

Master's Project - Age derived costs of immunity on lifespan.

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Energy trade-offs affecting lifespan is a well-established area of research within the *Drosophila* aging community. Classically this is a trade-off with early life reproduction resulting in a shorter lifespan. It is proposed that this early investment into reproduction, draws from an organism's resources, that could otherwise go into somatic maintenance and repair, resulting in shorter lifespan. Recently there has been increasing evidence that investment into immunity may also be a mechanism effecting lifespan.

The aim of the project is to identify when within an insect's lifespan is activating the immune system most 'costly'.

The proposed project is comprised of two steps; the first step is a systematic RNAi knockdown screen of several genes in the IMD, and Toll pathways (Figure 1), which govern insect immune responses. In the second step of the project we will look at the age-dependent dynamics of these genes, focusing on those candidates with larger effects from the screen.

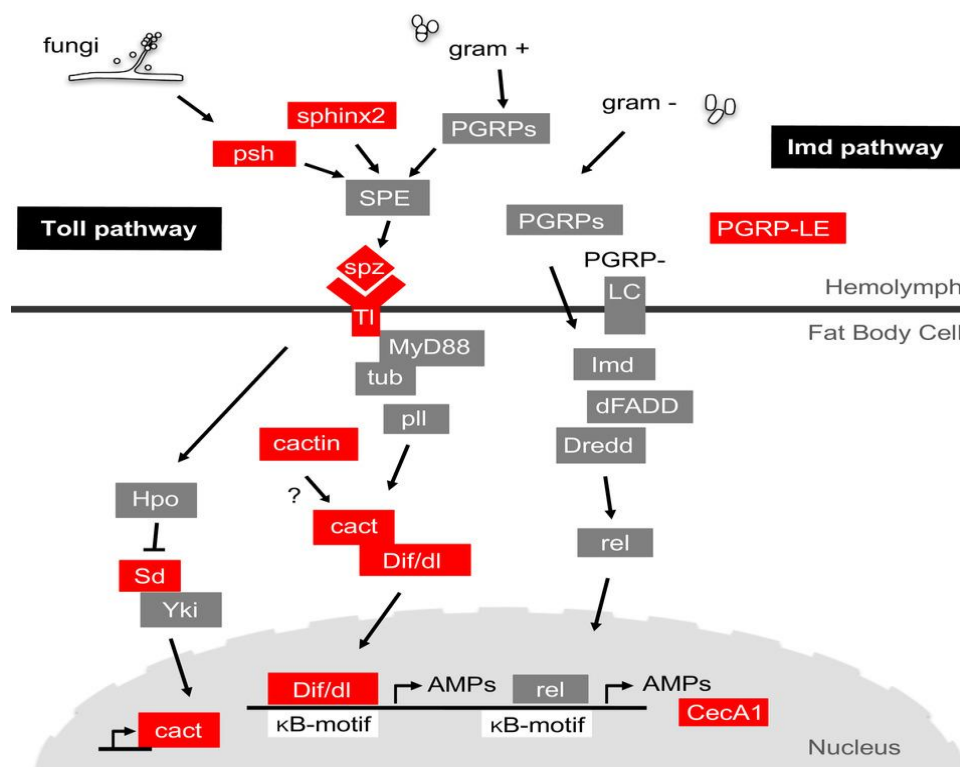


Figure 1: Summary of Toll and IMD Immune pathways. From Fabian *et al* (2018).

We are looking for a motivated biology master's student, preferably with previous experience in molecular ecology, and happy to work in English. **If interested, please contact:** Claudia.Fricke@uni-muenster.de or dpritcha@uni-muenster.de.