Heat shock response in *Drosophila melanogaster* – the level of lamin and topoisomerase II and their localization.

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In fruit flies heat shock response results in the transcription shutdown. This stoppage affects almost all loci, except 9 special spots – heat shock loci – in which transcription gets highly activated. The genome expression pattern is extremely modified during the stress response. Using heat shock induction gives an opportunity for analyzing global changes in transcription, and also associated mechanisms, in which hopefully lamins and topo II take part.

Lamins function as a structural and regulatory component of the cell nucleus. Both with topoisomerase II, lamins play a very important role in the nuclear regulation of transcription and chromatin structure, DNA replication, and repair. Since these proteins play such a crucial role, we were curious how their expression look like during heat-shock induction.

Here, we examined heat shock response of *Drosophila melanogaster* in context of the localization and the level of two nuclear proteins of our interests - lamin Dm and topoisomerase II. Our preliminary data suggest that the level of lamin and topo II proteins, before and after heat shock induction, and also after recovery time remains constant. Nuclear localization of this proteins seems to vary between heat shocked and nonheated organisms.

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