

Immunostaining of E-cadherin and N-cadherin in *Drosophila Melanogaster* Border Cells with and without exposure to triclosan

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Cell migration is a critical aspect of life, affecting a wide variety of functions from proper development to wound healing. The epithelial to mesenchymal transformation (EMT) is critical for typical cell migration. However, unregulated EMT can occur in cancerous tissue, giving those cells metastatic capabilities and increased invasiveness. Triclosan, a common antibiotic, has been shown to influence border cell migration in *Drosophila Melanogaster* ovaries. Specifically, triclosan was thought to affect the cell adhesion molecules, N-cadherin and E-cadherin during the migration of these cells in the developing oocyte. Thus, triclosan may potentially affect fruit fly development and adult reproductive capabilities. To further understand the effects of triclosan on migrating border cells, an immunostaining assay targeting N-cadherin and E-cadherin was performed. E-cadherin is important in orienting the border cells, and N-cadherin is a characteristic adhesion molecule in mesenchymal cells. Despite this, no E-cadherin or N-cadherin fluorescence was detected in the border cells with or without triclosan exposure. These results suggest that border cells do not undergo EMT and instead retain their epithelial characteristics. In addition, it does not appear that triclosan affects cadherin expression in border cells and delays migration via another mechanism.