



Extended Data, Figure 1: (A) Illustration of amphid and phasmid neurons in *C. elegans*. Cilia are marked at the dendritic tips of these neurons. **(B)** Examples of the Dil lipophilic dye filling test in sensory amphid neurons of wild-type and *ift-20* null worms. 100% of the *ift-20* null worms fail to incorporate dye (N≥15). **(C, D)** Examples of the amphid and phasmid sensory neuron morphology in wild-type and *ift-20* null animals with (C) soluble/cytoplasmic GFP (sGFP) or (D) endogenously labeled IFT-74::GFP. White arrows point at dendritic ends where cilia assemble. Despite having relatively normal length and morphology, the dendrites of *ift-20* null animals have enlarged regions towards their tips that likely correspond to accumulations of ciliary proteins (such as IFT-74) that fail to reach the ciliary base (representative examples; N≥15). Scale bars, 10 μ m.