

Technical University of Denmark



## Characterization of Emericella nidulans RodA and DewA hydrophobin mutants

Jensen, Britt Guillaume; Hoof, Jakob Blæsbjerg; Pedersen, Mona Højgaard; Søndergaard, Ib; Frisvad, Jens Christian; Nielsen, Kristian Fog

*Publication date:*  
2011

*Document Version*  
Early version, also known as pre-print

[Link back to DTU Orbit](#)

*Citation (APA):*  
Jensen, B. G., Nielsen, J. B., Pedersen, M. H., Søndergaard, I., Frisvad, J. C., & Nielsen, K. F. (2011). Characterization of Emericella nidulans RodA and DewA hydrophobin mutants. Abstract from International Aspergillus Meeting, Pacific Grove, California, USA, .

**DTU Library**  
Technical Information Center of Denmark

---

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

## Characterization of *Emericella nidulans* RodA and DewA hydrophobin mutants

Britt Guillaume Jensen\*, Jakob Blæsbjerg Nielsen, Mona Højgaard Pedersen, Ib Søndergaard, Jens Christian Frisvad and Kristian Fog Nielsen. Department of Systems Biology, Technical University of Denmark, Denmark, [\\*brgj@bio.dtu.dk](mailto:brgj@bio.dtu.dk)

Hydrophobins are small amphiphilic proteins containing an eight cysteine pattern only found in filamentous fungi. They are involved in the attachment of hyphae to hydrophobic structures and the formation of aerial structures. Five *Emericella nidulans* mutant strains were examined to study the two hydrophobins RodA and DewA. Individual knock-out mutants *rodAΔ*, *dewAΔ* and the double deletion strain *rodAΔdewAΔ* were constructed. Furthermore, two strains containing a point mutation in the first of the cysteines of RodA (*rodA-C57G*), where one was coupled to the *dewA* deletion, were included. The reference strain (NID1) and *dewAΔ* displayed green conidia. However, *rodAΔ* and *rodAΔdewAΔ* showed a dark green/brown conidial pigmentation, while *rodA-C57G* and *rodA-C57G dewAΔ* displayed lighter brown conidia. *rodAΔ* and *rodAΔdewAΔ* displayed a higher degree of hülle cells compared to the moderate amount observed for NID1 and *dewAΔ*, while *rodA-C57G* and *rodA-C57G dewAΔ* displayed a low number of hülle cells. NID1 and *dewAΔ* conidia were dispersed as spore chains. *rodAΔ*, *rodAΔdewAΔ*, *rodA-C57G* and *rodA-C57G dewAΔ* spores were associated in large clumps, where the conidia seemed to adhere to one another. The largest degree of spore clustering was observed for *rodAΔ* and *rodA-C57G dewAΔ*.