

**P030** TPX2 accumulation is required for progression of meiotic maturation in mouse oocytes

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The formation of female gametes requires the assembly of acentriolar spindles during meiotic divisions. Mitotic spindle assembly requires both centrosomes and local activation of the RanGTPase on chromosomes. In vertebrate oocytes, although a RanGTP gradient centered on chromatin is present during meiotic maturation, this gradient is not essential for homologous chromosome segregation at meiosis I. To understand the difference in sensitivity to RanGTP levels between meiosis I and II, we analysed the regulation of a target of Ran, TPX2, during meiotic divisions. TPX2 is absent in Prophase I arrested mouse oocytes, but progressively accumulates during meiotic maturation. TPX2 overexpression leads to aberrant MI spindles formation and first polar body (PB) extrusion inhibition. While strong TPX2 depletion prevents first PB extrusion, moderate TPX2-depleted oocytes extrude their PB and enter meiosis II. Nevertheless, the MII spindle does not form properly. We also show that TPX2 is required for TACC-3 phosphorylation, a protein involved in MTOC activity during meiotic divisions.