

P029 The role of Sumoylation during *Drosophila* metamorphosis
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To study *in vivo* the role of the ubiquitin-like protein Smt3 (Sumo) during *Drosophila* development, we generated transgenic flies carrying the transgene *UAS-smt3i* to reduce *smt3* mRNA levels in specific groups of cells. Low *smt3* in the prothoracic gland, the tissue responsible for the synthesis of ecdysteroids, prevents metamorphosis. RNAi knockdown larvae (*smt3i*) stop their development in their last larval stage and remain alive for up to a month. These larvae have lower ecdysteroid titer than WT and after dietary administration of exogenous ecdysone they can form pupal cases. In *smt3i* larvae the subcellular localization and/or expression levels of enzymes and factors involved in the ecdysteroids synthesis are altered. Interestingly, their prothoracic gland cells have reduced intercellular channels and reduced content of sterols. Our study indicates that Smt3 is required in the prothoracic gland to achieve the levels of ecdysteroids required for the initiation of the pupariation process. We are currently investigating the role of the Spalt family of transcription factors in this process.