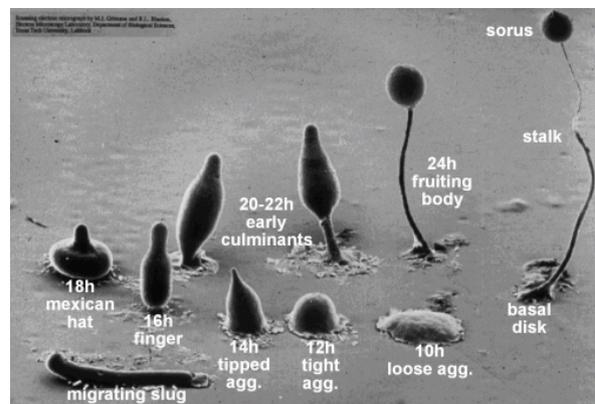


***Dictyostelium discoideum*, an interesting model organism for studying different life processes**

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Model organisms are often used to study diverse biological processes. Those like chicken, dog, cat or mouse are widely known, but *Zebrafish*, *Caenorhabditis elegans*, *Drosophila* or even *Dictyostelium discoideum* will probably not be that familiar to a person outside the field of biology. Nevertheless, the four last ones mentioned are essential when studying processes which are too complex in e.g. chickens or dogs and can give us a hint, how these processes might work in higher organisms. Moreover, higher organisms are more difficult to keep under laboratory conditions.

Dictyostelium discoideum (*Dictyostelium* hereafter) is an eukaryotic organism (this domain includes all animals, plants, fungi and protists), which grows in shaking liquid culture under laboratory conditions and usually divides mitotically (as most of our cells do). Under starvation conditions (when depleted of nutrients), it enters an amazing developmental cycle (see figure), which gives rise to new spores, so that *Dictyostelium* can spread around. All that happens within 24 hours. Molecular biologists love this model organism, since it is very useful in studying cell communication, differentiation and programmed cell death.



(M.Grimson, R. Blanton, Texas Tech University, www.dictyBase.org)

My motivation to work with this organism was the possibility to study the RNA interference (RNAi) pathway. This pathway can affect the important process of synthesizing proteins from the information in genes (in eukaryotes, genes are located on chromosomes in the nucleus). The RNAi pathway interacts with an intermediate in this process (messenger RNA) and hinders the production of functional proteins. This process is therefore very important in the regulation of protein synthesis and its characteristics vary in different organisms. Quite a lot is already known about this process in animals, plants and flies, but *Dictyostelium* has not been extensively studied from this aspect. My study was aimed to investigate details of the RNAi pathway in *Dictyostelium* and it suggested that this organism might be more similar to animals than plants (it is evolutionary positioned between plants and animals). More needs to be done in this field to confirm this hypothesis, but the preliminary results seem very interesting!



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