Border cell migration as an *ex vivo* model to study cellular migration and metastasis

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The process of cellular migration is crucial for the normal development of multicellular organisms, for it is involved in phenomena, such as tissue formation, wound healing and immune reactions. Although essential for development, cell migration represents one of the deadliest aspects of some forms of tumours—metastasis. Research has primarily focused on understanding the mechanics of cell motility through studies using two-dimensional *in vitro* models. However, the inability to replicate the complex cellular microenvironment of living cells, has challenged the results of such studies. In this study, the culturing of egg chambers from the ovaries of the model organism *Drosophila melanogaster* is suggested as a potential three-dimensional *ex vivo* model to study epithelial-to-mesenchymal transformation (EMT) leading to cellular migration. EMT has been proposed as a model to understand metastasis and cancer progression. In early stage 9 of *Drosophila* oogenesis a group of 6-10 cells—border cells—exhibit mesenchymal behaviour, after detaching from neighboring epithelial cells—follicle cells; thus suggesting that the EMT process is intrinsic to border cells. This study intends to provide grounds for the future study of cellular migration, with emphasis on the EMT process. The transcriptional regulator *slow border cell* (*slbo*), coupled to green fluorescence protein (GFP) was used to visualize border cell migration (BCM) via fluorescence microscopy. In addition, egg chambers were exposed to triclosan, an endocrine-disruptor at 1, 2 and 3ppm to measure any potential effect on BCM. Finally, RT-qPCR was used to measure changes in genetic expression of markers common in EMT in response to triclosan addition.