

Suppl. Fig. 1. Western blotting assessment of antibodies specificity. Molecular weights of detected proteins (+/- 34 kDa for PCNA; +/- 140 kDa for E-cadherin; above 450 kDa for laminin) are consistent with the predicted molecular weights.

Suppl. Fig. 2. Diagram of the cell junctions during gonad development in *Xenopus*. **A.**

The genital ridge contains three types of cell junctions; cells of surface epithelium (se) are joined by tight junctions (TJ pink) located apically, and desmosome-like junctions (D blue) located more basally. A third type of cell junctions (CJ black) has a form of electron-dense areas of the membranes between the germ and somatic cells. **B.** The undifferentiated gonads also contain these three types of cell junctions. In addition, a centrally located medulla cells (m) are joined by desmosome-like junctions. **C.** In the differentiating ovaries, cells of surface epithelium and cells enclosing oogonia are joined by numerous desmosome-like junctions; medulla cells arrange in a form of monolayer epithelium (epi), which lines ovarian secondary cavity (asterisk), and has desmosome-like junctions located exclusively at lateral region of the cells; two basal laminae (bl) limit the stroma (blue). **D.** In the ovary, cells of surface epithelium and cells enclosing oogonia are joined by numerous desmosome-like junctions. **E.** In the differentiating testes, visible cell junctions are present only between surface epithelial cells at the gonad surface, and between somatic and germ cells. **F.** In the developing testis the stroma (blue) invades underneath the surface epithelium that becomes sterile.

Suppl. Table 1. Number of individuals of *Xenopus laevis* at subsequent Nieuwkoop-Faber stages (NF) used in analysis. N_{OW} – numbers of individuals without any signs of gonad development, N_{Undiff} – number of individuals with the undifferentiated gonads, N_{Testes} – number of individuals with the testes, N_{Ovaries} – number of individuals with the ovaries, N_{Sum} – sum of all used animals.

| Stages | Days | Nwo | NUndiff | NTestes | NOvaries | NSum |
|--------|------|-----|---------|---------|----------|------|
| NF46 | 5 | 4 | - | - | - | 4 |
| NF47 | 7 | 4 | - | - | - | 4 |
| NF48 | 9 | 4 | - | - | - | 4 |
| NF49 | 13 | - | 5 | - | - | 5 |
| NF50 | 15 | - | 6 | - | - | 6 |
| NF51 | 19 | - | 6 | - | - | 6 |
| NF52 | 23 | - | 6 | - | - | 6 |
| NF53 | 28 | - | 6 | 1 | 2 | 9 |
| NF54 | 30 | - | 1 | 5 | 5 | 11 |
| NF55 | 35 | - | - | 5 | 5 | 10 |
| NF56 | 39 | - | - | 5 | 6 | 11 |
| NF57 | 46 | - | - | 5 | 5 | 10 |
| NF58 | 51 | - | - | 6 | 5 | 11 |
| NF59 | 59 | - | - | 6 | 7 | 13 |
| NF60 | 63 | - | - | 5 | 6 | 11 |
| NF61 | 68 | - | - | 7 | 7 | 14 |
| NF62 | 70 | - | - | 5 | 6 | 11 |
| NF63 | 74 | - | - | 7 | 6 | 13 |
| NF64 | 79 | - | - | 6 | 6 | 12 |
| NF65 | 81 | - | - | 7 | 5 | 12 |

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|------|----|----|----|----|----|-----|
| NF66 | 83 | - | - | 7 | 6 | 13 |
| Sum | | 12 | 30 | 77 | 77 | 196 |