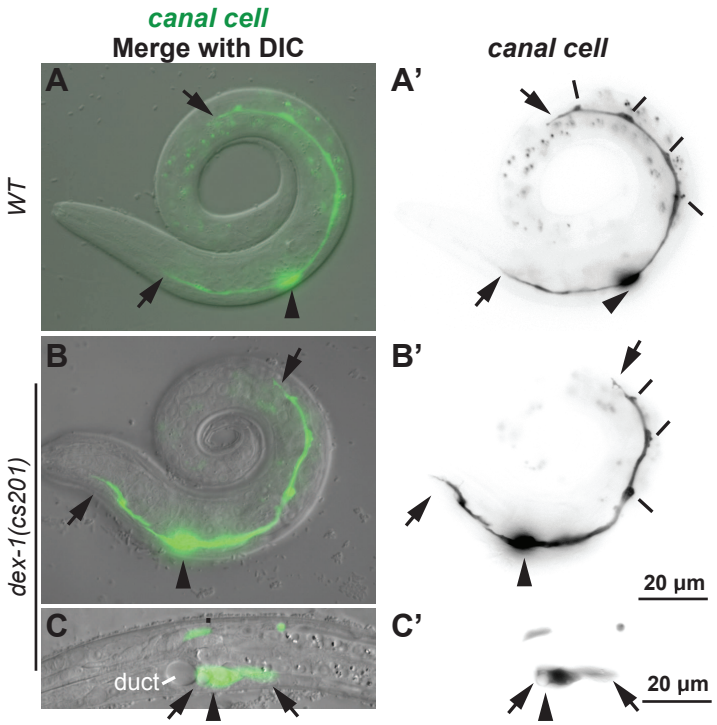
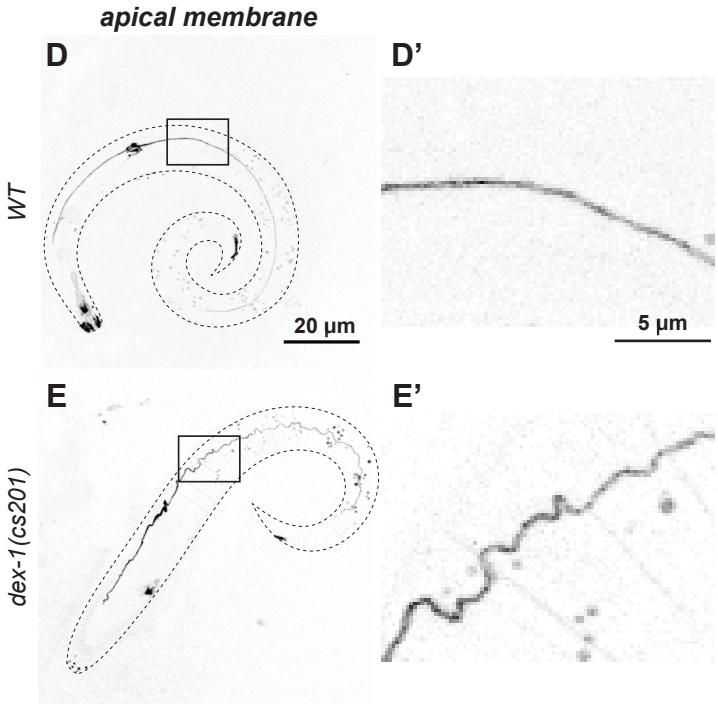

canal cell
Merge with DIC
canal cell
A
A'
WT
B
B'
dex-1(cs201)
C
C'
duct
20 µm
20 µm


apical membrane
D
D'
WT
20 µm
5 µm
E
E'
dex-1(cs201)

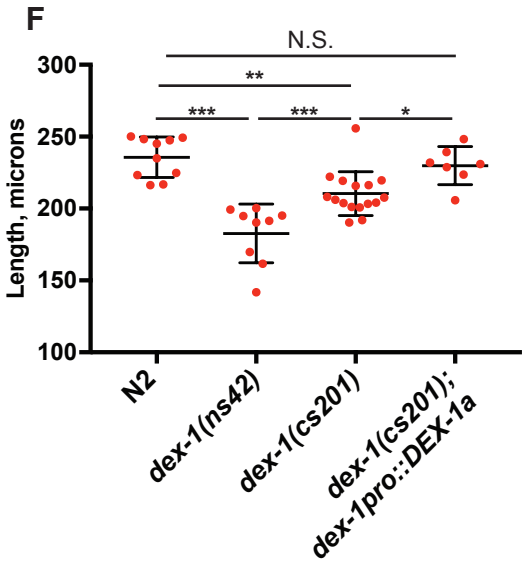

F
N.S.
**
***
***
*
300
250
200
150
100
Length, microns
N2
dex-1(ns42)
dex-1(cs201)
dex-1(cs201);
dex-1pro::DEX-1a

Figure S5. *dex-1* mutants have excretory canal defects.

A-C) Canal cytoplasm of L1 larvae, labeled with marker *inx-13pro*::GFP. Arrowhead indicates region of duct-canal junction. Arrows indicate anterior and posterior ends of the canal arms. Both *WT* and *dex-1* mutants show regularly spaced cytoplasmic expansions termed “pearls” (HAHN-WINDGASSEN AND VAN GILST 2009) (lines). Canal arms extended proportionate to body length in 20/20 *dex-1(cs201)* L1s without duct dilation. C-C’) *dex-1(cs201)* mutant with excretory dilation. The canal was severely shortened and canal arms were not visible in 7/7 L1s with duct dilations. D-E’) Canal lumens in newly hatched L1 larvae without excretory duct dilations, labeled with the apical membrane marker RDY-2::GFP. Max projections of confocal Z-stacks taken of the entire animal. *C. elegans* outlines (dashed line) were made using autofluorescence in existing images. Boxes show regions magnified in subsequent panels. *dex-1* canals take a tortuous path. F) Quantification of hatchling length. Measurements were performed by drawing a line through the animal’s midline and recording line length in ImageJ. All measurements were taken three times and then averaged to find a final, recorded value. ***p<0.0001, **p<0.001, *p<0.01, N. S. = not significant. Mann-Whitney U-test.