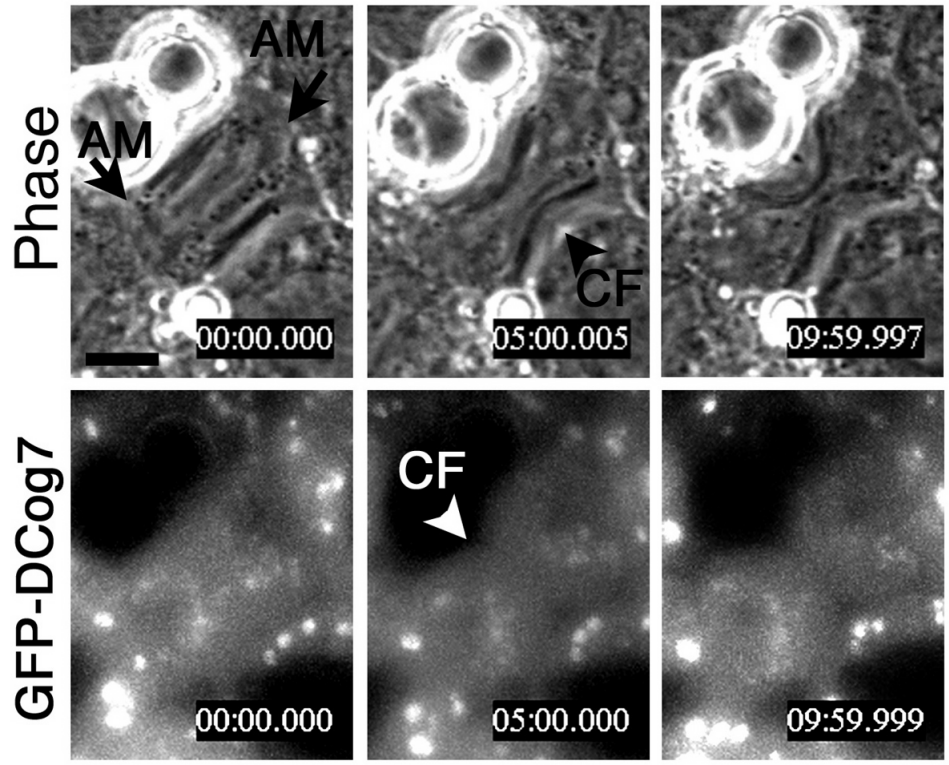


**Fig. S1. Cog7 does not accumulate at the cleavage site of telophase spermatocytes.** Selected frames (Phase contrast and corresponding fluorescence images) of a time lapse from a spermatocyte expressing GFP-Cog7 undergoing telophase. GFP does not accumulate at the cleavage furrows (CF). Bar, 10♣∀m.

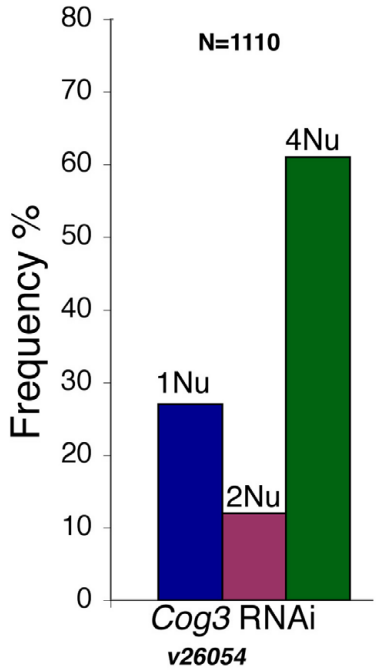


**Fig. S2. Frequencies of spermatids containing 1, 2, or 4 nuclei per each NK in testes from males expressing dsRNA against *CG3248*, the *Drosophila Cog3 (Cog3)*.** *UAS::DCog3-RNAi* was expressed in male meiosis using Bam-GAL4 (Chen and McKearin, 2003). The frequency of multinucleate spermatids in the Bam-GAL4 stock (used as a control) was zero.

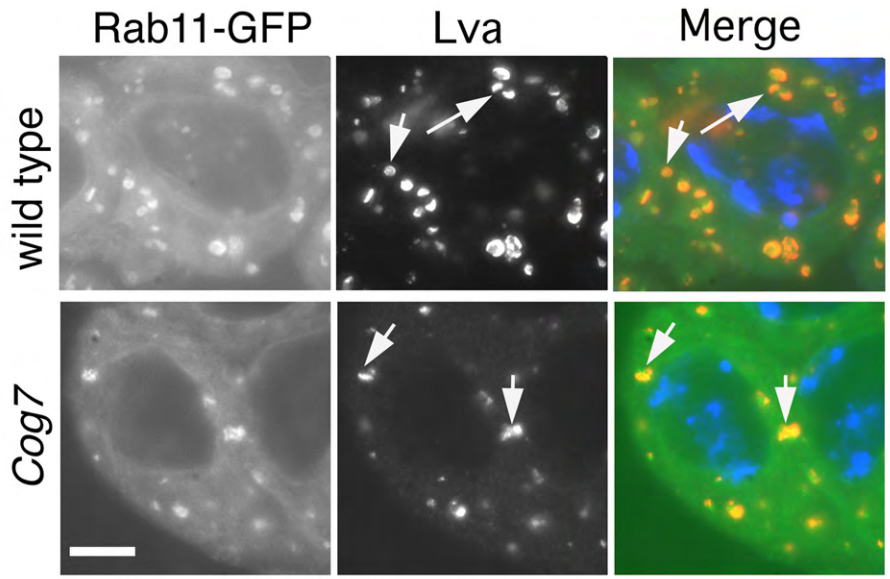


**Fig. S3. Localisation of Rab11-GFP in prophase spermatocytes from wild type and *Cog7* males.** Prophase spermatocytes expressing Rab11-GFP (green) were fixed and stained for Lva (red) and DNA (blue). Arrows point to Golgi stacks. Bar, 10♣∀m

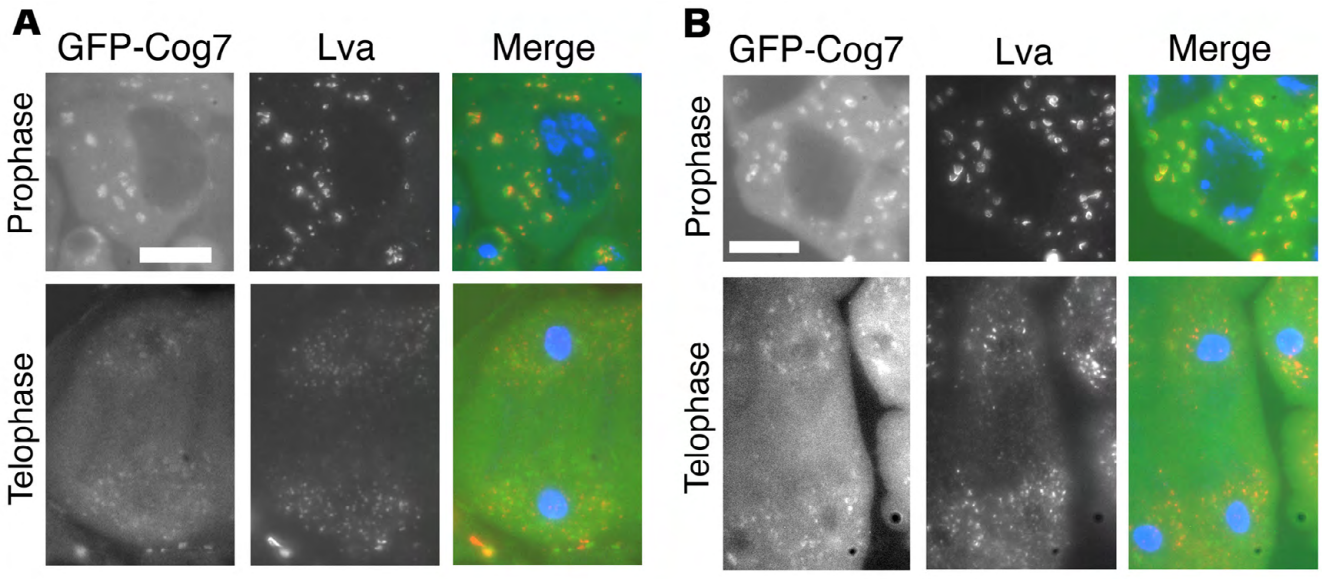


**Fig. S4. Localisation of GFP-Cog7 in spermatocytes from *gio* and *Rab11* is comparable to wild type.** Spermatocytes expressing GFP-Cog7 (green) from GFP-Cog7; $gio^{z3934}/Df(3R)D1\text{-}BX12$ (A) and GFP-Cog7; $Rab11^{e(To)11}/Rab11^{93Bi}$ (B) males were fixed and stained for Lva (red) and DNA (blue). Bar, 10♣∀m

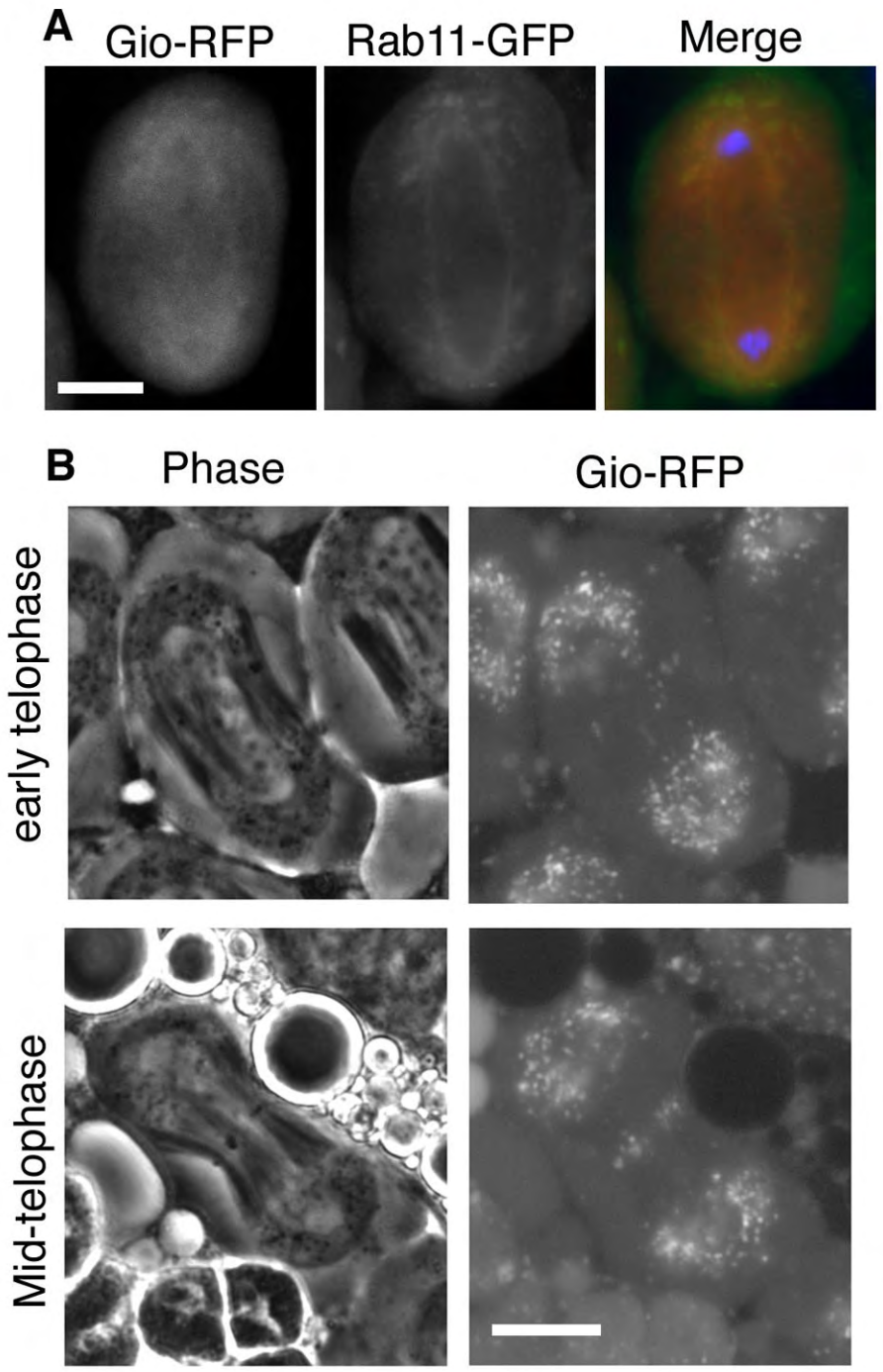


**Fig. S5. Gio-RFP colocalizes with Rab11-GFP in dividing spermatocytes and concentrates at the cleavage furrow during telophase.** (A) Spermatocyte expressing both Rab11-GFP (green) and Gio-RFP (red), were fixed and stained for DNA (blue). (B) Live dividing spermatocytes expressing Gio-RFP during early telophase and mid-telophase. Panels show phase contrast images (Phase) and corresponding fluorescence images. Bar, 10♣∀m

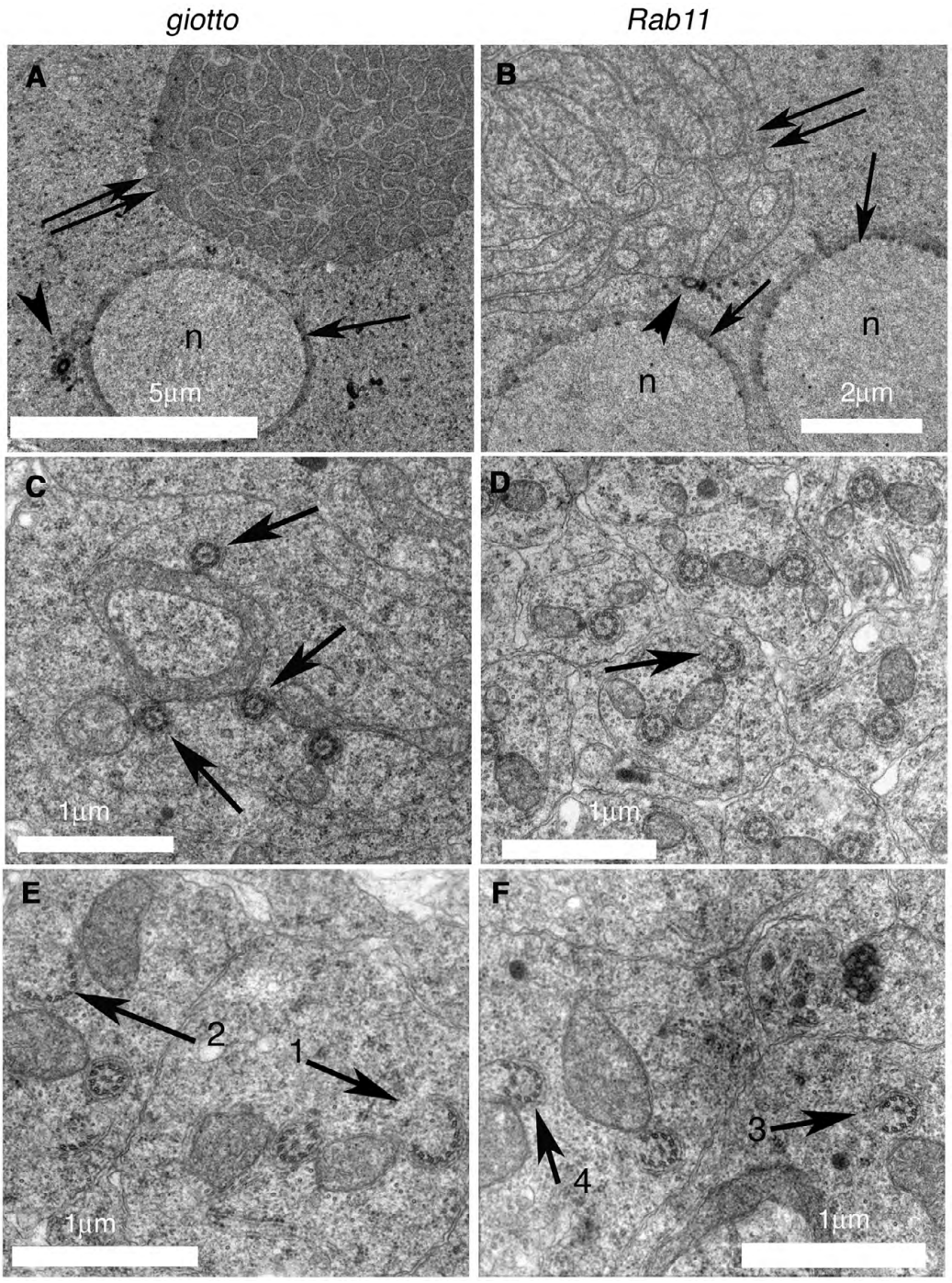


**Fig. S6. Spermatids from *gio* and *Rab11* males display defects in basal body docking and axonemal structure.** (A,B) TEM micrographs from *gio*$^{z3934}$/*Df(3R)D1-BX12* (A) and *Rab11*$^{e(To)11}$/*Rab11*$^{93Bi}$ (B) spermatids. Arrowheads in A and B point to basal bodies. Nuclei (n), nuclear envelopes (arrow) and mitochondrial derivatives (double arrows) are indicated. (C–F) TEM micrographs showing axonemes in *gio*$^{z3934}$/*Df(3R)D1-BX12* (C,E) and *Rab11*$^{e(To)11}$/*Rab11*$^{93Bi}$ (D,F) mutant spermatids. (C) Arrows point to three regular axonemes associated with a large mitochondrial derivative. (D) Arrow points to an irregular axoneme that lacks two peripheral doublets. (E,F) One axoneme in E lacks internal central microtubules (1, arrow). Other axonemes exhibit an irregular splayed structure (2, 3, 4 arrows).

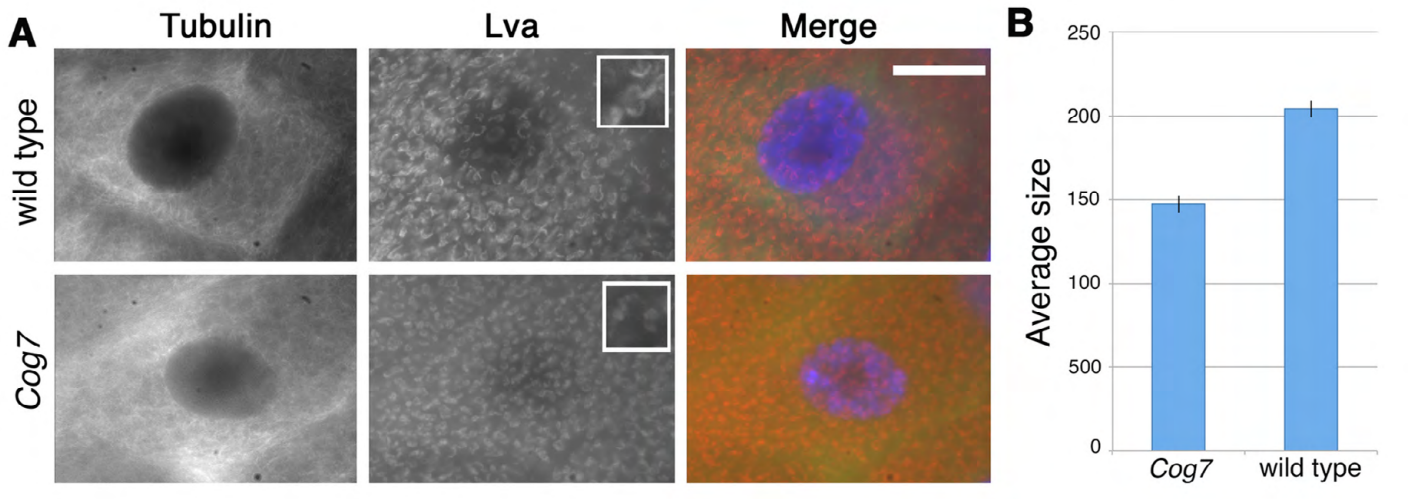


**Fig. S7. Loss of Cog7 affects the size of Golgi in larval salivary gland cells.** (A) Salivary glands were stained for Lva (red), tubulin (green) and DNA (blue). Insets show higher magnifications. (B) Average area of Golgi bodies (+/– SEM) expressed in arbitrary units.