Conclusion

Taken together, these data assign a novel function to IP6K1 in the regulation of male germ granules in spermatids, which further expands the role of this inositol phosphate kinase in germ cell biology beyond IP7 mediated functions. This report, however, marks the beginning of a new field of inositol phosphate kinase implication in germ cell development. But at the same time, raises many questions that can be addressed in future. For example, how the germ granules impact IP6K1-dependent pathways or how other pathways that depend on IP6K1 are altered in the absence of RNA granules. This study also found that IP6K1 is essential for regulating the orientation of developing germ cells within by preserving the integrity of cell–cell junctions between Sertoli cells and germ cell junctions within the mouse testis. In the absence of IP6K1, testicular cell-cell adhesion pathways are downregulated, seminiferous epithelium becomes disorganised and germ cells tend to slough off from the mouse seminiferous epithelium. IP6K1 therefore represents a novel player in the regulatory network that orchestrates spermatogenesis.