

Appendix S5: Terminal phenotypes of maternal-effect lethal embryos

This appendix contains representative images of the terminal phenotypes observed in 27 maternal-effect lethal strains. Eggs were dissected from young homozygous mutant adults and incubated overnight in distilled water (unless otherwise indicated). Corresponding gene and strain names are indicated in each panel with a short description of the terminal phenotypes observed. Multiple images per allele are included where appropriate, if more than one phenotype was common in a particular strain. All scale bars represent 10 μm .

Figure S5.1

F21D5.1

GE2402(*t1940*)

(Embryos shown were incubated in M9 buffer.)
Embryos appear undivided with a severe osmotic integrity defect. Many eggs burst after incubation in water.

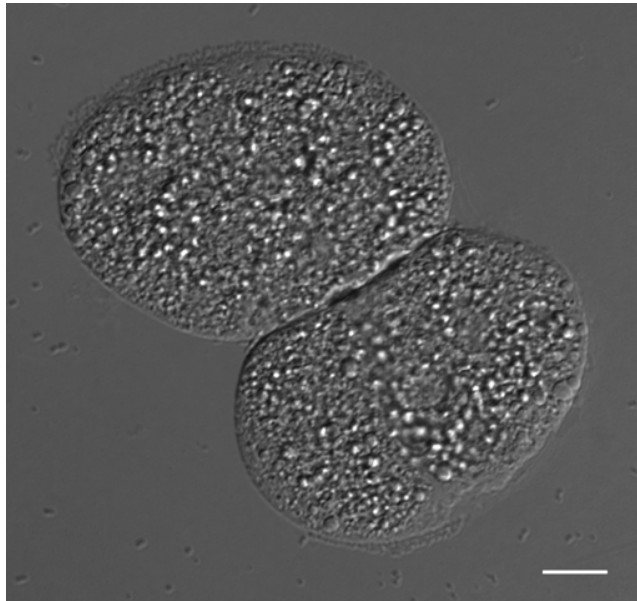


Figure S5.2

F21D5.1

GE2445(*t1935*)

Embryos appear undivided and shrunken within the eggshell; many eggs burst after incubation in water.

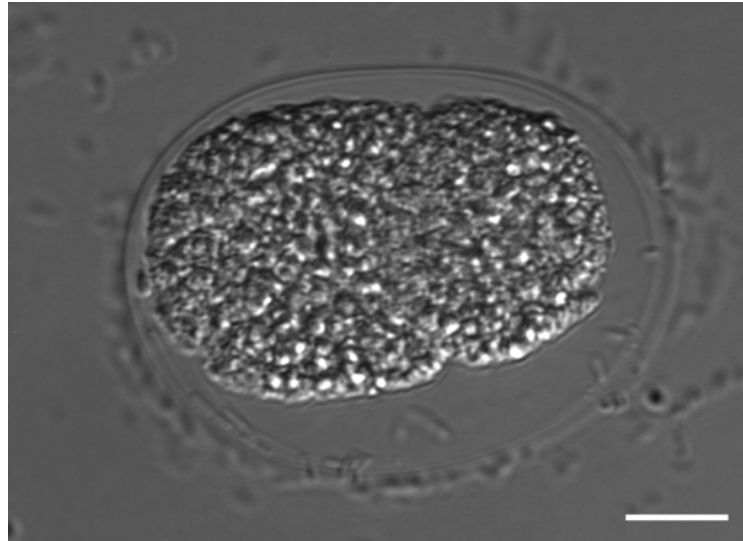


Figure S5.3

trcs-1

GE1939(*t1745*)

(Embryo shown was incubated in M9 buffer.)
Undivided embryos have a severe osmotic integrity defect. Many eggs burst after incubation in water.

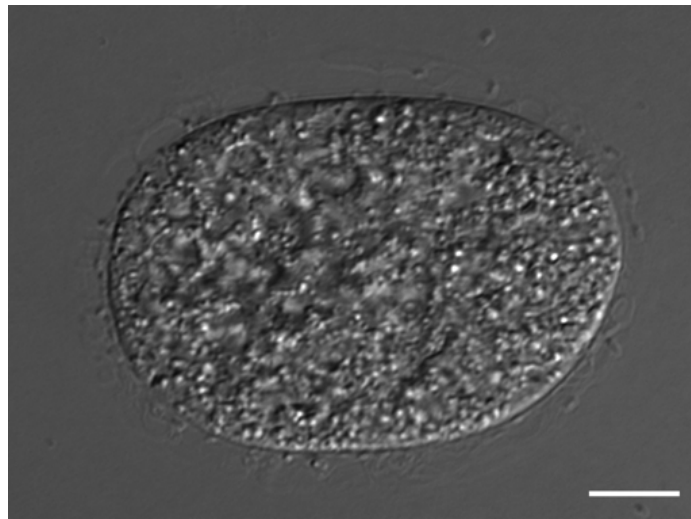


Figure S5.4

trcs-1

GE2512(*t1909*)

Embryos fill the eggshell completely; some have invaginations along the cell membrane. Many eggs burst after incubation in water.

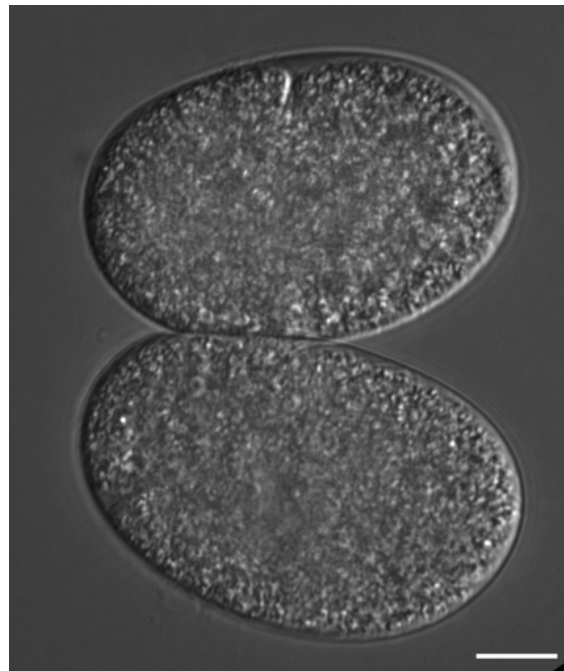


Figure S5.5

perm-5

GE2453(*t1900*)

(Image taken
immediately after
dissection.)

Embryos fill the eggshell
completely. Many eggs
burst after incubation in
water, as did eggs from
GE2391(*t1932*) (not
shown).

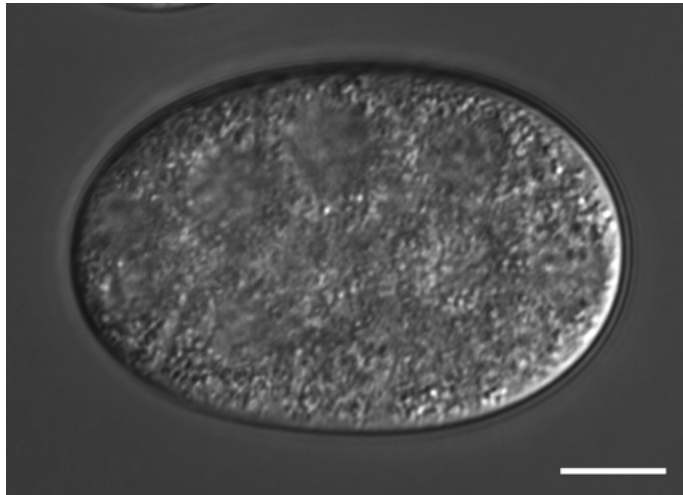


Figure S5.6 A

bckd-1A

GE2206(*t1514*)

Embryos appear
undivided; some eggs
are more round than
oval.

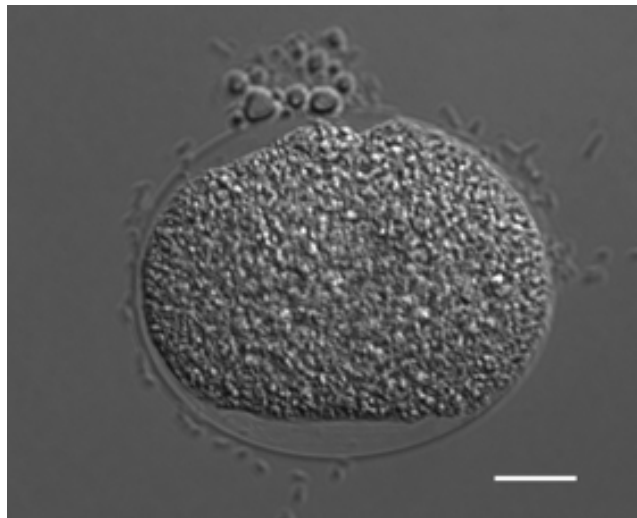


Figure S5.6 B

bckd-1A

GE2206(*t1514*)

(Embryos imaged immediately, without overnight incubation.)
Undivided embryos fill the eggshell completely.

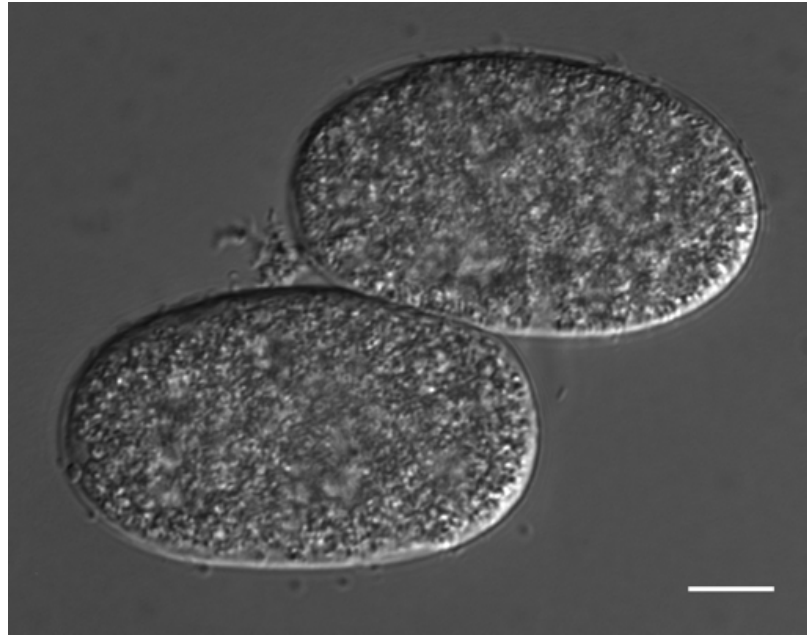


Figure S5.7 A

bckd-1A

GE2627(*t1603*)

(Embryo incubated in M9 buffer.)
Some embryos appear undivided with invaginations along the cell membrane.

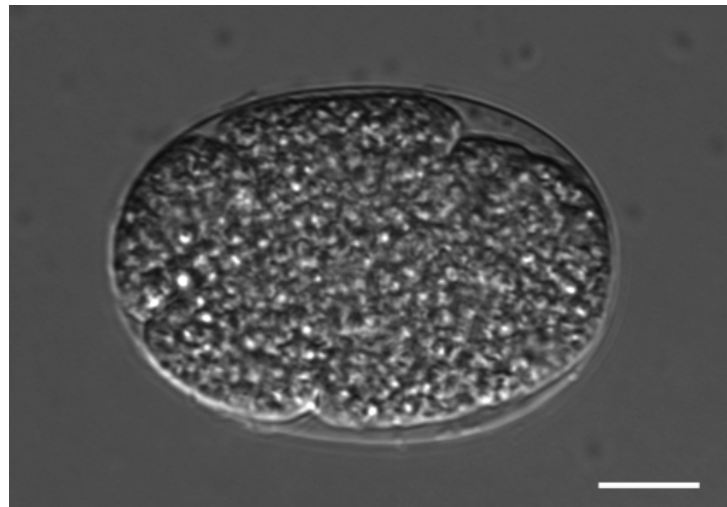


Figure S5.7 B

bckd-1A

GE2627(*t1603*)

(Embryos incubated in
M9 buffer.)

Some embryos fill the
eggshell and exhibit
Brownian motion in large
vacuoles.

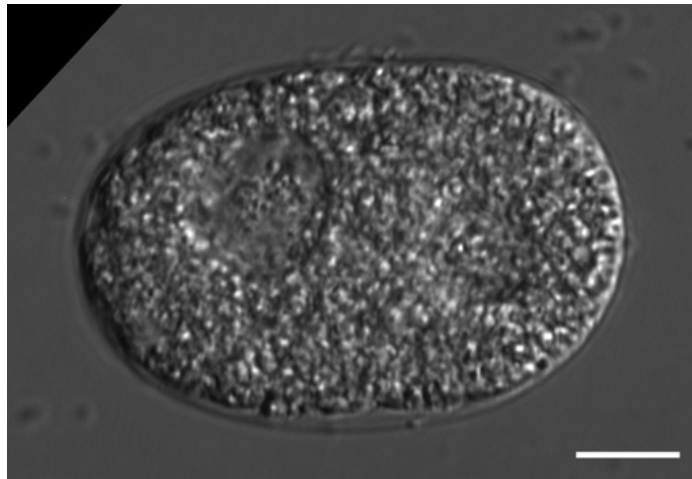


Figure S5.8 A

dlat-1

GE2541(*t2035*)

Some embryos arrest at
the one-cell stage.

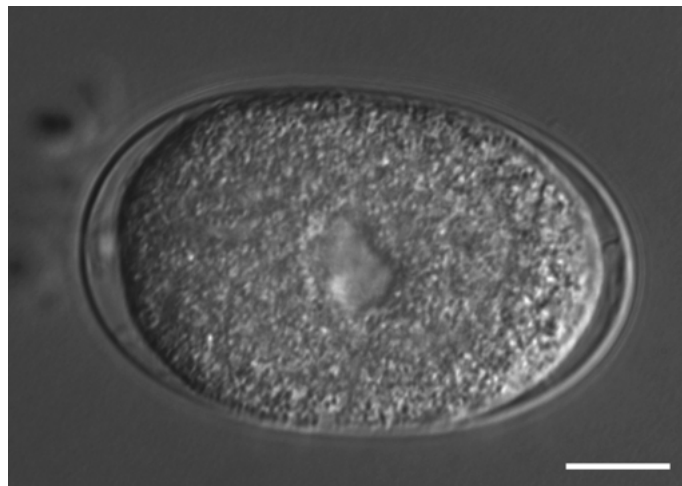


Figure S5.8 B

dlat-1

GE2541(*t2035*)

Some embryos arrest
with four cells or less.

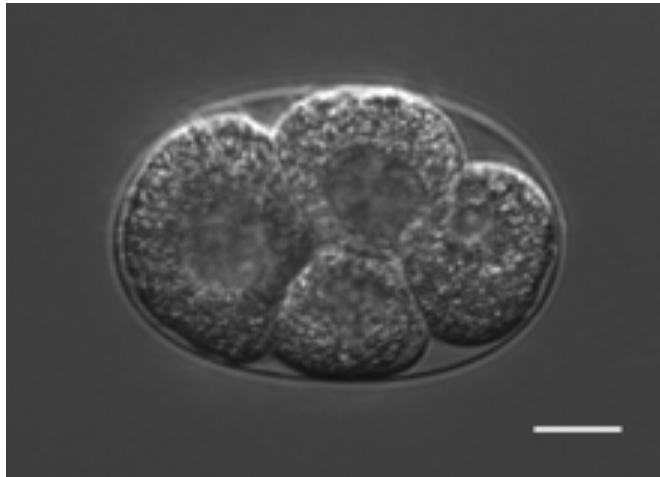


Figure S5.8 C

dlat-1

GE2541(*t2035*)

Some embryos arrest
with approximately 20
cells and others arrest
during the first cell
division.

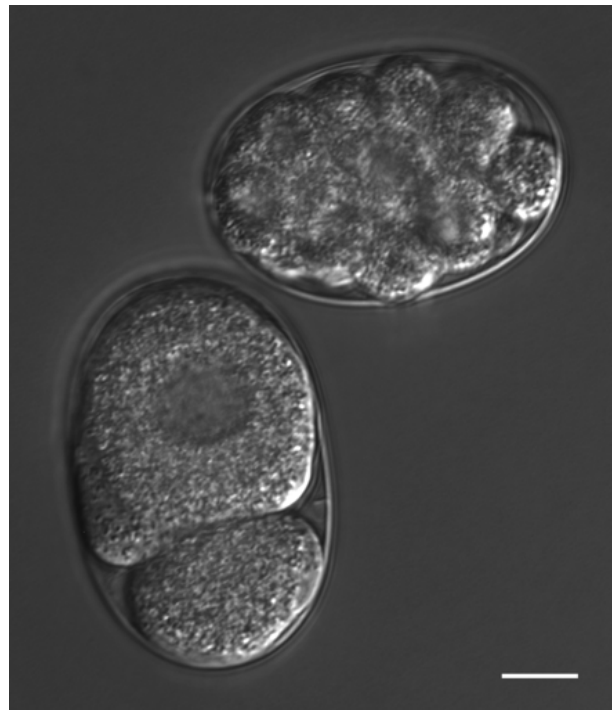


Figure S5.9 A

dlat-1

GE2335(*t2056*)

Some embryos arrest at
the one-cell stage.

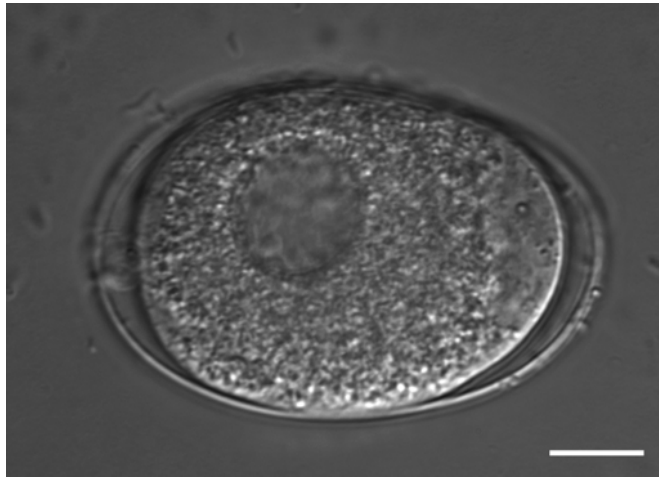


Figure S5.9 B

dlat-1

GE2335(*t2056*)

Some embryos arrest
during the first cell
division.

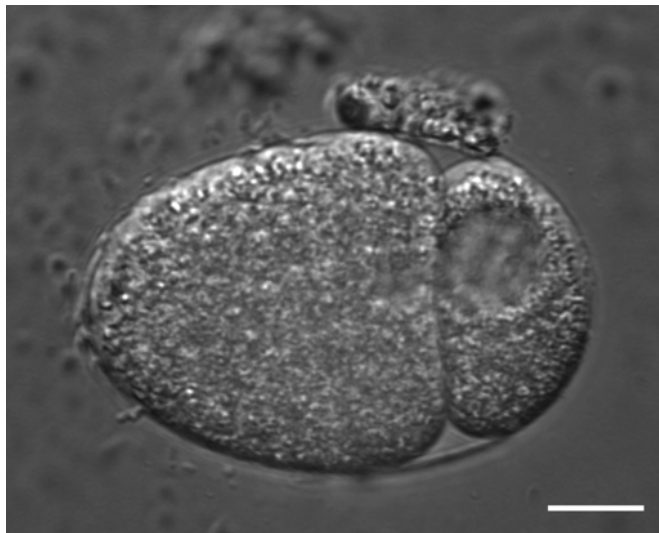


Figure S5.9 C

dlat-1

GE2335(*t2056*)

Some embryos arrest
with approximately 20
cells.

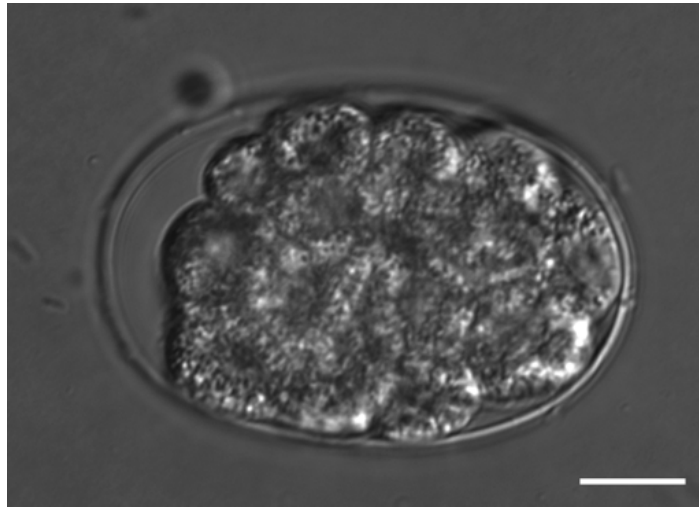


Figure S5.10

dgtr-1

GE2135(*t2043*)

(Image taken
immediately after
dissection.)
Embryos fill the eggshell
completely. Many eggs
burst after incubation in
water.

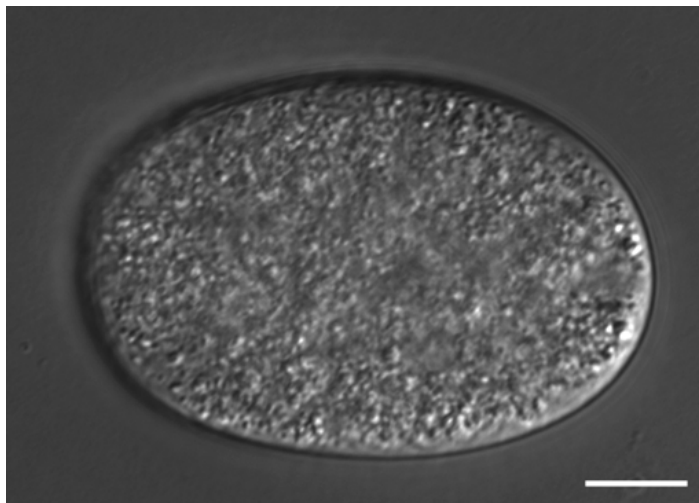


Figure S5.11 A

dgtr-1

GE2063(*t2042*)

Some embryos fill the eggshell completely and appear roundish; others burst after incubation in water.

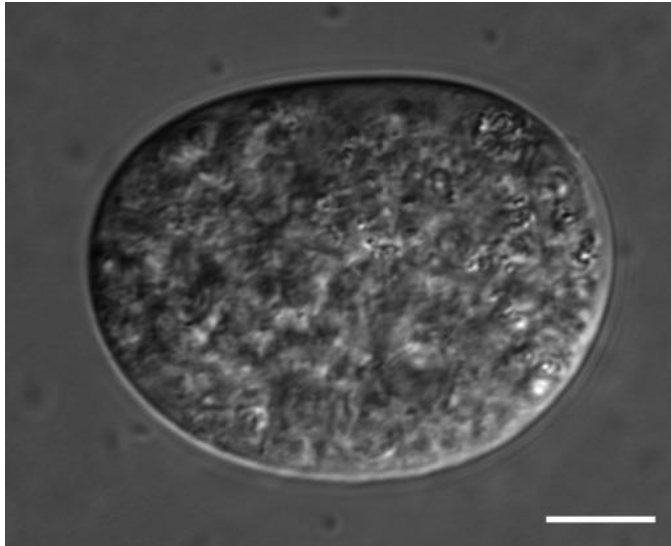


Figure S5.11 B

dgtr-1

GE2063(*t2042*)

Most embryos arrest with approximately 100 cells and have misshapen eggs.

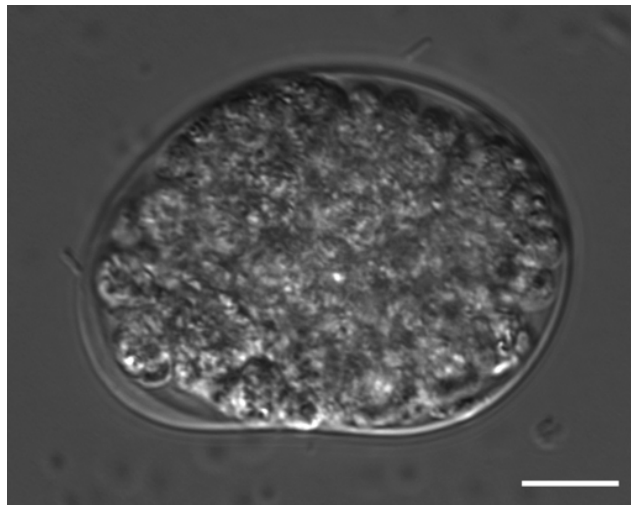


Figure S5.12

cls-2

GE2357(*t1527*)

Embryos appear undivided and shrunk within the eggshell.

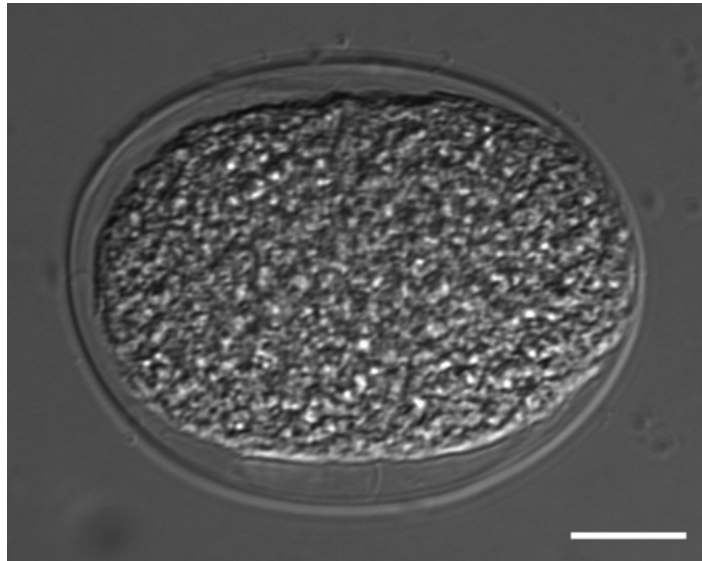


Figure S5.13

cls-2

GE2275(*t1517*)

(Embryo incubated in M9 buffer.)

Embryos arrest with approximately 100 cells. Some exhibit a contraction movement.

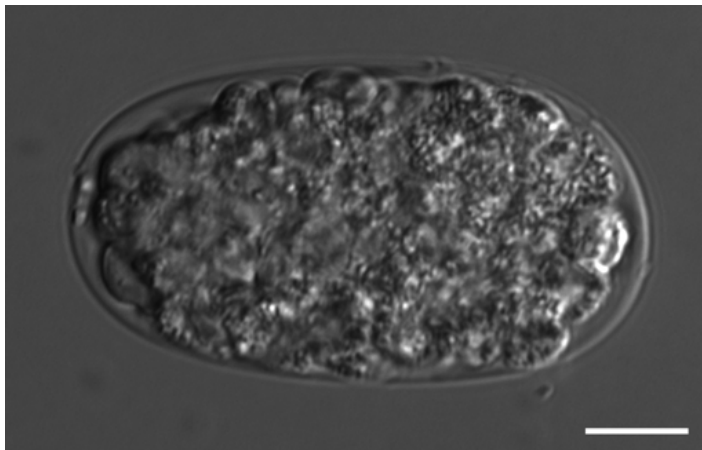


Figure S5.14

cept-2

GE2122(*t2007*)

Embryos appear disorganized with approximately 100 cells. Some have large vacuoles with Brownian motion. Few exhibit a contraction movement.

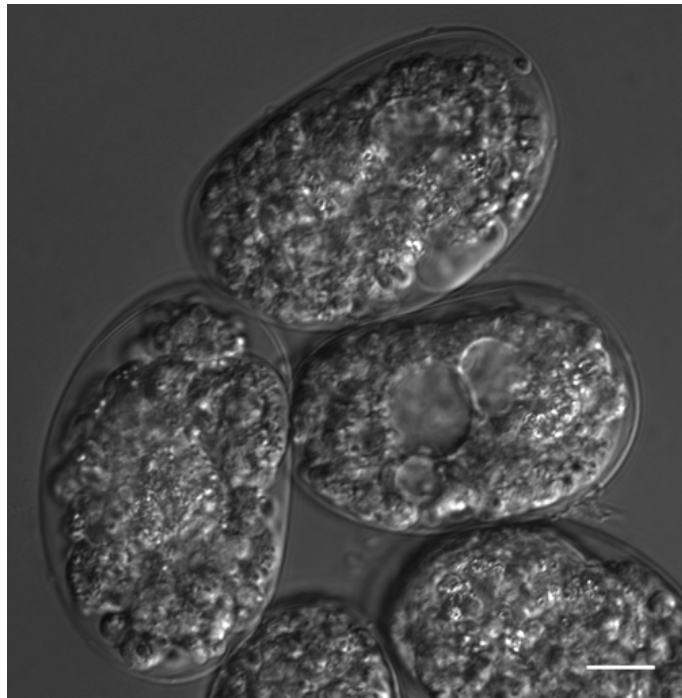


Figure S5.15

cept-2

GE2047(*t2021*)

Most embryos appear disorganized with approximately 100 cells and large vacuoles with Brownian motion. Some embryos fill the eggshell completely.

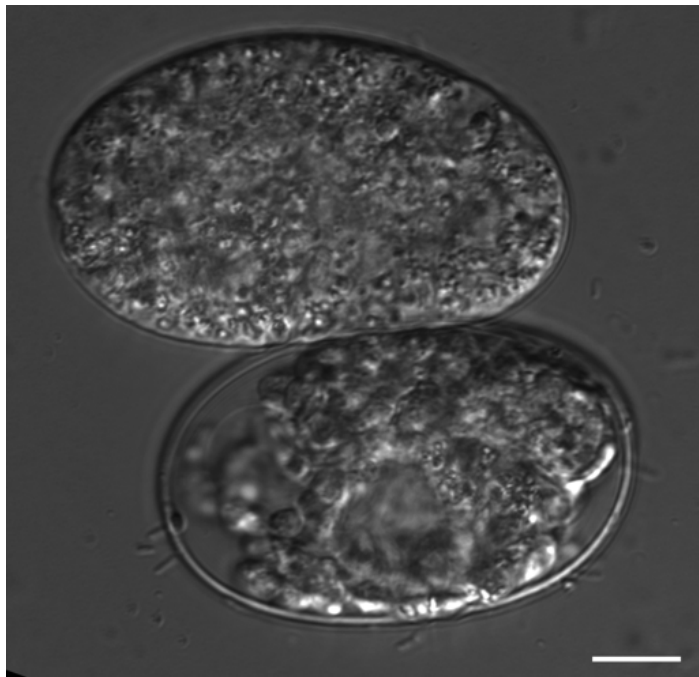


Figure S5.16

D2096.12

GE2499(*t1877*)

Embryos appear disorganized and some exhibit a contraction movement. Most have large vacuoles exhibiting Brownian motion and some eggs burst after incubation in water.

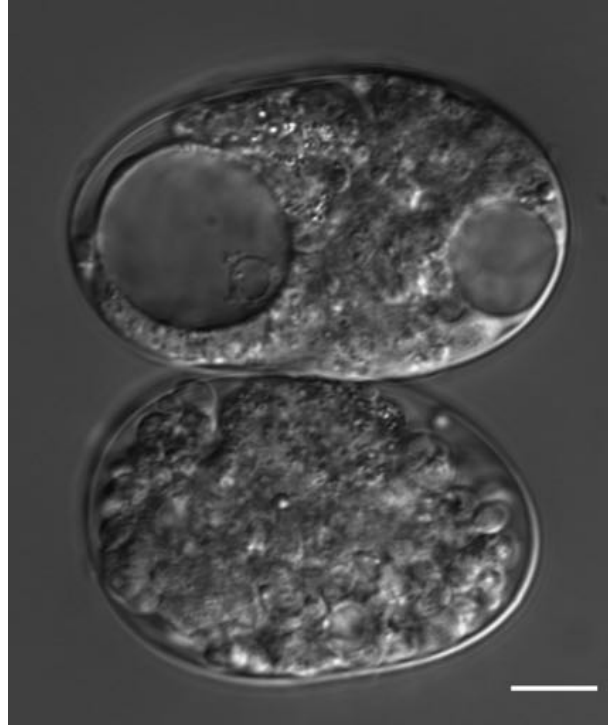


Figure S5.17

D2096.12

GE2407(*t1906*)

Embryos arrest with approximately 100 cells. Most exhibit a contraction movement. Some show signs of osmotic integrity defect.

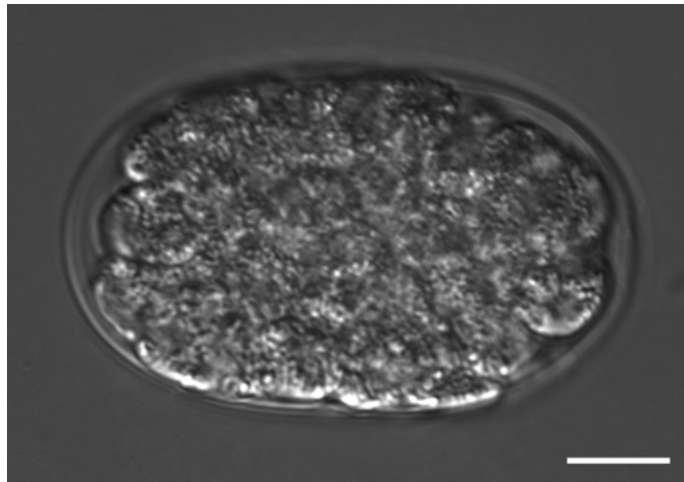


Figure S5.18

ZK688.9

GE1713(t1433)

Embryos arrest with
approximately 100 cells.

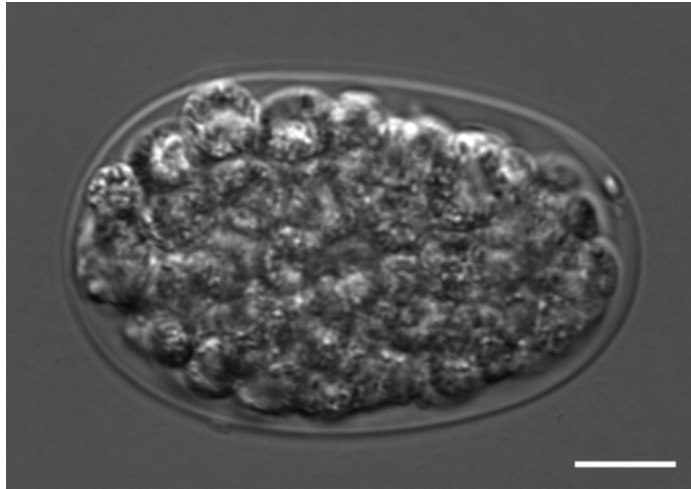


Figure S5.19

ZK688.9

GE2621(t1587)

Embryos arrest with
approximately 100 cells.

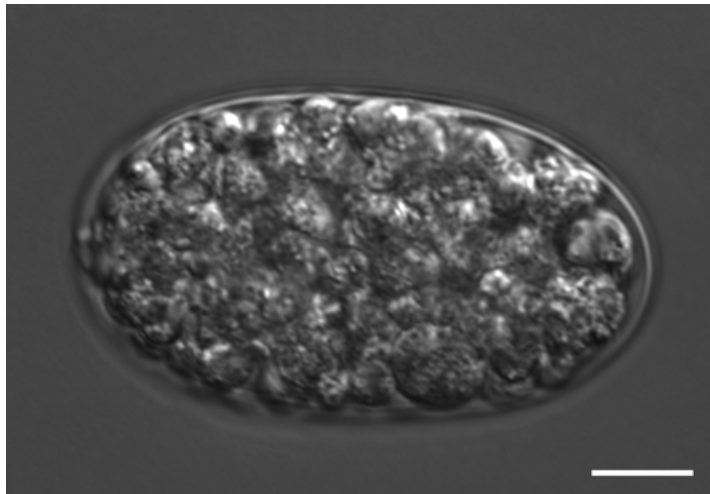


Figure S5.20

top-3

GE2399(*t1559*)

(Embryo incubated in M9
buffer.)

Embryos arrest with
approximately 100 cells.

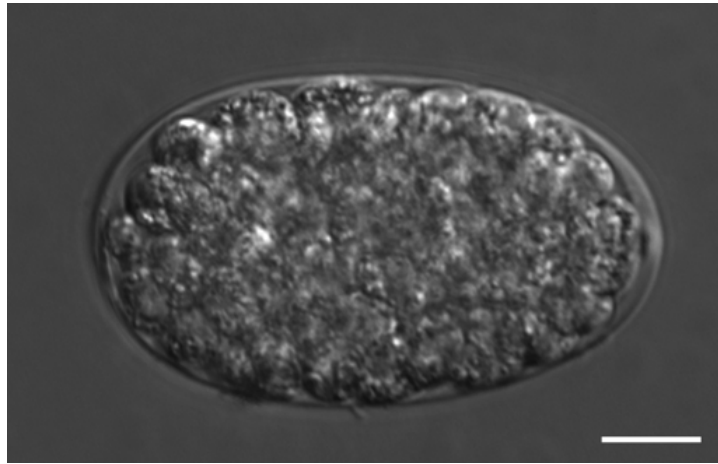


Figure S5.21

top-3

GE2220(*t1516*)

(Embryo incubated in M9
buffer.)

Embryos arrest with
approximately 100 cells.

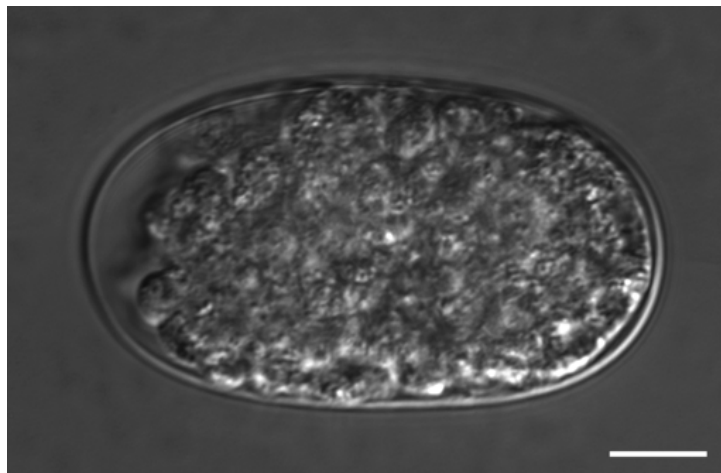


Figure S5.22

cpt-2

GE1938(*t1742*)

(Embryo incubated in M9
buffer.)

Embryos arrest with
approximately 100 cells.

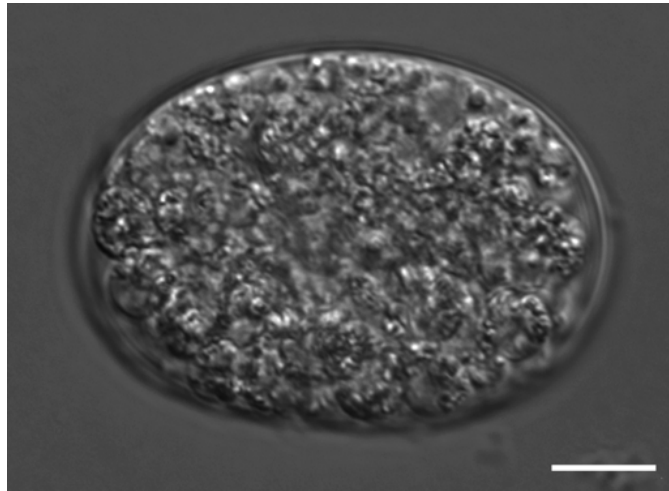


Figure S5.23

cpt-2

GE2447(*t1879*)

(Embryo incubated in M9
buffer.)

Embryos arrest at the
bean stage.

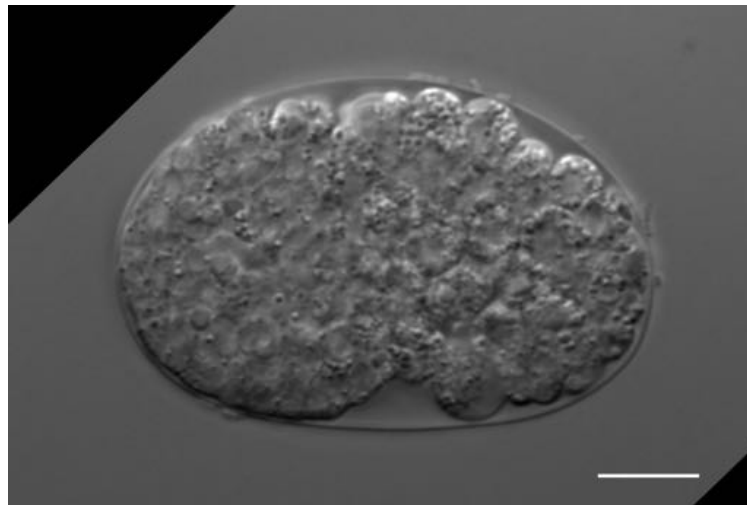


Figure S5.24

atg-7

GE1958(*t1726*)

Most embryos arrest around the 2-fold stage, moving, with a lumpy body wall.

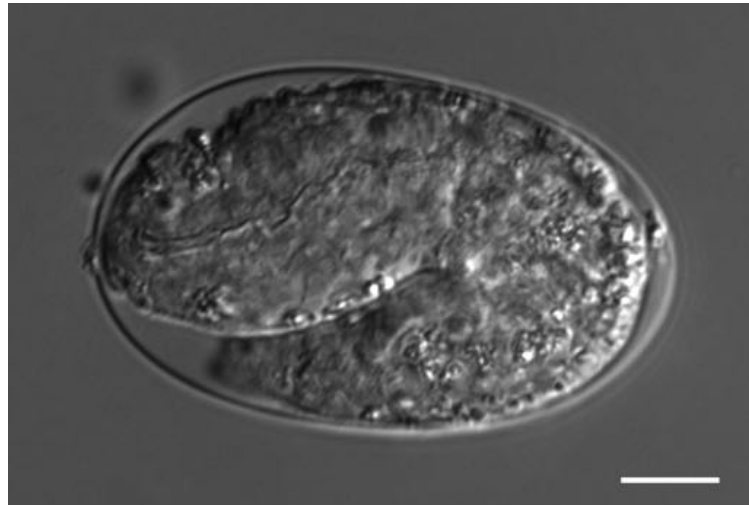


Figure S5.25 A

atg-7

GE1936(*t1738*)

Embryos arrest at the 2-fold stage.



Figure S5.25 B

atg-7

GE1936(*t1738*)

Some embryos have invaginations along the body wall. Most embryos are moving inside the eggshell but do not hatch.

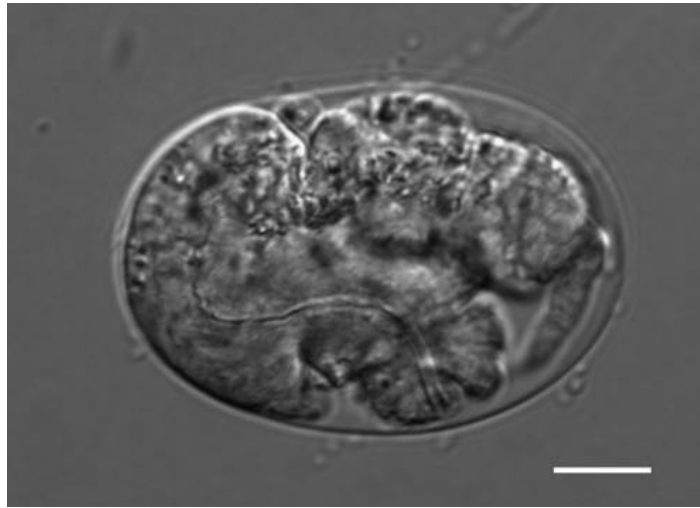


Figure S5.26

nstp-2

GE2091(*t1772*)

Embryos develop to approximately the 3-fold stage, with a lumpy body morphology and constricted nose tip.



Figure S5.27

nstp-2

GE2288(*t1835*)

Embryos develop to the
2-fold or 3-fold stage,
with a lumpy body
morphology and
constricted nose tip.

