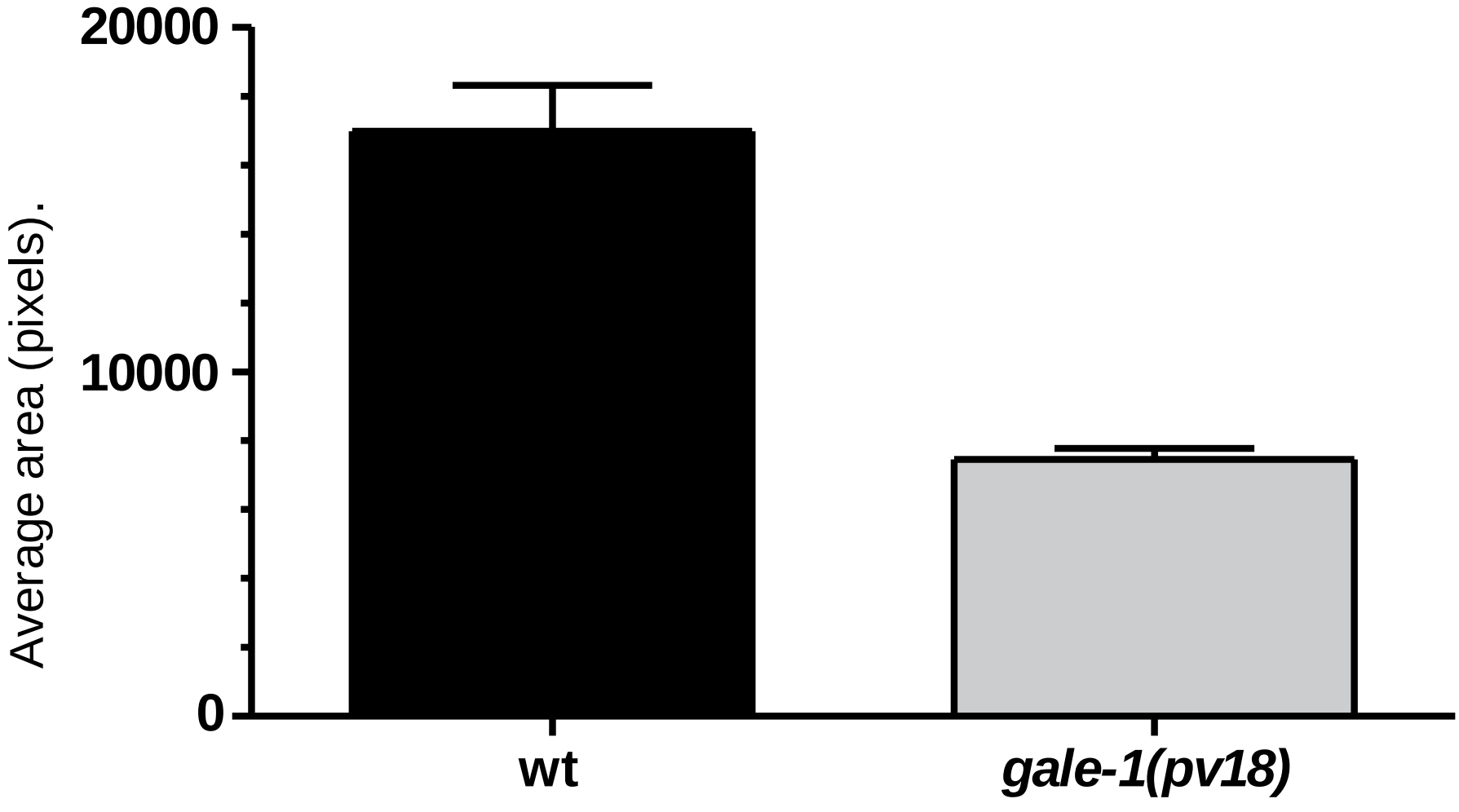


Figure S1: The size of the vulva of *gale-1(pv18)* is reduced: The area of the vulva has been measure by counting the total pixel that occupies in the photography. *gale-1(pv18)* showed half of the size of a wild type vulva. N=20. P > 0.0001

The area was meassure with the ImageJ software and for the statistic test we used Graphpad Prism.

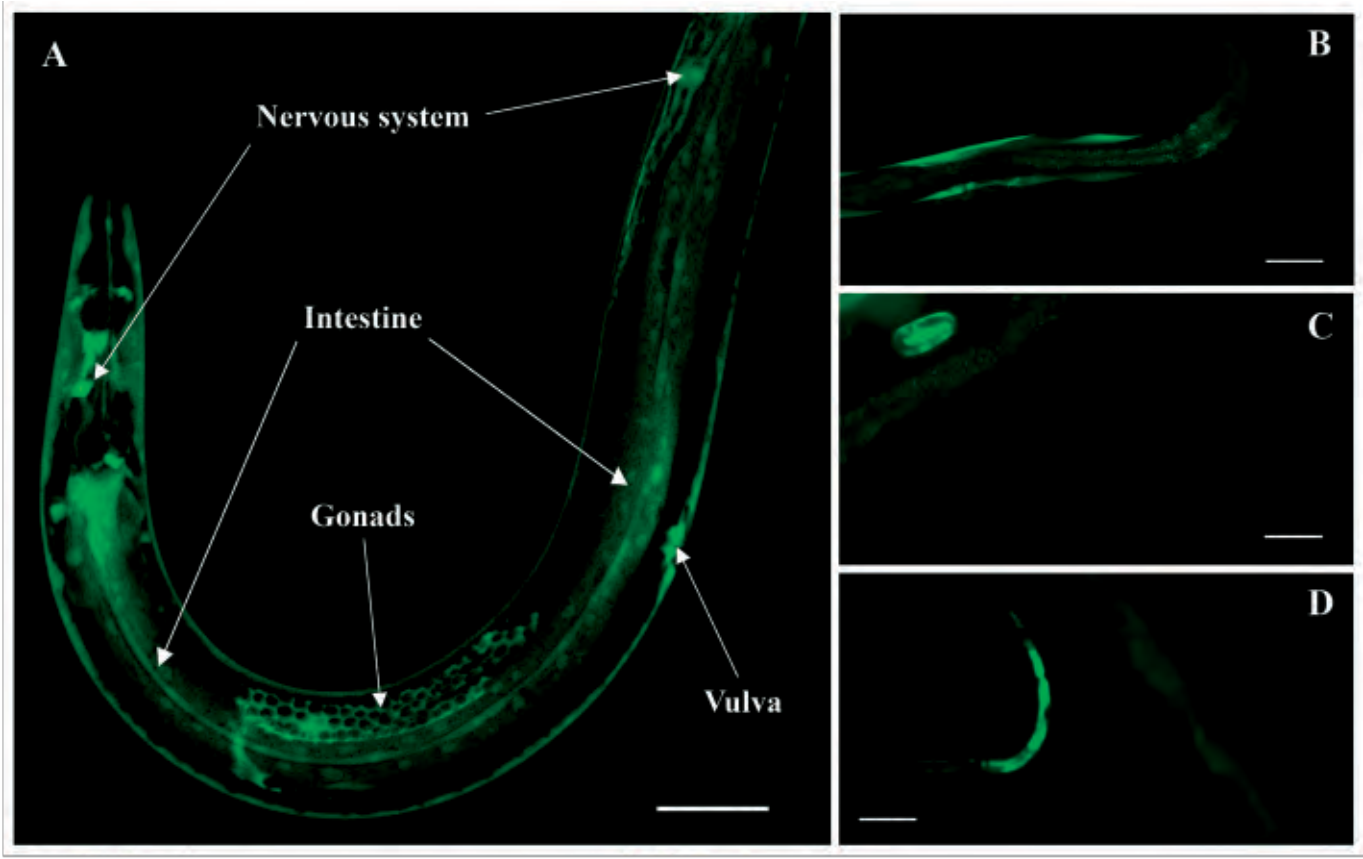
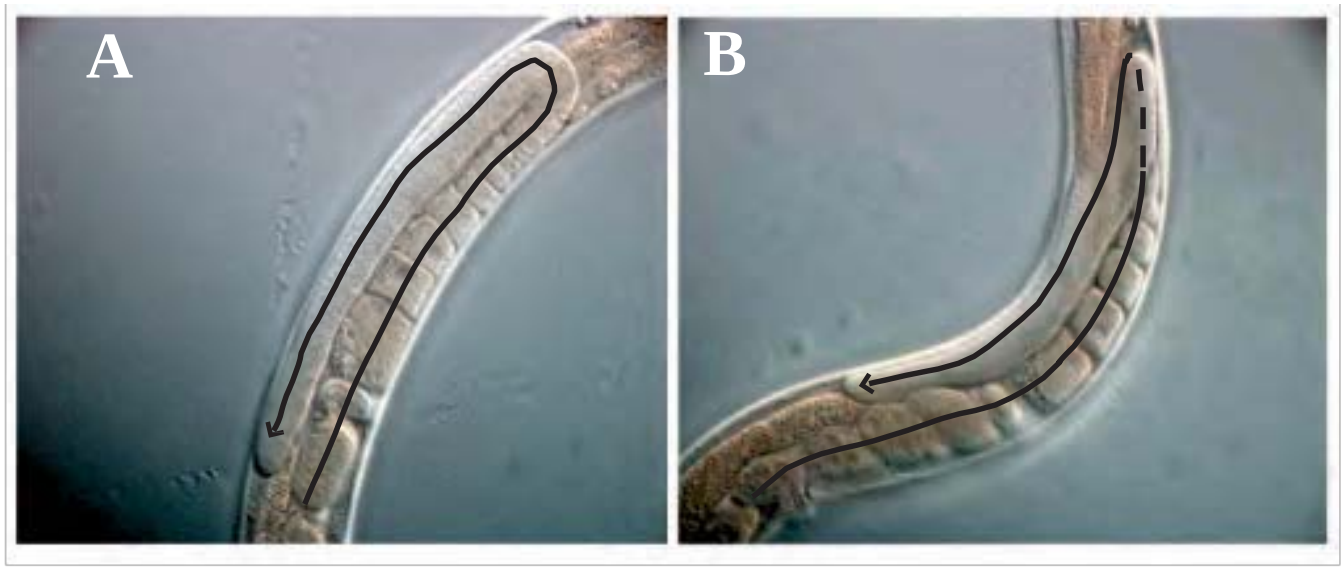


Figure S2: Expression of GFP under the *gale-1* promoter. (A) Expression is observed in gonads, vulva, intestine, hypodermis and nervous system. (B) As also in muscle cells. This late tissue is relevant because is where MIG-17 is produced and secreted to reach gonad basement membrane. (C) The expression is higher in embryos and (D) L1 stage. Images for figure A were captured using a TCS SP2 confocal microscope equipped with an HCX PL APO 40×/1.25 objective lens. Images were taken using integrated Leica software and processed with ImageJ and Adobe Photoshop. Figures B, C and D were acquired as described in material and methods for SJ4005 and GM266 strains.



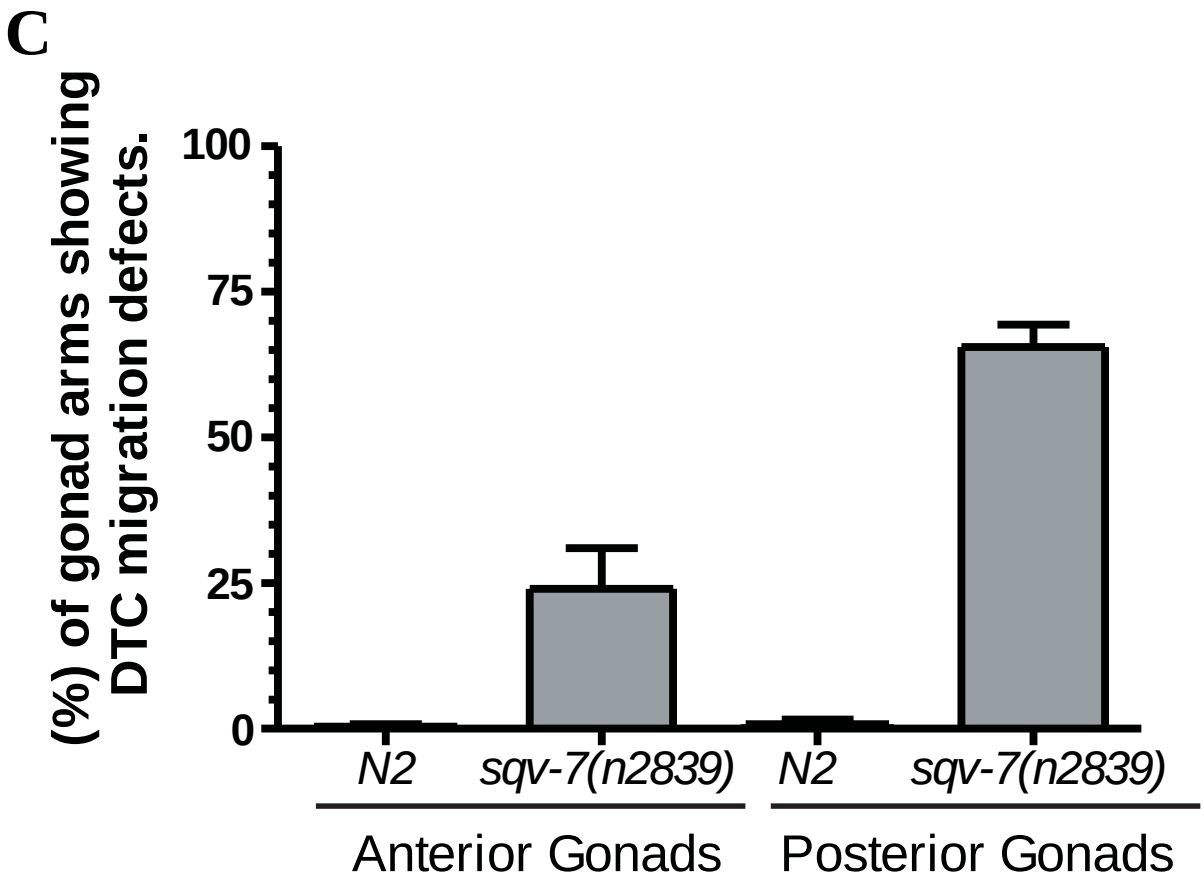


Figure S3: *sqv-7(n2839)* has gonad migration defects: (A) Gonad of a wild type animal. (B) Gonad of a *sqv-7(n2839)* mutant. The gonad in this mutant does not have the characteristic U-shape, similarly to the *gale-1(pv18)* mutant. (C) Percentage of anterior and posterior gonads affected. N>20. $P < 0.05$

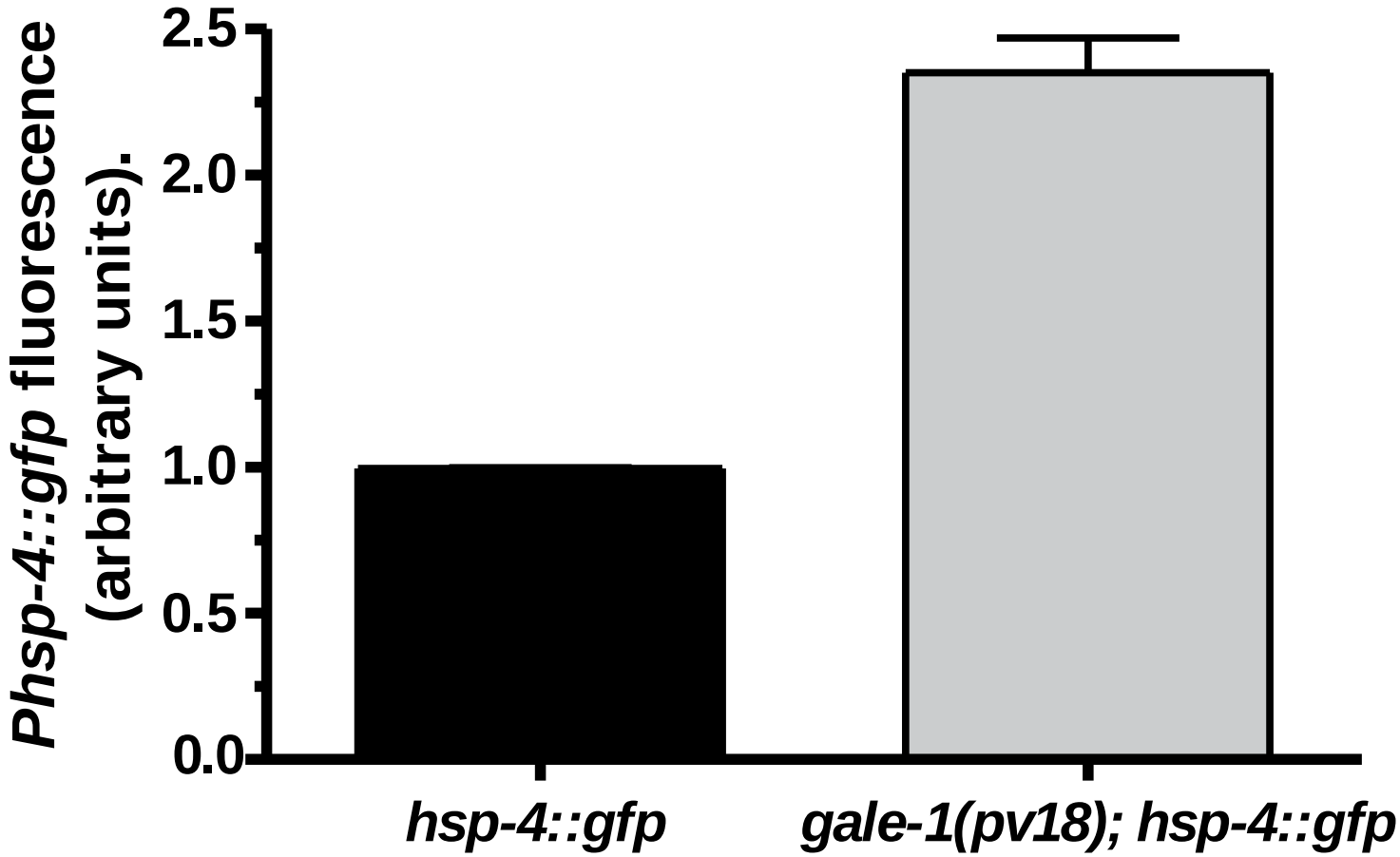


Figure S4: *hsp-4* expression in *gale-1(pv18)* mutant background. Quantification of the expression of *hsp-4* in a wild type and in *gale-1(pv18)* mutant. The fluorescence levels were relative to the mean of *hsp-4::gfp* in a wild type background. For quantification, we analysed 1388 × 1040 pixel 16-bit greyscale images using ImageJ with the MacBiophotonics plugins. For each individual trial, exposure time was calibrated to avoid saturated pixels for the set of animals. N>76. P > 0.005

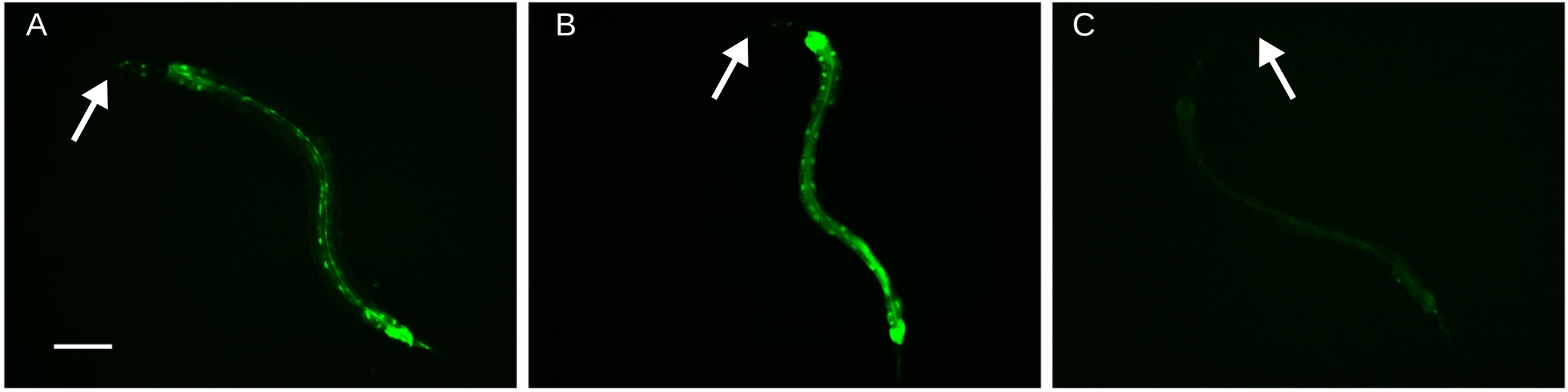


Figure S5: Interaction of *atf-6(ok551)* with the UPR pathway. (A) *hsp-4::gfp* expression in a wild-type background (same as figure 8A). (B) The expression of *hsp-4* is induced in a *atf-6(ok551)* mutant background, indicating that the ER is stressed. (C) *hsp-4::gfp* expression in animals treated with *xbp-1* RNAi is absent in a *atf-6(ok551)* mutant background. Arrows indicate the head of the animals. The scale bar represents 100 µm. Animals shown are representative of the population.

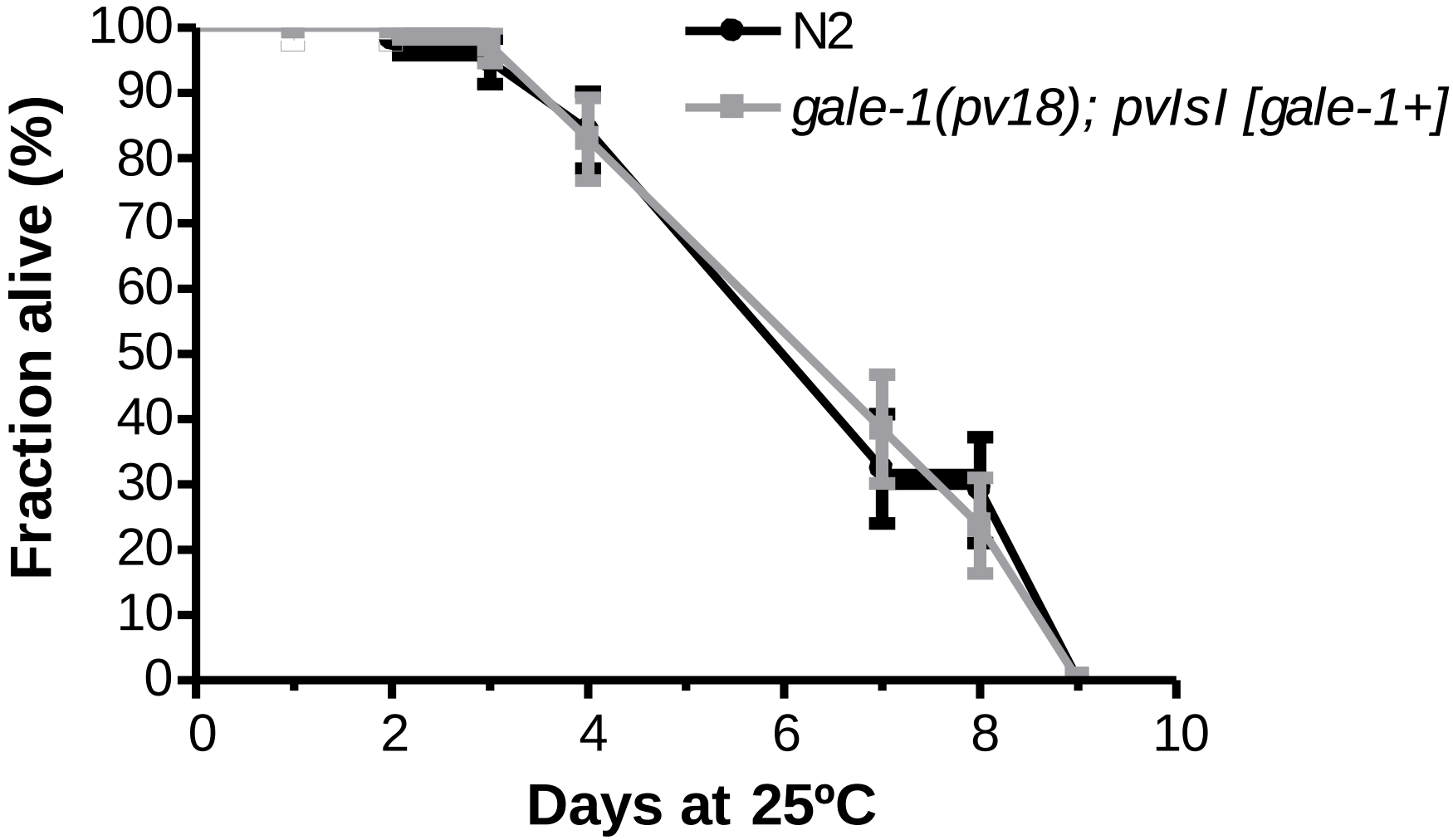


Figure S6: Survival of *gale-1(pv18)* carrying a construction of *gale-1+* in the presence of *Enterococcus faecalis*. No differences are observed with the wild-type strain (P>0.5), indicating that the expression of the *gale-1+* rescues the hypersensivity to infection.

Table S1: Developmental delay of the *gale-1(pv18)* mutant: Wild type *C. elegans* develop from the first larval stage L1 to L4 and then to adult in 3 days either at 16ºC or 20ºC. However *gale-1(pv18)* needs up to 5 days to reach adulthood. * Those strains are in a *fer-15(b26)* background, this mutation affects sperm production at 25ºC but does not affect development. N>200.

Strain	Days	16ºC	20ºC
*Wild type**	3 Days	90±6% Young adult	100% Adult
*gale-1(pv18)**	3 Days	100% L2 or L3	64±9% L1
	5 Days	82±6% Young adult	67±7% Young adult

File S1: Embryonic development of *gale-1(pv18)* mutant is impaired: At 25ºC, wild type embryos hatch after normal development (top embryo); however most of the *gale-1(pv18)* animals do not hatch (the two bottom embryos). Instead, we can observe that during development cells do not tie together may be due to defect in cell adhesion or fail in the hypodermal enclose.

Observation of embryogenesis was performed on an Applied Precision DeltaVision microscope system enclosed in a temperature-controlled chamber set at 25°C. Embryos from wild type and *gale-1 (pv18)* animals were mounted together in M9 buffer on a 3% agarose pad and coverslips were sealed with Valap to avoid desiccation. Images were acquired every minute for a total of 16 hours.

Available for download as a .mov file at
http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.114.170084/-/DC1