

How to Interpret Negative Results

Tests that do not change color or show growth of colonies are called negative. They can be FALSE NEGATIVE OR TRUE NEGATIVE tests.

FALSE NEGATIVE tests are tests that do not detect E. coli in contaminated water. Causes of false negative tests include:

1. Not keeping the test specimens warm enough, or too warm. Both Colilert and Petrifilms need to stay at body temperature for 18 -24 hours to react correctly. The best method is to keep the specimens inside your clothing next to your body, both during the day and at night while sleeping. Do not put them in an oven or on a stove because too high a temperature can kill the bacteria.
2. Not waiting long enough. Bacteria need adequate time to grow and multiply. Even at body temperature E. coli grow slowly and need 18-24 hours to be detected.
3. Not performing the tests correctly. Make sure that you put the right amount of water in the tests. Colilert should be filled to the 10 ml. mark on the tube, and mixed well to dissolve the dry chemicals in the tube. Petrifilms should have just 1 ml. of water added to the center of the film and gently spread using the flat plastic spreader.
4. Testing the wrong sample. Make sure that all specimens and all tests are correctly labeled before starting testing.

ALL NEGATIVE TESTS SHOULD BE REPEATED to show that the results are correct and are not FALSE NEGATIVES.

TRUE NEGATIVE test results show that the RISK is LOW for contamination of the drinking water. No E. coli were detected in the samples tested. This water should be safe to drink.

REPEAT TRUE NEGATIVE TESTS when:

1. Whenever there is a change in the source of the water.
2. You suspect that the water has become contaminated.
3. At regular intervals to check for changes. Perhaps check drinking water weekly or monthly at first, depending on experience.

The methods that we use to test for E. coli contamination are the COLILERT tube test by IDEXX and the PETRIFILM plate by 3M.