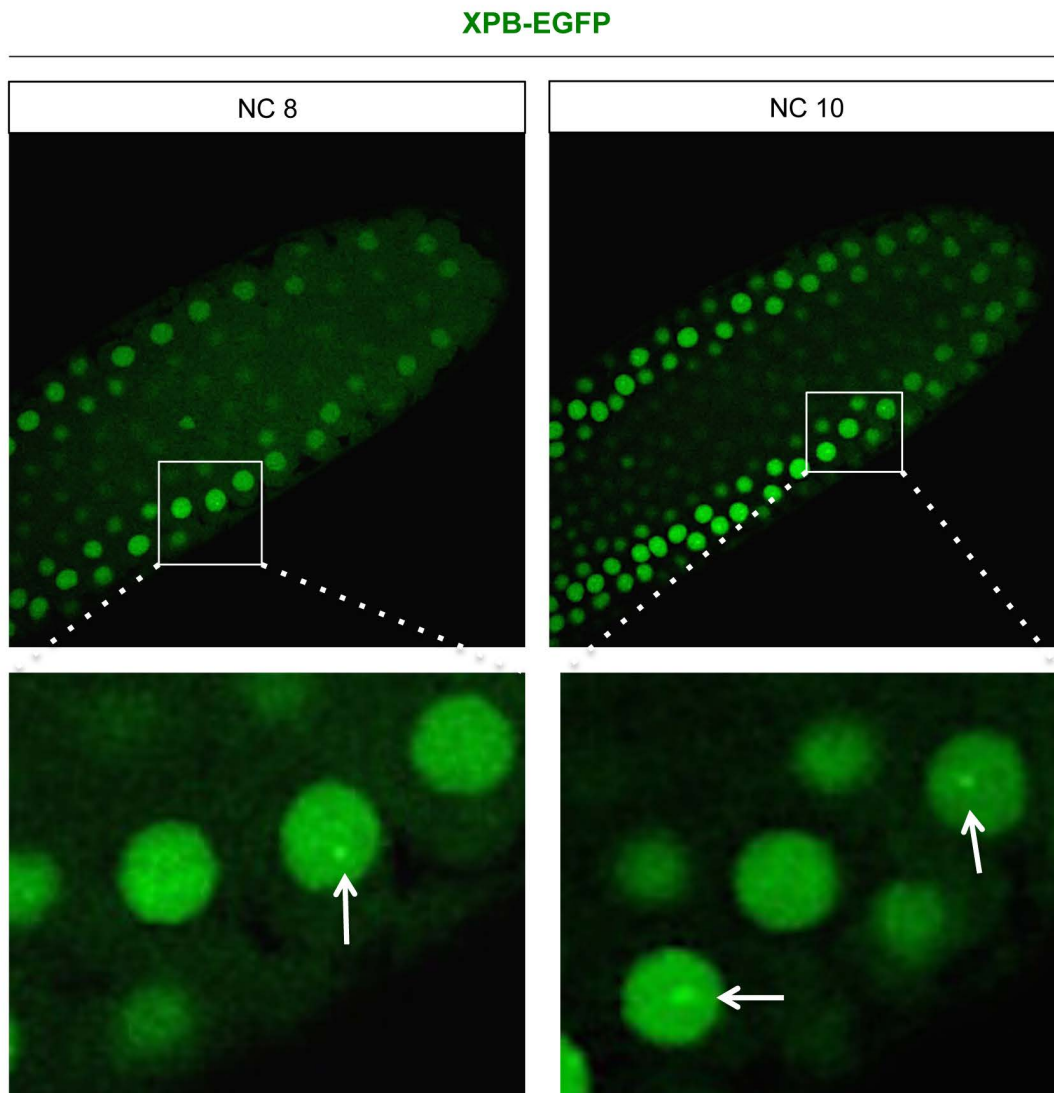
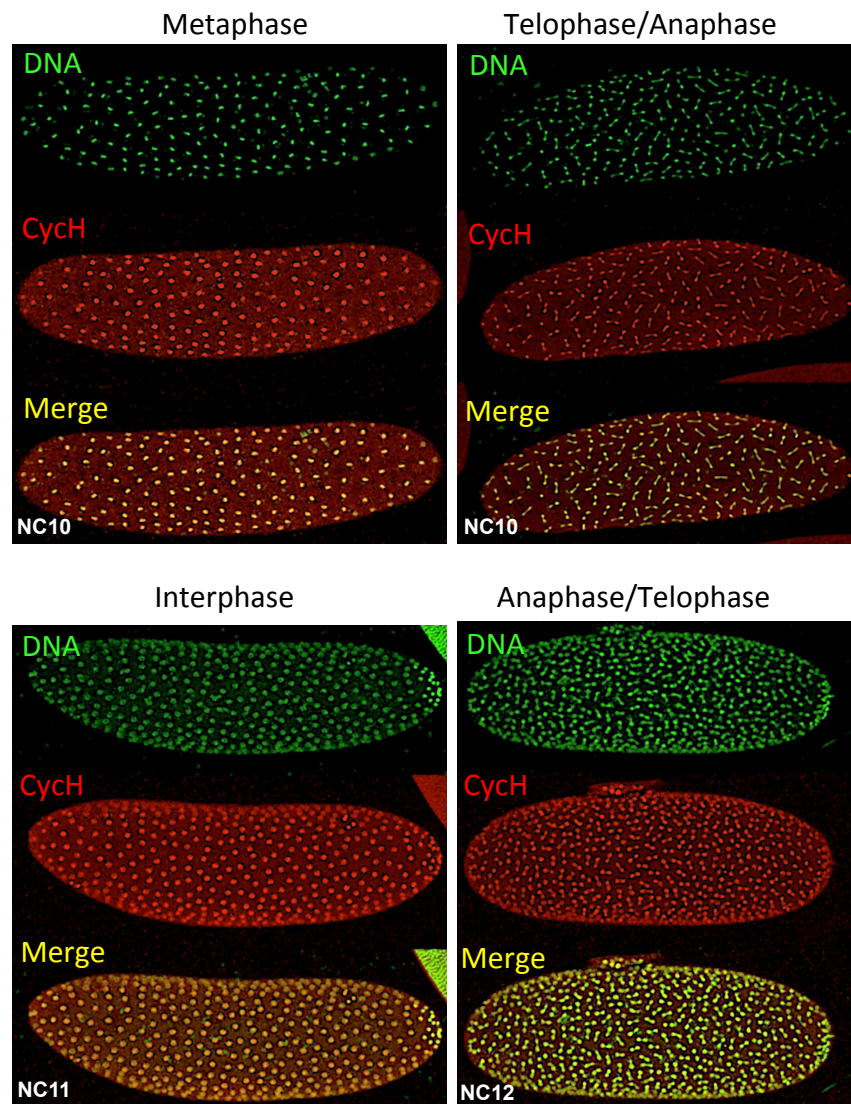


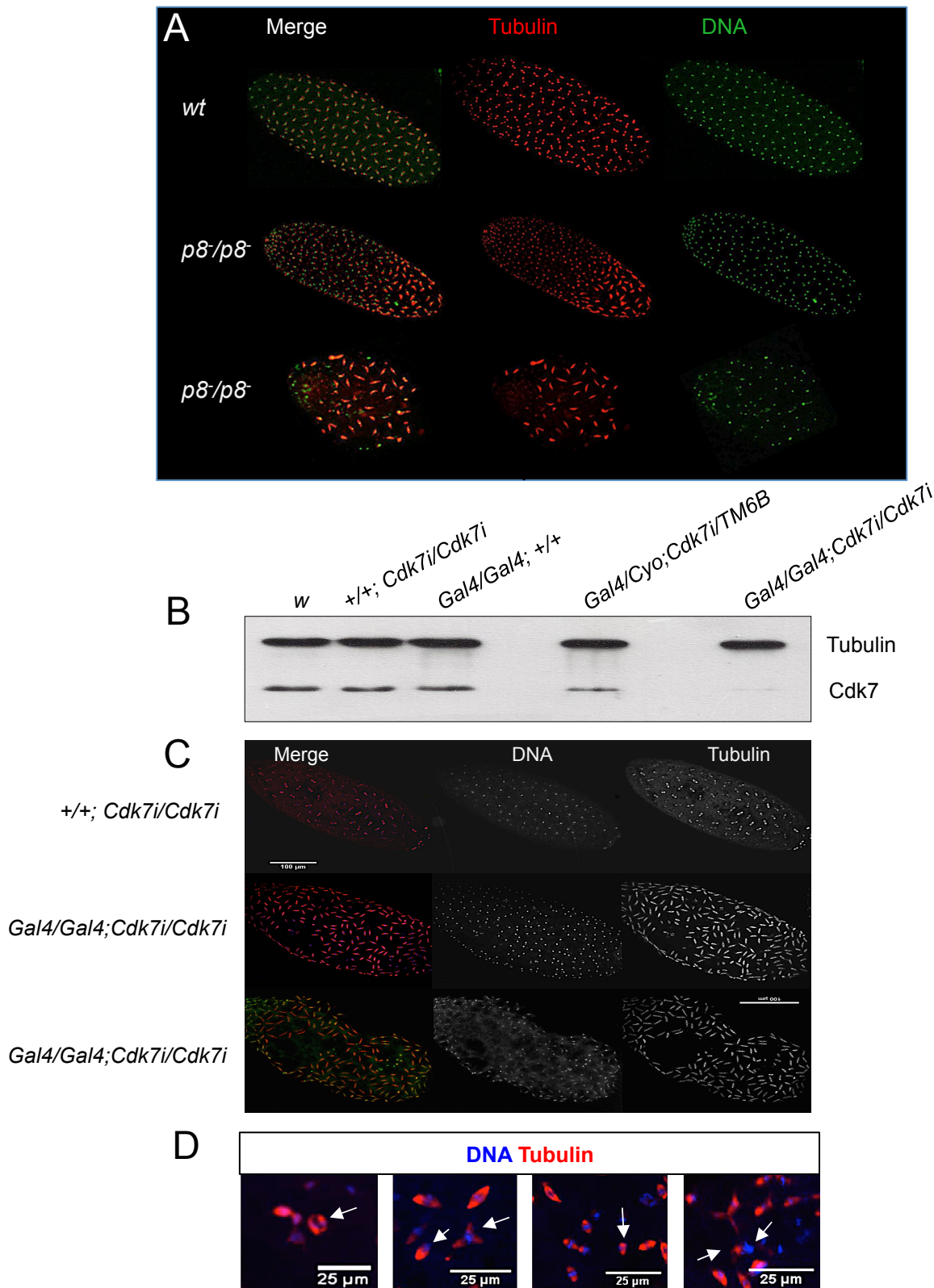
Supp. Fig. 1. **Oscillatory behaviour of TFIID during a replicative cycle.** The images show the dynamics of EYFP-p52 (grey; panel A) and Cdk7-EGFP (green; panel B) during a replicative cycle. H2Av-RFP signal (red) was used as reference to visualize the chromatin state. The plots represent the signal intensity for each channel at the same plane.



Supp. Fig. 2. **Visualization of XPB-EGFP in embryos at nuclear cycles (NC) 8 and 10. XPB foci are indicated by arrows.**



Supp. Fig. 3. **Detection of Cych by immunostaining in pre-MBT embryos**  
The phases of the mitotic cycle are indicated. Cych signal is in red; DNA is in green.



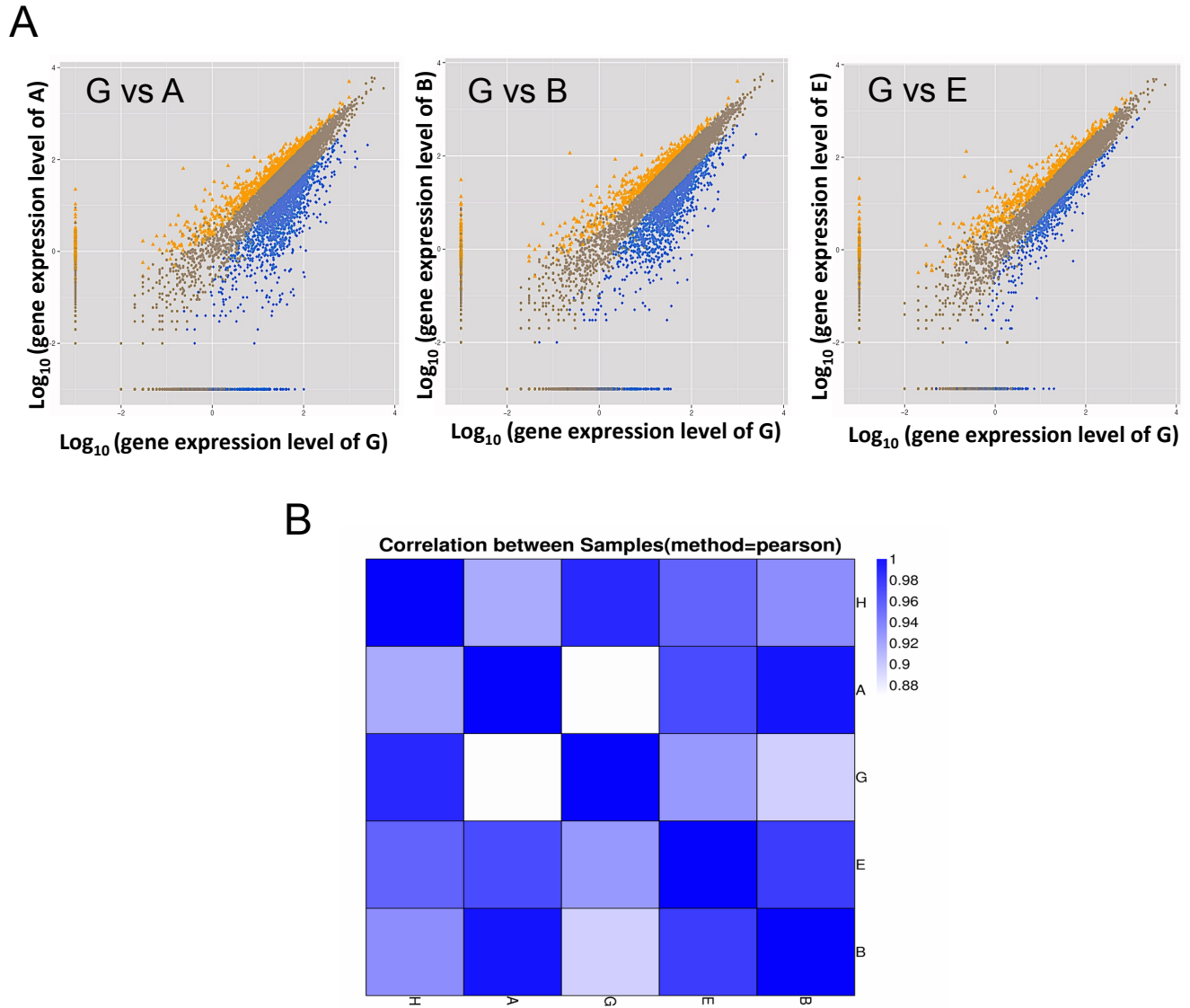
Supp. Fig. 4. **Syncytial blastoderm embryos deficient in p8 and Cdk7 have catastrophic mitosis.**

(A) The panel shows two embryos with low (middle panel) and severe (bottom panel) *p8* mutant phenotypes. DNA and alpha-tubulin staining are in green and red respectively.

(B) Western blot showing the reduction of Cdk7 protein in embryos from mothers that express an RNAi against Cdk7 (Cdk7i) during oogenesis.

(C) Example of mitotic defects in embryos depleted for Cdk7 showing different mitotic defects. The mother's genotypes are indicated. Aberrant spindles, and isolated chromosomes among other mitotic defects are indicated with arrows.

(D) Zoom of different mitotic defects observed in embryos with maternally depleted Cdk7.



Supp. Fig. 5. **Correlation values of the transcriptome between a wild type embryo (G) and mutant embryos (A, B, and E) .**

A) Correlation plots between mutant embryos (A,B and E) and the wild type embryo G.  
 B) RNA-seq correlation values between the different embryos analysed.

## Supplementary Movies



Supp. Movie 1. **In vivo dynamics of p52 in the syncytial blastoderm embryo.** The movie shows EYFP-p52 (yellow) and H2Av-RFP (red). Note the presence of p52 foci during the nuclear cycles.



Supp. Movie 2. **In vivo dynamics of p52 (EYFP) and p8 (ECFP) in the syncytial blastoderm embryo.**



Supp. Movie 3. **In vivo dynamics of XPB.** The movie shows the dynamics of the XPB-EGFP recombinant protein in the syncytial blastoderm embryo.



Supp. Movie 4. **In vivo dynamics of Cdk7.** The movie shows the dynamics of Cdk7-EGFP (green) and H2Av-RFP (red) in a syncytial blastoderm embryo.

## **Supplementary Tables**

Supp. Table 1. Embryo G vs embryo A, Gene Diff. Expression

[Click here to Download Table S1](#)

Supp. Table 2. Embryo G vs embryo B, Gene Diff. Expression

[Click here to Download Table S2](#)

Supp. Table 3. Embryo G vs Embryo E, Gene Diff. Expression

[Click here to Download Table S3](#)

Supp. Table 4. Embryo H vs Embryo A, Gene Diff. Expression

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Supp. Table 5. Embryo H vs Embryo B, Gene Diff. Expression

[Click here to Download Table S5](#)

Supp. Table 6. Embryo H vs. Embryo E, Gene Diff. Expression

[Click here to Download Table S6](#)

Supp. Table 7. Total Filter.

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Supp. Table 8. Ontology, down regulated genes

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Supp. Table 9. Ontology, up regulated genes

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