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Living Care Information

Caenorhabditis elegans

commonly known as c. elegans

QUICK START INFORMATION

1. We ship *C. elegans* on a Nematode Growth Agar plate that has been inoculated with worms and *Escherichia coli* as a food source.
2. *C. elegans* cultures will remain viable for approximately 2 weeks, after which you will need to establish your own cultures.
3. Maintain the cultures at room temperature of 25° C (77°F).

ABOUT THE ORGANISM

- *C. elegans* is a free-living soil nematode that eats bacteria. It is an important model organism for studies of genetics, development, and cell biology.
- Over 10,000 individual *C. elegans* can live on a single petri dish.
- There are 2 sexes: hermaphrodites and males.
- Adults will live 2-3 weeks.
- A wild type *C. elegans* adult body consists of 959 cells.
- *C. elegans* have 5 pairs of autosomes and 1 pair of sex chromosomes.

Domain: *Eukarya*
Kingdom: *Animalia*
Phylum: *Nematoda*
Class: *Chromadorea*
Order: *Rhabditida*
Family: *Rhabditidae*
Genus: *Caenorhabditis*
Species: *elegans*

PREPARATION

We ship the cultures on a plate that has been inoculated with worms and *Escherichia coli* as a food source. When you receive your culture, remove the tape that seals the plate, and maintain the culture at room temperature with reduced light. Use the culture within 2 weeks. If you wish to maintain it for longer than 2 weeks, you must establish your own cultures.

HOUSING

A petri dish filled with Nematode Growth agar can be used to house the cultures.

FEEDING

MAINTAINING AND CULTURING

To successfully culture this organism, it is important to maintain sterility. Transfer a small amount (0.25 mL or 5 drops) of a 24-hour broth culture of ***E. coli*** onto the surface of a nematode growth agar plate and spread the liquid evenly over the surface. Incubate the plate overnight at 37°C to produce a bacterial lawn. Using a sterile scalpel, cut a small block of agar from an active plate of *C. elegans* and place the block on the surface of the new agar plate, face down, so the worms will be in contact with the new agar. Incubate the worms at 25°C for optimal growth. The new plate of cultures will be ready for use in about 3 days. Subculture every 2 weeks.

DISPOSAL

Carolina provides living organisms for educational purposes only. As a general policy, we do not advocate the release of organisms into the environment. In some states, it is illegal to release organisms, even indigenous species, without a permit. These laws protect native wildlife and the environment.

We suggest that organisms be:

- Maintained in the classroom.
- Donated to another classroom or science department.
- Disposed of properly. Cultures and instruments that have been in contact with cultures can be soaked for 24 hours in a 10% bleach solution. After this treatment is complete, all instruments and plates can then be bagged and disposed of in the regular solid waste.

BIOSAFETY

E. coli k-12 and *E. coli* OP-50 are classified as Biosafety Level 1 organisms. Before you work with bacterial cultures, wash your hands with soap and water, ensure that the work area is draft free, and wipe down the work surface with 70% alcohol or a similar disinfectant. **Never work in an area where food is prepared or consumed.**

VIDEO

No video or video playlist applies for this organism.

FAQS

What is the life span of *C. elegans?*

At 25°C the entire life span of *C. elegans* ranges from 15 to 18 days. From egg to adult takes 3 days.

How many individual worms are on an N2 plate?

Although the number of individual worms on a plate varies, there will be enough for at least 30 students to make a slide and view them under a microscope.

Are there different sexes of *C. elegans?*

There are 2 sexes: male and hermaphrodite. Although each is roughly a millimeter long, mature males tend to be smaller than the hermaphrodites and their tails are fan-shaped. A culture will contain many more hermaphrodites than males. The larger hermaphrodite has a pointed tail and can self-fertilize. Males can fertilize hermaphrodites, but the hermaphrodites cannot fertilize one another.

NEED HELP?

We want you to have a good experience. Orders and replacements: **800.334.5551,** then select **Customer Service.** Technical support and questions: caresheets@carolina.com

Related Links:

- How to Make a Good Scientific Model
- Painted Lady Butterfly 5-Larvae Culture
- Free Next Gen Activities