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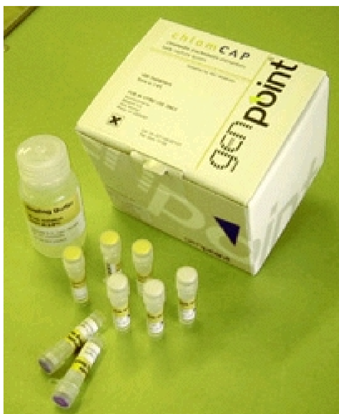
Chlamydia DNA isolation kit – chlamCAP

GENPOINT AS is offering a fast, easy, and reliable method for DNA clean-up from Chlamydia trachomatis elementary bodies. The new **chlamCAP** can be used in conjunction with established NAT (Nucleic Acid Test) methods.

When analyzing for Chlamydia in urine, inhibitors are commonly experienced. This problem is avoided when using **chlamCAP** due to the unique separation method. The **chlamCAP** kit is based on a two-step separation. In step one, the elementary bodies are captured on the paramagnetic particles. The bacteria/bead complex is then immobilized using a magnetic separator, and the remaining sample containing potentially inhibitory components is removed. In the second step the DNA is released from Chlamydia elementary bodies by a rapid and highly effective lysis. The DNA is captured on the same paramagnetic particles and subsequently purified, again using magnetic separation. This two-step procedure leaves the operator with high purity DNA, well suited for further analysis by NAT (Nucleic Acid Test) detection. Using this simple clean-up approach, problems with inhibition often encountered with other Chlamydia sample preparation systems are avoided.



Magnetic bead technology is widespread in many diagnostic applications due to its simplicity and for being easily adaptable to automation. One of the major benefits using this technology is that centrifugation or filtration is avoided without compromising the DNA quality. **chlamCAP** offered by Genpoint is currently the only sample preparation method for capturing Chlamydia with a magnetic bead technology.

The only equipment you need to run the system manually is a magnetic separator (e.g. Bilatest Separator M12+12 from BILATEC) and a heating block (or water bath). The time for handling 10 samples manually is only 30 min.

The kit is available in sizes of 100 sample preparations or 1000 sample preparations.

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ChlamCAP protocol

Cat. No: CCT-100 (100 isolations)

Contents: 2 tubes with green lid: 1.5 ml of Chlamydia Binding Beads
3 tubes with white lid: 1.7 ml POWERlyse (lysis solution)
1 bottle: 20 ml Binding Buffer

Not supplied with the kit: magnetic separator & ethanol

Storage: Store the kit at 4°C.

Preparations:

- Read the entire protocol before starting.
- Allow the contents of the kit to come to room temperature before use.
- Solve crystals in POWERlyse by heating the solution.
- Resuspend the beads before use.
- Place refrigerated 96% ethanol on ice.
- Work with maximum 10 samples at the time

Preparation of *Chlamydia* DNA from Urine Samples

1. Prepare a mix of 30 µl (10 mg/ml) Chlamydia Binding Beads and 200µl Binding Buffer per sample. Aliquot 230 µl per sample in 1.5 ml microcentrifuge tubes.
2. Add 700 µl urine sample, mix gently by pipetting and incubate at room temperature (RT) for 15 min from last sample prepared. Mix one time during the incubation by using a pipette.
3. Place the tubes in a magnetic separator. Allow the bacteria/bead complex to move to the side of each tube. Carefully discard the supernatant by pipetting. Avoid removing beads.
4. Separate the magnet from the tubes. Add 50 µl POWERlyse, and mix well by shaking the tube briefly. (Do NOT leave the lysis for more than one minute.)
5. Immediately add 150 µl refrigerated 96% ethanol to neutralize the POWERlyse solution. Shake vigorously or vortex to resuspend the beads. Continue the incubation for 5 min at RT.
6. Recombine the magnet and the tubes. Invert magnet with the tubes gently two times to collect all the beads. Carefully pipette off from lids and tubes, and discard the supernatant.
7. Again separate the magnet from the tubes. Add 1ml of 70% ethanol, close lids and mix vigorously to evenly distribute the DNA/bead complex in the solution.
8. Recombine the magnet and the tubes. When the supernatant clears, invert the tubes again and remove as much as possible of the supernatant.
9. Resuspend the bead/DNA complex in 50 µl dsH_2O. Incubate the tubes at 80°C for 10 min to remove residues of ethanol. Use a heating block, and keep tube lids open.
10. Use 20 µl bead suspension as template in a 50 µl PCR. Supernatant without beads provides best sensitivity in most real-time PCR systems.