A Novel Somatic Stem Cell Lineage in the *Drosophila* Ovary Resembles Somatic Testis Cells

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Although our knowledge of stem cell biology has greatly increased over the last years, many stem cell populations with unique developmental characteristics remain to be discovered. The tip of the *Drosophila* ovary is lined by a group of somatic cells called inner germarial sheath cells (IGSc) whose function has remained obscure. We find that a subset of these IGSc proliferates and is part of a previously unrecognized somatic stem lineage that supports the development of the germline stem cells (GSCs). By lineage marking ovarian somatic cells, we find that this subset of IGSc is regularly replenished by 4 to 6 stem cells located at the tip of the germarium in juxtaposition to the GSCs. We name this IGSc subset “Escort cells” and show that they move with the developing cysts and later undergo apoptosis as cysts are enveloped by follicle cells. The discovery of this lineage will allow us to advance studies on the interactions and regulation of two coordinated stem cell populations.

In the *Drosophila* testis, newly forming germ cells are encased by two somatic cyst cells that are themselves the daughters of stem cell division. Escort stem cells resemble the testis somatic progenitor cells in morphology and behavior; moreover, as in the testis, their activity is dependent on JAK/STAT signaling. These findings identify a new population of *Drosophila* stem cells and reveal striking similarities in the stem cell niches at the apex of both male and female gonads.