Worm maintenance

*C. elegans* are maintained on NGMlite plates and fed by a bacterial lawn of OP50 *E. coli*. Worms can survive for several months on the same plates, but allowing the agar to dehydrate will kill them. Chunking monthly should allow successful strain maintenance.

Follow the protocols in the media instructions to make NGMlite agar plates and LB broth.

Preparing OP50-seeded NGMlite plates (~20 plates)

Inoculate 8 ml of LB broth with a single colony of OP50 and grow overnight at 37oC with shaking.

Use a 10 ml sterile serological pipette to retrieve the saturated culture, and release several drops of saturated OP50 culture (100 µl) onto each NGMlite plate. This can also be done with a micropipettor but it’s not as fast to seed a large number of plates. Allow the liquid to absorb into the plate before inverting the plates and growing overnight at 37 oC. Alternatively, plates can be left upright and grown on the bench for two days at room temperature or overnight at 37 oC .

Chunking worms to maintain cultures

To maintain worm strains, sterilely transfer a small (~0.5 cm2) chunk of the agar from the current worm plate onto a new, labeled OP50-seeded NGMlite plate. Flame-sterilized spatulas or sterile micropipette tips work fine for transfer. The worms on the chunk from the old plate will move onto the new lawn to establish the population.

Decontaminating worm strains

Worm strains occasionally become contaminated with fungi or non-OP50 bacteria. To decontaminate a worm strain, prepare a fresh 1:1 mixture of household bleach and 1M NaOH.  Spot 10 µl onto the edge of a new, labeled OP50-seeded NGMlite plate and transfer around 5 gravid worms into the liquid.  Clean larvae should hatch overnight and can be transferred to a new OP50-seeded plate, if desired.