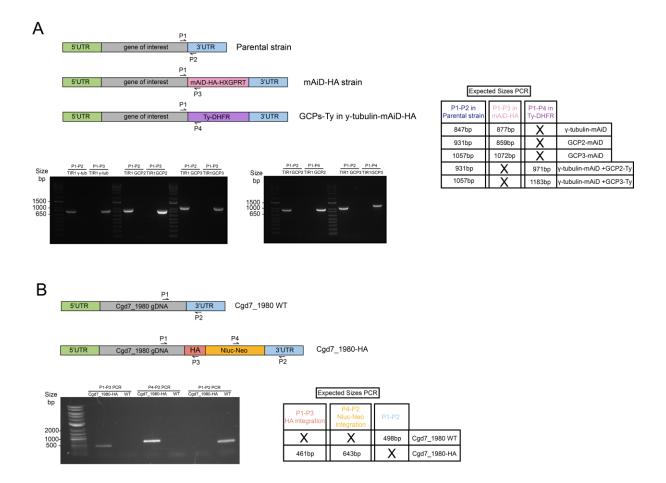
Supplemental Materials

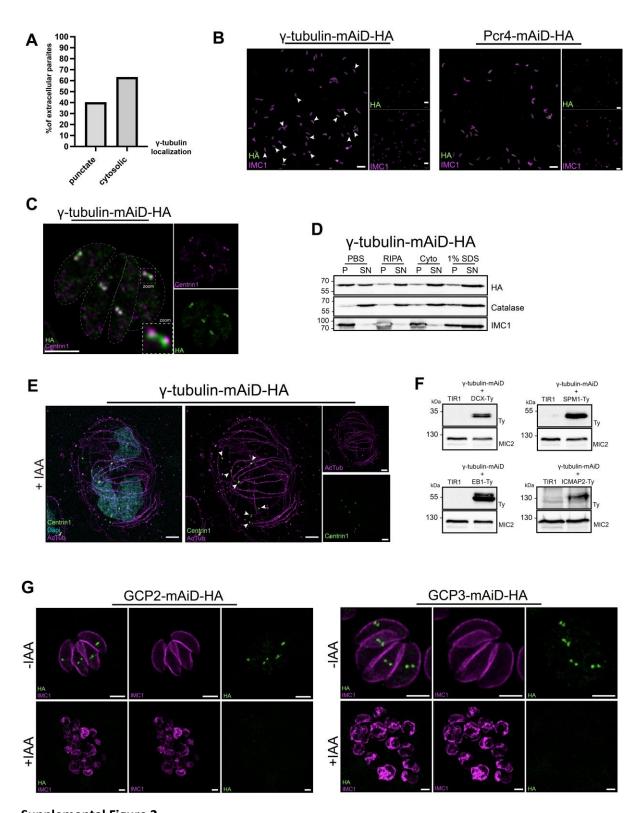
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Supplemental Figure 1

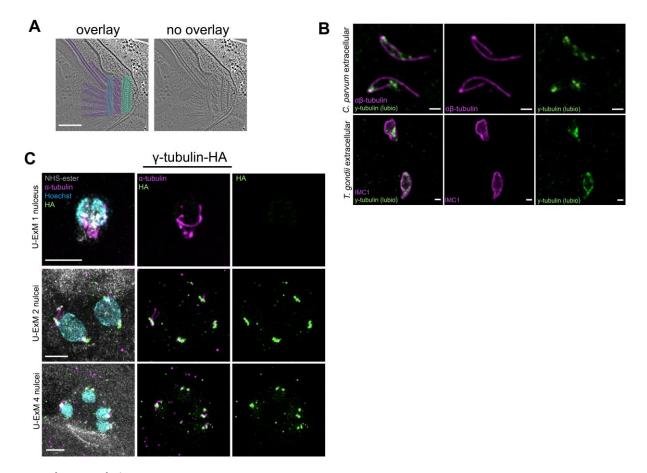
(A): Schematic representation of the genomic construction for *T. gondii* strains used in this study. Verification by genomic PCR of the correct integration of the constructs. **(B):** Schematic representation of the genomic construction for *C. parvum* strains used in this study. Verification by genomic PCR of the correct integration of the constructs.



Supplemental Figure 2

(A): Proportion analysis of the pattern staining of γ -tubulin-mAiD-HA in extracellular *T. gondii* parasites. N = 100 parasites. (B): IFA images of extracellular parasites of γ -tubulin-mAiD-HA and Pcr4-mAiD-HA strains. Arrows showing punctate staining for γ -tubulin protein. Scale bar = 10 μ m. (C): IFA images of colocalization of γ -tubulin and centrin1 protein in intracellular dividing parasites. Scale bar = 3 μ m. (D): Western-Blot analysis of the solubility of γ -tubulin on extracellular parasites extract. Catalase = PBS soluble protein control. IMC1 = SDS1% soluble protein control. (E): U-ExM of

intracellular dividing parasites depleted of γ -tubulin representing the fragmented centrin1 staining. Parasites were treated with auxin during 12h. Scale bar = 5 μ m. (F): Western-Blot analysis of the protein expression of the four microtubules associated proteins tagged into the γ -tubulin-mAID-HA background. MIC2 protein used as a loading control. (G): Immuno-fluorescence representing the phenotype and localization of GCP2-mAiD-HA and GCP3-mAiD-HA in intracellular dividing parasite in absence or presence of auxin (IAA) Scale bar = 3 μ m. In +IAA panels, parasites were treated with auxin during 12h.



Supplemental Figure 3

(A): Cryo-electron microscopy tomogram slice of the apical end of *C. parvum* sporozoite with or without overlay annotation. (B): IFA images representing the staining of a commercially available anti-y-tubulin antibody in *T. gondii* tachyzoites and *C. parvum* sporozoites Scale bar = 1μ m. (C): Additional U-ExM images of y-tubulin-HA localization during *C. parvum* merogony. Scale bar = 5μ m.