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Control of sporulation-specific cell division in *Streptomyces coelicolor*

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Stellingen

behorende bij het proefschrift

Control of sporulation-specific cell division in *Streptomyces coelicolor*

1. The SsgA-like proteins compensate for the absence of septum localisation control proteins such as ZipA, FtsA, Noc and MinCE in Streptomyces.

(This thesis, Chapters 2, 3 and 4)

2. The difference in septum synthesis between *E. coli* and *Streptomyces* is highlighted by the order in which the cell division proteins are recruited to the septal ring.

(This thesis, Chapter 6)

3. The SsgA-like proteins functionally control the enzymes responsible for the synthesis and degradation of the cell wall.

(This thesis, Chapter 2)

4. Like MsiK, which provides ATP for multiple sugar transporters, FtsE most likely provides energy to more than just FtsX.

(This thesis, Chapter 6)

5. Considering the multinucleoid character of growing aerial hyphae and the bidirectional replication of the chromosomes, it is unlikely that, as in other bacteria, the last step in chromosome segregation happens during septum closure in *Streptomyces*.

(Thanbichler and Shapiro, J Struct Biol. 2006 Nov;156(2):292-303)

6. The observation that camels are attracted to an oasis because of geosmin suggests that this metabolite is very important for the distribution of spores.

(Gust *et al.*, 2003 PNAS 100(4):1541-6; <http://www.expasy.ch/spotlight/pdf/sptlt035.pdf>)

7. The dispensability of cell division for growth makes *Streptomyces* an excellent model for the study of cell division proteins.

8. The fact that in filamentous bacteria cell wall elongation primarily occurs at the hyphal tips makes the suggested role for FtsZ in lateral cell wall synthesis in these species less likely.

(Aaron et al., 2007; Scheffers et al., 2007).

9. It should be relatively easy for a Flemish person to move to the Netherlands. Nevertheless, the integration problems of Flemish people in the Netherlands can be compared to suffering from a chronic cold but deciding not to visit the doctor.

10. A large part of the American population does not agree with the reduction of Pluto to the status of "dwarf planet". The most likely reason for this is that Pluto is the only planet discovered by an American.

11. It is likely that, should we come across alien life forms, they would be decidedly un-alien in appearance.

Leiden, 25 september, 2007

Elke Noens