

**P044** Novel roles for the exoribonuclease *pacman* in epithelial sheet sealing

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We are investigating the role of the 5' – 3' exoribonuclease *pacman* in the fundamental morphological process of epithelial sheet sealing in *Drosophila melanogaster*. The exoribonuclease *pacman* (Xrn1) is highly conserved in all eukaryotes and has been shown to be involved in many cellular processes such as RNA interference, nonsense-mediated decay and regulation of gene expression via micro-RNAs. Furthermore, Pacman and its homologues have recently been shown to be located in cytoplasmic particles, termed P-bodies, where localised translational repression and degradation are thought to take place. Our results demonstrate, for the first time, that Pacman is required for thorax closure, which is a morphological process similar to dorsal closure in *Drosophila*, ventral enclosure in *C. elegans*, hind brain closure and palate formation in vertebrates and also wound healing. Our preliminary results also show that *pacman* mutant embryos can have a severe dorsal closure phenotype resulting from complete failure of the dorsal closure process. Data will be presented on the mechanisms whereby *pacman* regulates signaling pathways during dorsal closure.