

## **THE SOLANACEAE RESISTANCE GENE DATABASE (SRG): A NEW RESOURCE FOR RESISTANCE GENE ANALYSIS IN PLANT**

W. SANSEVERINO\*, L. FAINO\*, S.MELITO\*, L. MONTI\*\*, G. ROMA\*\*\*, E. STUPKA\*\*\*, L. FRUSCIANTE\*, M.R. ERCOLANO\*

\*) Department of Soil, Plant and Environmental Sciences, School of Biotechnology, University of Naples “Federico II”, Via Università 100, 80055 Portici, Italy

\*\*\*) Institute of Plant Genetics – CNR, Research Division Portici

\*\*\*\*) “TIGEM” Telethon Institute for Genetics and Medicine

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The SRG is a database resource for the Solanaceae family with aimed at building a comparative bioinformatic platform to answer questions about plant-pathogen interaction.

There are several prominent public databases that provide access to plant genome data. These include general repositories and species-specific or datatype-specific resources. Larger database providers such as NCBI (<http://www.ncbi.nlm.nih.gov/>) and TIGR (<http://www.tigr.org/>) function as both repositories and specie resources.

In Solanaceae, recently a large amount of plant-pathogen interaction data have been generated through different methods, in order to obtain the maximum benefit. However, public archive of these data is needed.

The SGR Database provides an integrated view of resistance genes, defensive genes, RGA markers and other sequences involved in plant-pathogen interaction in the Solanaceae family.

In particular, it gives: about 1000 sequences collected from several sources, and about 40 reference genes, with information on sequences of DNA, RNA and proteins, the symptoms of pathogenesis and the taxonomy of plants and of the pathogens. The SRG database which has many tools for a rapid search and a satisfactory result was written in MySQL and visualized with the PHP interface. A friendly interface makes the use of the database easy and thanks to the link with the mayor public database it is possible to obtain a complete scheme of all the information about the Solanaceae. In the database there are four categories of sequences. The first category includes the R genes implicated in the specie-specific resistance between plant and host. The second category of genes include the genes that have a role in the Hypersensitive Reaction (HR) and/or in the defensive reactions. In the third category there are all the Resistance Gene Analogues (RGA) at the R genes found in the Solanaceae. To the fourth category belong the sequences implicated in the defence response produced in our laboratories.