How the lack of specific proteins affects the development of filamentous fungi

April 30 2015

The April issue of the journal *Genetics*, published by the Genetics Society of America (GSA), has devoted its front cover to an article published by researchers of the Faculty of Chemistry of the UPV/EHU-University of the Basque Country in Donostia-San Sebastian; it is titled "Beyond Asexual Development: Modifications in the Gene Expression Profile Caused by the Absence of the Aspergillus nidulans Transcription Factor FlbB."

Fungi can have a great economic impact. In industry, they are used as a source of enzymes or antibiotics. But they can also cause considerable economic damage as they are responsible for infections in plants (rice, wheat, maize, etc.), fruit and humans. Their capacity to cause infection increases due to the rapid dispersion of their conidia in the air or through other mediums.

The article published in *Genetics* analyzes the genetic and molecular processes that lead to conidia generation.

Lecturer Oier Etxebeste says, "We have selected a fungus strain that is capable of forming conidia and thus of propagating itself via various mediums, and a mutant strain that is incapable of performing this task. Then, from each one, we extracted RNA, which is the intermediary between DNA, and the molecule that executes this information, the proteins. The sequencing and comparison of the two samples enable a general overview of the cell processes that are affected in the mutant strain that cannot form conidia. After that, we identified new genes that

play a role in controlling development and others that intervene in synthesising a molecule that allows the fungus to defend itself against other micro-organisms. The aim is to find out the mechanisms that filamentous fungi use to propagate themselves, and thus further the development of new strategies for controlling the infections they cause".

More information: "Beyond Asexual Development: Modifications in the Gene Expression Profile Caused by the Absence of the Aspergillus nidulans Transcription Factor FlbB." *Genetics*. 2015 Apr;199(4):1127-42. DOI: 10.1534/genetics.115.174342

Provided by University of the Basque Country

Citation: How the lack of specific proteins affects the development of filamentous fungi (2015, April 30) retrieved 26 April 2024 from https://phys.org/news/2015-04-lack-specific-proteins-affects-filamentous.html

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