Supporting Information

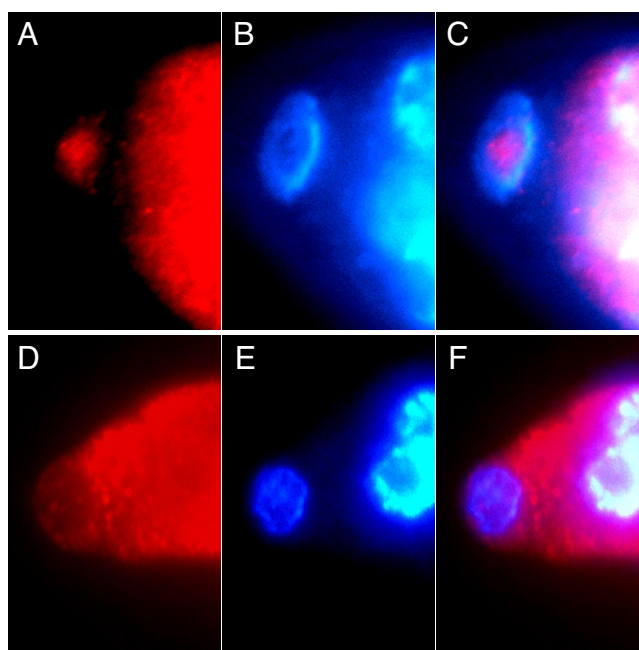## Rudel *et al*. 10.1073/pnas.0800597105

Fig. S1. Ppa-BAR-1 is found in the DTC nuclei. (*A–C*) A wild-type *P. pacificus* hermaphrodite DTC. (*A*) Anti-*Ppa*-BAR-1 antibody staining of the DTC nucleus. (*B*) DAPI staining of DNA showing the DTC nucleus. (*C*) Overlay of anti-*Ppa*-BAR-1 staining and DAPI staining showing *Ppa*-BAR-1 expression within the DTC nucleus. (*D–F*) A *Ppa-bar-1* mutant hermaphrodite DTC. (*D*) Control anti-*Ppa*-BAR-1 staining. (*E*) DAPI staining of the DTC nucleus. (*F*) Overlay of anti-*Ppa*-BAR-1 staining and DAPI staining showing no *Ppa*-BAR-1 expression within the DTC nucleus.

Table S1. Mutations in *Ppa-lin-39* genetically phenocopy cell ablation of the vulva

Amount of vulval tissue	No. of gonadal arms scored	% of gonadal arms that fail to extend ventrally
+++	66	21
++	32	50
+	16	88
−	20	100

The number of pluses indicates the amount of vulval tissue present in young adult *P. pacificus* PS312 animals: +++, a normal or mostly normal vulva (i.e., all three VPCs contributed to the vulva); ++, a reduced amount of vulval tissue (i.e., two VPCs were likely to have contributed to the vulva, and often the vulva, which is normally a symmetrical structure on the ventral side of the animal, was noticeably lopsided); +, a single VPC contributed to the vulva, and often the briefest of vulval passages between the uterus and the outside environment was present or a few cells and no passage was present; −, there was no vulva at all as scored by Nomarski microscopy. Vulval tissue was scored in adult *Ppa-lin-39* animals as opposed to scoring the survival of individual vulval precursor cells in larval animals. In part this is because of the fact that in many *Ppa-lin-39* animals the gonad and the VPCs do not adopt the normal alignment with respect to each other, so identifying individual VPCs in larvae is suspect. Additionally, many induced VPCs have aberrant cell division patterns and do not always produce the full complement of cells as seen in wild-type animals.