Supplemental Figure Legends

**Supplemental Fig. S1.** Localization of CDK2 during early parthenogenetic embryo development in pigs. Magnification ×400.

**Supplemental Fig. S2.** Effects of CDK2 inhibitor treatment on porcine IVF embryos. (A) Blastocyst rates of IVF embryos that were untreated (control) or exposed to 5 μM CDK2 inhibitor. Average number of γH2AX foci per nuclei is shown at (B) days 3 and (C) day 5 of culture. Data are from three replicates. The minimum number of embryos analyzed in each group was 30 and 20 for days 3 and 5, respectively. * P < 0.05; ** P < 0.01; *** P < 0.001.

**Supplemental Fig. S3.** CDK2 inhibition induces DNA damage in porcine parthenogenetic embryos as revealed by the comet assay. (A) Comet images of day-3 and day-5 embryos. Magnification ×100. Tail moment length of (B) day-3 and (C) day-5 embryos. ** P < 0.01.

**Supplemental Fig. S4.** Number of fluorescent 53BP1 foci in the nuclei of CDK2 inhibitor-treated embryos. (A) Representative fluorescent images of CDK2 inhibition embryos fixed on days 5 of culture. Etoposide (100 μg/mL) treatment is used a positive control. Nuclei are stained blue; 53BP1 foci are stained red. Scale bar = 20 μm. (B) Average number of 53BP1 foci per nuclei. Data are from three replicates. The minimum number of embryos analyzed in each group was 20. ** P < 0.01; *** P < 0.001.
Figure s3

A

Day 3

Control

Treatment

Day 5

B

Day 3

Tail length (fold of control)

Control

Treatment

**

C

Day 5

Tail length (fold of control)

Control

Treatment

**
Figure s4

A

Control

Etoposide

CDK2 inhibitor

B

NO. of 53BP1 foci

Control  CDK2 inhibitor  Etoposide

***  **  **