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# Chlamydomonas

Immediately on receipt of your Chlamydomonas culture loosen the cap and place the bottle in indirect sunlight.

Chlamydomonas are single celled, motile, green algae. These organisms can reproduce both sexually and asexually during their life cycle. Sexual reproduction involves the division of the parent cell to form 8-32 small gametes, two of which may fuse to form a zygote (with four flagella, two contributed by each gamete). The zygote forms a thick spherical cell wall around itself and has enhanced resistance to unfavourable environmental conditions. When conditions are more suitable, the zygote undergoes meiosis, forming four cells, which are liberated into the environment on the disintegration of the zygote wall.

Asexual reproduction simply involves division of the parent cell to form 2-8 zoospores within the cellulose parental cell wall. This wall then ruptures enabling the plant to swim into their environment.

## CULTURE MEDIUM

Chlamydomonas are usually found in lakes, duck ponds, pools and on damp soil. Consequently they can be cultured in soil extract solution in indirect light in a cool position in the classroom. To prepare the soil extract solution, boil 10 grams of soil in 200ml water for one hour, topping up the solution when necessary. Allow the sediment to settle and filter the solution to obtain the soil extract. Growth may be enhanced by addition of a boiled wheat or rice grain.

Alternatively, it is possible to grow these organisms in Chlamydomonas Culture Medium, available from Southern Biological. The medium is a chemically defined solution of mineral salts, which enables rapid and copious growth of Chlamydomonas. Motility is often improved by refrigeration at 6°C for 24 hrs, but not all cells in a culture are always motile. Cultures are best maintained in good sunlight at 20-22°C. Subculture into fresh media once a month.

Catalogue Code: L 1.15



## Supporting Products for Chlamydomonas:

### Culture Medium

Code: CM2 Chlamydomonas culture Medium

### Prepared Microscope Slides

Code: PMS 24.20 Chlamydomonas

Code: PMS Set 16C Life in a Pond

### Posters

Code: WC34 Pond III, Photosynthetic Microlife  
Code: WC08 Mitosis  
Code: WC09 Meiosis

### Books

Code: BK 6.21 Culturing Algae

Code: BK 31.59 Freshwater Algae

Ref: L 1.15 20/03/09

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