

## Supplemental material

Reina et al., <https://doi.org/10.1083/jcb.201801032>

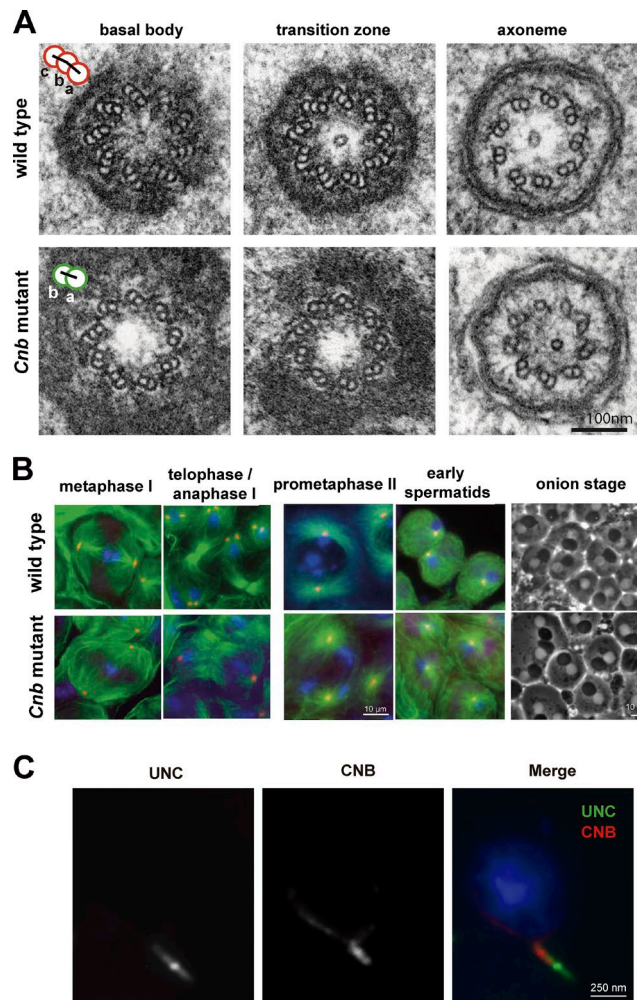


Figure S1. **Additional EM, immunofluorescence, and phase-contrast microscopy studies.** **(A)** EM sections through basal body, transition zone, and axoneme of WT and *Cnb* mutant early spermatids. WT basal bodies are made of triplets composed of A-, B-, and C-tubules arranged along a nearly straight line (cartoon, red). At the transition zone, the outermost tubule (C-tubule) progressively lost protofilaments, leaving behind C-tubule remnants extending along the axoneme. C-tubules in *Cnb* mutant basal bodies were either mispositioned or lacking, leaving doublets behind (cartoon, green). *Cnb* mutant transition zones and axonemes often lack C-tubule remnants. **(B)** Immunofluorescence and phase-contrast microscopy showing DNA (blue), microtubules (green), and centrioles (orange) at metaphase I, telophase/anaphase I, prometaphase II, early spermatids, and onion-stage spermatids in WT and *Cnb* mutant males. *Cnb* mutant males assemble apparently normal first and second meiotic spindles and generate normal cysts of postmeiotic onion-stage spermatids that present uniform nuclear sizes (white circles in onion-stage cells). **(C)** Immunofluorescence staining showing the localization of UNC (green), CNB (red), and DNA (blue) in WT spermatids.

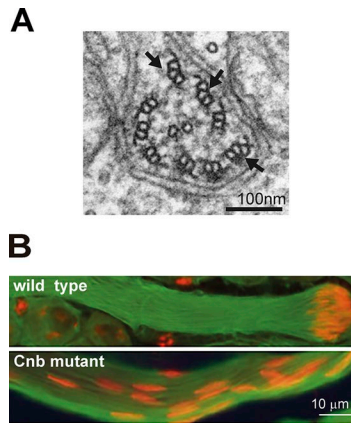


Figure S2. **Ultrastructural details of a *Cnb* mutant axoneme that presents triplets with open sheaths and immunofluorescence showing scattered nuclei over the tails in *Cnb* mutant spermatids.** (A) Section through a *Cnb* mutant axoneme that presents three triplets with open sheaths (arrows). (B) Immunofluorescence showing tails (green) and nuclei (orange) in bundles of elongating WT and *Cnb* mutant spermatids.

Table S1. **Number of C-tubules observed in 11 *Cnb* mutant basal bodies**

Basal body number	C-tubules
1	6
2	5
3	0
4	0
5	0
6	0
7	4
8	0
9	0
10	5
11	0

Table S2. **Length of mother and daughter basal body pairs in WT and *Cnb* mutant males**

Cell number	Basal body length in spermatocytes			
	WT		<i>Cnb</i> mutant	
	Mother	Daughter	Mother	Daughter
	$\mu m$	$\mu m$	$\mu m$	$\mu m$
1	1.06	1	0.81	0.62
2	0.96	1.06	0.79	0.65
3	1.05	0.95	0.71	0.53
4	1.02	0.97	0.74	0.52
5	0.98	1.04	0.78	0.69
Mean	1.02	1.00	0.78	0.62
SD	0.04	0.05	0.04	0.07