



**Figure S2:** Cohesin mutants result in reduced testis size due to early prophase I arrest. (A) Testis size comparison between control and mutant testes extracted from adult mice, 8-12 weeks post-partum (S3 = *Stag3*, R21/ = *Rad21l* and R8 = *Rec8*). (B) Example chromatin spread preparations from purified testicular germ cells of control, *Rad21l*, *Rec8*, *Stag3* single mutants and the three possible double mutant combinations aged 15 days post-partum. Chromatin spreads were immunolabeled using antibodies against the SC lateral element protein SYCP3 (red) and  $\gamma$ H2AX (green). Zygotene and pachytene stages are depicted for control, and typical examples for each mutant are given. Scale bars = 10  $\mu$ m.