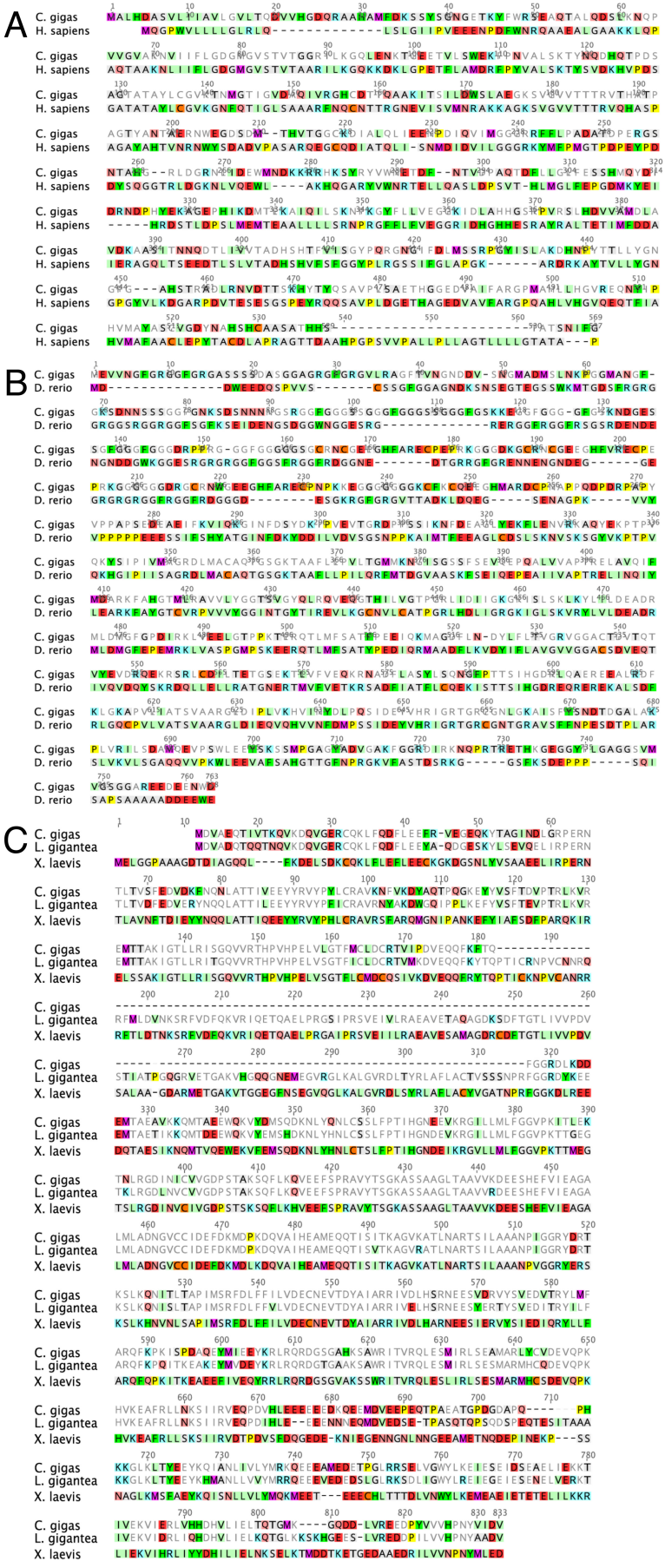
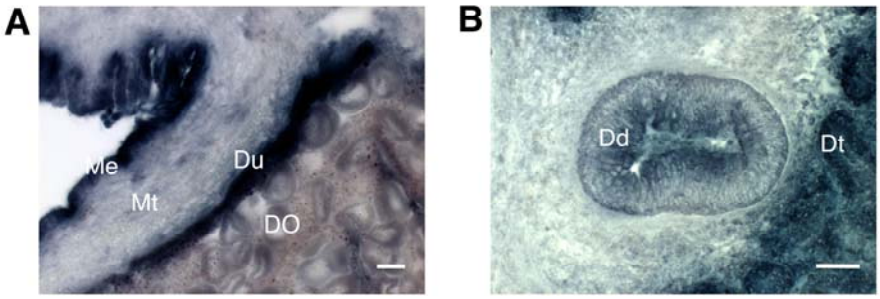
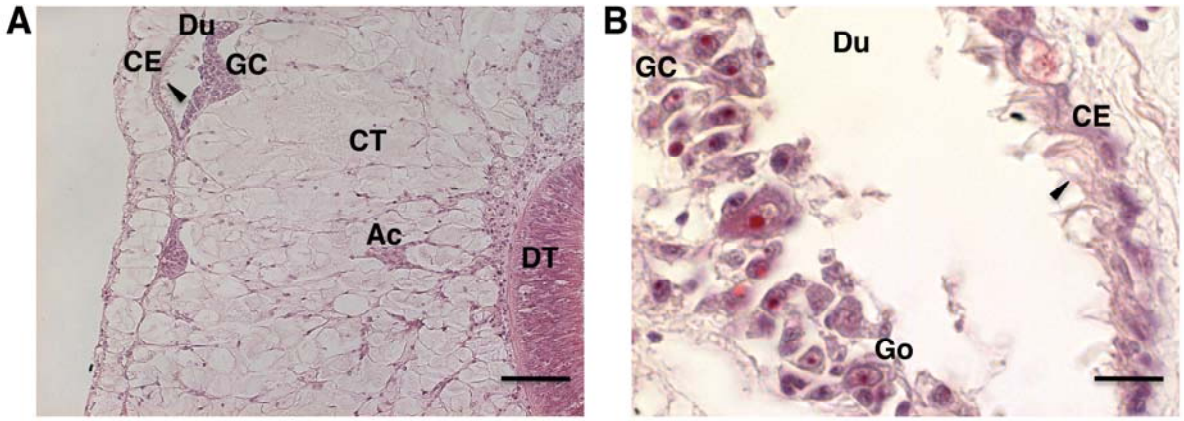
Supplementary figures



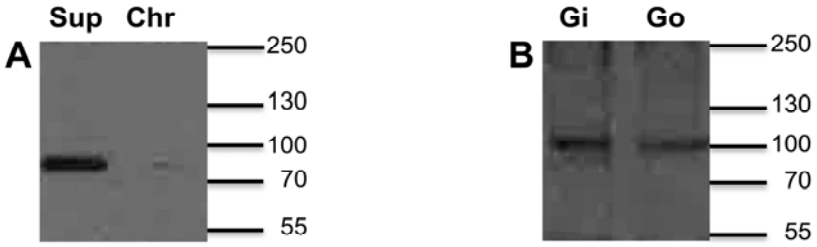
Suppl. Fig. S1. Evolutionary conservation of oyster markers. Sequence alignment shows that **A.** The oyster AP (XP_011446037.1) protein is the ortholog of the human germline-specific GCAP (P10696.4). **B**. The oyster (NP_001292258.1) protein is the ortholog of the zebrafish germline-specific Vasa (gb|AAI29276.1) that served to raise the Vasa-antibody used in this work. **C**. The mollusk (XP_009061581.1) protein is the ortholog of the *Xenopus* Minichromosome maintenance MCM6 protein (BAP63987.1) that served to raise the MCM6-antibody used in this work.



Suppl. Fig. S2. Alkaline Phosphatase activity in spent oyster tissues. A. Mantle. The strong AP activity on the mantle epithelium (Me) is comparable in intensity to the gonad duct (Du) signal, while little activity was detected in the mantle (Mt) and the degenerating oocytes (DO). **B.** Digestive gland. AP activity was detected in the digestive tubules (Dt) and ducts (Dd) while essentially no AP activity was present in the surrounding connective tissues (CT). Scale bars, 100µm.



Suppl. Fig. S3. Oyster gonad histology early during the sexual cycle. Hematoxylin- and eosin-stained sections of 8-month-old oysters. **A.** Gonad duct (Du) and acini (Ac) are shown in the connective tissues (CT) surrounding the oyster visceral mass. Germ cells (GC) are visible on the inner edge of the duct while the outer edge is constituted of an epithelium (CE) displaying cilia (arrow head) in the duct lumina. Thinness of the ducts that are only partially filled with germ cells confirmed that the experimental oysters were at an early stage of their sexual cycle (Steele and Mulcahy, 1999; Lango-Reynoso et al., 2000). DT, digestive tube. Scale bar, 100µm.
B. Detail of a duct section at higher magnification showing germ cell (GC) cluster containing gonia (Go) with a large nucleus containing perinuclear chromatin and a large nucleolus (Franco et al., 2008; Nuurai et al., 2016). Epithelium (CE) harboring cilia (arrow head) delimits the duct outer edge. Scale bar, 10µm.



Suppl. Fig. S4. Antibody specificity for oyster proteins. Immunoblots were carried out against oyster chromatin (A and B) or cytosolic extract (A) (50µg and 10µg of total proteins, respectively) transferred to PVDF membrane. (A) A commercial Vasa rabbit antibody raised against the central domain (AA 199 to 526) of the *Xenopus laevis* Vasa revealed a unique band (81 kDa) of the oyster Vasa (EKC30448.1) predicted molecular weight on gonad cytosolic extract (Sup) while no band was detected on gonad chromatin (Chr). (B) MCM6 rabbit antibody (Sible et al., 1998) revealed a unique band (93 kDa) of the mollusk MCM6 (XP_009061581) predicted molecular weight on the chromatin of gill (Gi) and gonad (Go). PageRuler marker in kDa.