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Function and control of the ssg genes in streptomyces

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Stellingen

behorende bij het proefschrift

Function and control of the *ssg* genes in *Streptomyces*

1. SsgB is essential for developmental cell division in morphologically diverse actinomycetes.

(This thesis, Chapter VI)

2. Multiple SALP paralogues are required for the production of multisporous structures, such as spore chains or sporangia, in *Streptomyces*, *Saccharopolyspora* and *Frankia*.

(This thesis, Chapter II)

3. The *whi*-independent transcription of *ssgA* underlines a requirement for SsgA in developmental cell division, even in the absence of aerial mycelium formation.

(This thesis, Chapter III)

4. The ability to produce spores in submerged cultures is a far more common trait among natural *Streptomyces* isolates than originally anticipated and may reflect a universal need to reproduce in both solid and aqueous habitats.

(This thesis, Chapter IV)

5. Considering the localization of SsgB-GFP in specific foci, it is less likely that the RNA binding motif deduced from the crystal structure of SsgB from *Thermobifida fusca* reflects a function of this SALP in (post)transcriptional regulation.

(This thesis, Chapter V & VII and Ashley Deacon and Qingping Xu, pers. comm.)

6. The superficial similarities between many actinomycetes and filamentous fungi do not necessarily stem from a common ancestry, but may rather reflect an evolutionary advantage for the way they grow in their shared natural habitat.

7. The observations that bacterial populations display heterogeneous gene expression in order to (pre-)adapt to adverse changes in conditions, demands that powerful genomics-based techniques should be applied to specific parts of such a population.

Gibson (2003), PLoS Biol (1): e15 doi:10.1371/journal.pbio.0000015

Dubnau and Losick (2006), Mol Microbiol (61): 564-572

8. The inclination of many scientists to stay clear of other scientists' research lines, ignores the principle that a serious field requires serious competition.

9. Genome annotation is perfectly suited for a wikipedia-type interactive update system.

10. The misconception that children suffering from attention-deficit/hyperactivity disorder (ADHD) cannot function "normally" in society, leads to unnecessary additional challenges for the child to be part of that society.

11. People are often not unwilling to learn to communicate in a single universal language, provided it is their own.

Leiden, 24 September, 2008

Bjørn Traag