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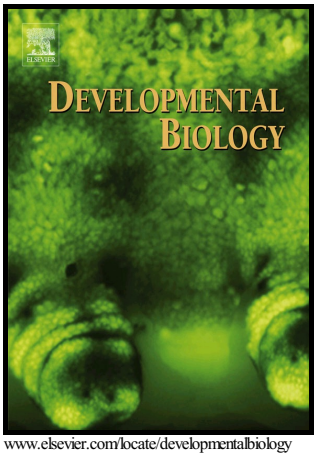


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# Size matters! Aurora A controls *Drosophila* larval development

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## Abstract

In metazoans, organisms arising from a fertilized egg, the embryo will develop through multiple series of cell divisions, both symmetric and asymmetric, leading to differentiation. Aurora A is a serine threonine kinase highly involved in such divisions. While intensively studied at the cell biology level, its function in the development of a whole organism has been neglected. Here we investigated the pleiotropic effect of Aurora A loss-of-function in *Drosophila* larval early development. We report that Aurora A is required for proper larval development timing control through direct and indirect means. In larval tissues, Aurora A is required for proper symmetric division rate and eventually development speed as we observed in central brain, wing disc and ring gland. Moreover, Aurora A inactivation induces a reduction of ecdysteroids levels and a pupariation delay as an indirect consequence of ring gland development deceleration. Finally, although central brain development is initially restricted, we confirmed that brain lobe size eventually increases due to additive phenotypes: delayed pupariation and over-proliferation of cells with an intermediate cell-identity between neuroblast and ganglion mother cell resulting from defective asymmetric neuroblast cell division.