LS05-035 - Molecular determinants of ageing - quantitative response of Drosophila to adult-specific RNAi

Zusammenfassung

We investigate molecular mechanisms of ageing in complex multicellular organisms by adult-specific gene silencing in Drosophila. Triggering temperature sensitive RNAi only in adult life allows, for the first time, the complete separation of developmental effects in a screen for longevity. In addition, multi-dimensional phenotypic and behavioural assays over the entire adult life of the flies permit a focus on lines that live long and well. Molecular effects of candidate genes on ageing are thoroughly studied over time and genome-wide using RT-PCR and microarray time-courses. Integrated analysis of molecular, phenotypic, and behavioural data requires development of modern probabilistic methods at all stages of the project, providing 1) optimal experimental design, 2) identification of causal consequences of target gene silencing, and 3) sensitive detection of molecular processes differentially affected during ageing.

Keywords:
Drosophila ageing research, RNA interference (RNAi), transcriptionalexpression profiling by microarrays, Independent Component Analysis, Bayesianinference, information fusion

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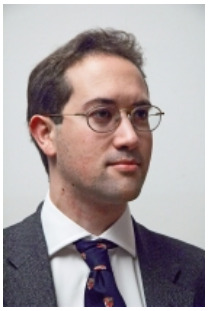

Status: Abgeschlossen (15.03.2006 - 30.04.2012)

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://www.wwtf.at/funding/programmes/ls/LS05-035/