Universiteit Leiden
The Netherlands

Morphogenesis and protein production in Aspergillus niger

Kwon, M.J.

Stellingen

Behoren bij het proefschrift

Morphology and protein production in *Aspergillus niger*

1. A potential role of acetylation in the endoplasmic reticulum as part of a quality control mechanism in *Aspergillus niger* and possibly also other filamentous fungi opens new opportunities to understand and thus improve (heterologous) protein production in filamentous fungi.
   This thesis

2. Although the prediction of protein function based on homology among related species works generally well, every individual protein deserves its own attention as demonstrated that the partitioning of Cdc42 and Rac1 varies even among closely related filamentous fungi such as *A. nidulans* and *A. niger*.
   Harris, S. D., (2011) Mol Microbiol 79: 1123-1127
   This thesis

3. Although it is generally accepted that protein secretion occurs mainly at the hyphal apex, simply making more hyphal tips using a hyperbranching mutant does not result in an increase of a protein production.
   This thesis

4. An accelerated activity of the classical secretory machinery may be only possible at the expense of the non-classical secretion pathway as the transcripts of two abundantly non-classical secreted proteins lacking an N-terminal signal peptide were repressed in glucoamylase overproduction strain.
   This thesis

5. Protein localization studies using fluorescent protein tags have been widely used these days; however, in order to observe an accurate localization of protein it is important to use an endogenous promoter to eliminate possible mislocalization due to the effect of using a different promoter.
   Takeshita et al., (2012) Mol Microbiol 83: 1136-1152
   This thesis

6. The interpretation of ‘omic’ data involves not only the analysis of the results that are statistically significant, but also dependent on the pre-processing procedures including quality control check, determination of statistical methods and definition of statistical significance.

7. The rapid evolution and spread of antimicrobial resistance requires immediate global action, if dire consequences are to be avoided within just a few years.
   Laxminarayan et al., (2013) Lancet Infect Dis 13: 1057-1098

8. Not only the effort of the individual but also societal support requires an enjoyable life.

9. Of course there are biological differences and heterogeneity among the cells, but there are also differences on the daily condition of the microscope, the cell growth behaviour and the person who is using the microscope.