

P013 Hierarchical recruitment of cleavage furrow components
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The cytoskeletal protein Anillin is one of the first factors recruited to the cleavage site during cytokinesis. This protein is known to interact with Actin, Myosin and Septins and is essential for proper organisation of the actomyosin ring at the cleavage site in *Drosophila* and vertebrates. We employed affinity purification methodology coupled to mass spectrometry to identify molecules that interact with Anillin in *Drosophila* cultured cells. As expected, we isolated several Actin and Myosin proteins and 3 of the 5 *Drosophila* Septins. Using drug and RNAi treatments we established that F-Actin is essential for Anillin cortical localisation in pro-metaphase but not for its accumulation to the cleavage site after anaphase onset. In addition, Septins were not recruited to the cleavage furrow in *Anillin* RNAi cells but localised to central spindle microtubules, suggesting that Septins travel along microtubules to reach the cleavage furrow where then interact with Anillin. Interestingly, in our purifications we also identified RacGAP50C/Tum, the RacGAP component of the centralspindlin complex. We will present evidence that RacGAP50C is essential for Anillin accumulation to the furrow, the two proteins co-localise *in vivo* and interact *in vitro*. Our data indicate that, in addition to its known role in activating RhoA signalling, RacGAP50C also controls the proper assembly of the actomyosin ring by recruiting Anillin to the cleavage furrow.