IPB-2 (Integrative Plant Biology 2: *Plant pests and diseases, integrated crop protection, population ecology*).

Objectives:

Rice is both a crop of high agricultural, social and cultural importance and a model cereal species for studying genome organization and discovering gene function. Five years after the availability of its high quality genome sequence and following the development of numerous international biological, molecular and bioinformatic resources, and despite the ongoing delivery of sorghum, *Brachypodium* and maize genome sequences, rice remains a model system.

Numerous laboratories from the South have invested in molecular biology techniques and are performing excellent research, sometimes taking advantage of unique genetic resources but do need an access to facilities, equipment and consumables that will allow them to complete their experiments to prepare high quality publications, further facilitating their access to national and international research grants.

The aim of this project is the establishment of a Rice Functional Genomics platform (REFUGE) widely open to the scientific community. This platform will offer training and support service for the generation and characterization of transgenic plants, as well as the characterization of existing biological resources (e.g. insertion lines) to facilitate and enhance the functional analysis of genes identified either in rice, other cereals or *Arabidopsis*.

More precisely, the specific objectives of the REFUGE project are:

- to make available to visitors of the local, national and international plant science communities various tools to carry on in rice the functional analysis of genes of agronomic importance - identified either in rice, cereals or *Arabidopsis*- in taking advantage of the biological resources, bioinformatics and molecular tools existing in the model cereal species and available in our unit. To share performing infrastructures, know-how and expertise unique in the public sector in Europe for the production and characterization of transgenic rice and insertion lines to support investigation on gene function.
- To improve local capacity to organize an international training in functional genomics targeting African scientists.

Total Agropolis Fondation funding: € 328,640 (salary of an engineer for 36 months, acquisition of small equipment, running costs)

Funding categorie(s): Agropolis Fondation grants for scientific platform

Project duration: 1 January 2009 – 31 March 2012

Keywords: rice – genomics – molecular biology – platform