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Developmental regulation and evolution of cAMP signalling in Dictyostelium

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Stellingen

behorende bij het proefschrift

Developmental regulation and evolution of cAMP signalling in *Dictyostelium*

van

Elisa Álvarez-Curto

1. Adenylyl cyclase G triggers prespore differentiation during the *Dictyostelium* slug stage and this represents a novel role for this enzyme (dit proefschrift).
2. The spatio-temporal patterns of expression of adenylyl cyclase G and adenylyl cyclase B in *Dictyostelium* slugs indicates that these enzymes play combinatorial and partially redundant roles coordinating prespore and spore differentiation (dit proefschrift).
3. The use of cAMP as chemoattractant in the evolutionary younger *Dictyostelium* species is co-opted from an existing process used to control fruiting body formation in the older species, by addition of distal novel promoters to cAMP signalling genes (dit proefschrift).
4. The newly established molecular phylogeny of the Dictyostelids highlights the flaws of taxonomic classification based solely on phenotypic characteristics (dit proefschrift).
5. Highly developed live cell imaging techniques together with advanced proteomic methods provide scientists with powerful tools to gain new insights and a better understanding of protein complexes and network interactions.
6. An elegant approach to understand the origins of the complexity and diversity found within groups of organisms is to study developmental genes from an evolutionary point of view.
7. The evolution of some prokaryotic and eukaryotic multicellular micro-organisms have in common the development of quorum sensing mechanisms and sophisticated methods of cell to cell communication.
8. Adenylyl cyclase B is not solely responsible for cAMP production in *acaA* null cells as previously suggested by Soderbom et al, as cAMP is also produced by adenylyl cyclase G present in earlier stages before fruiting body formation. (Soderbom *et al*, Development. 1999)
9. Scientific development is the result of the curiosity and creativity of the individual, but group effort is what makes success worthwhile.
10. Civil liberties such as the right to protest or freedom of speech, are being relentlessly attacked in “civilized” Western countries for “the greater good”, but only those in power see this as being justified.
11. Finishing a PhD is a test of endurance, knowledge, motivation and sanity.
12. The announcements in Scotrail trains are so loud they guarantee that no commuter will ever miss their stop.