

P035 The chromosomal passenger INCENP is required to maintain sister-chromatid cohesion in *Drosophila* male meiosis

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INCENP is a member of the chromosome passenger complex that is crucial in mitosis for chromosome condensation, spindle attachment and function, and cytokinesis. The functions of INCENP in meiosis have not been defined. We analysed two mutations in the *Drosophila incenp* gene that are viable and thus permitted elucidation of the activities of INCENP in male meiosis. In wild-type meiosis INCENP persists at centromeres in anaphase I, consistent with a role in cohesion. *incenp* mutations profoundly affect chromosome segregation in both meiosis I and meiosis II. Chromosome condensation is abnormal, and the sister chromatids prematurely separate in meiosis I. The protector protein MEI-S332 is required for maintenance of centromere cohesion until meiosis II, and stable localization of MEI-S332 to the centromere in both meiosis and mitosis requires INCENP. We show that MEI-S332 is a substrate of Aurora B kinase in vitro. These results implicate the chromosome passenger complex in the control of sister-chromatid cohesion in meiosis.