Identification of novel genes conditioning bacterial blight resistance in rice using genomic resources and functional analysis tools

Fact Sheet

Project Information

RXOMICS

Grant agreement ID: 235457

Project closed

Start date
1 August 2010

End date
31 July 2015

Funded under
Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Total cost
€ 334 410,20

EU contribution
€ 334 410,20

Coordinated by
INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT
France

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Objective

Rice is one of the most important crop of the world and feeds more people than any other crop. Rice has emerged as the model for the study of cereal genomes. X. oryzae pv. oryzae (Xoo) is the causal agent of bacterial leaf blight in rice, one of the most devastating diseases of rice worldwide. New strains of Xoo are emerging causing severe damages to the crop. The use of resistant cultivars is the most effective way to control this disease. It will be of great importance to characterize new resistance genes. We will study the Xoo – rice pathosystem to discover new resistance genes in rice using genomic resources and functional analysis tools. The main goal is to profile selected rice mutants altered in their resistance pattern to Xoo using rice oligo arrays, classify them based on their deleted genomic regions and identify the function of key genes in resistance. Pr Leach team at the Colorado State University (USA) has developed the expertise and tools that are central to the success of the proposed project. My integration within Leach's experienced team ensures the accomplishment of this project which adds new aspects to previous work with genes discovery in the area of molecular plant-pathogen interactions. This study provides me the opportunity i/ to work on a topic of main importance at an internationally renowned institution, ii/ to acquire new skills and knowledge while broadening my international experience, iii/ to transfer the acquired knowledge to Europe, and iv/ to strengthen long-term collaboration with the USA. The experience gained in this project will be valuable to the EU research community. Such better understanding of the molecular host plants interaction is of crucial importance to develop sustainable strategies to control diseases and to facilitate the efforts to breed novel resistant varieties. In addition, results obtained with rice will also have a great impact on research and improvement of other economically important cereals.

Fields of science (EuroSciVoc)

natural sciences > mathematics > pure mathematics > mathematical analysis > **functional analysis**

natural sciences > biological sciences > genetics > **genomes**

agricultural sciences > agriculture, forestry, and fisheries > agriculture > grains and oilseeds > **cereals**

Programme(s)

FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Topic(s)

FP7-PEOPLE-IOF-2008 - Marie Curie Action: "International Outgoing Fellowships for Career Development"

Call for proposal

FP7-PEOPLE-IOF-2008
See other projects for this call

Funding Scheme

MC-IOF - International Outgoing Fellowships (IOF)

Coordinator

INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT

EU contribution

€ 334 410,20

Total cost

No data

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Region

Provence-Alpes-Côte d'Azur > Provence-Alpes-Côte d'Azur > Bouches-du-Rhône

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Last update: 6 September 2024

Permalink: https://cordis.europa.eu/project/id/235457