



**Supplemental Figure 6.** *In situ* hybridization. We verified four genes, including LOC\_Os11g10130 coding a protein homologous to AtMYB64/98/119 (A-B), LOC\_Os11g41900 coding a protein homologous to AtLPAT2 (C-D), LOC\_Os02g48980 and LOC\_06g19990 coding proteins protein homologous to AtLORELEI (E-H). The results showed that LOC\_Os11g10130 was present in antipodal cells but not in the other part of the ovary while the other three genes were present in the entire ovaries, not restricted in the embryo sac. Bar was 100  $\mu$ m. AC, antipodal cell.