Microsnap Coliforms /E.coli Validation Processes

The Microsnap Coliforms/E.coli tests can be used for a wide variety of tests and is both faster and more accurate in most instances. Like any scientific method it should be validated against current methods and use controls to validate its suitability.

In the case of Microsnap Coliforms/E.coli tests there are 2 parts to the test:

Step 1 Enrichment- Like any other microbiological procedure it is critical to make sure that the products being tested have no or minimal interference. And if there is interference to neutralize it using buffers or dilute the sample to dilute the interfering chemicals to insignificance. If unsure please contact Scigiene for assistance.

Step 2 Detection- This step uses a sensitive ATP linked biochemical detection method that can be prone to interference from a range of chemicals. It is critical to test your products at the same concentration and temperature with any known contaminants at this phase. The sample is already diluted 1/10 in STEP 1 but following the procedure outlined below we can test if further dilution is necessary.

Procedure:

1) Create a positive control at around 1,000,000 CFU ml*
2) Dilute this into the test ample at 1/10 to create a 100,000 CFU/ml solution
3) Prepare 9ml Test tubes of Phosphate buffer (or neutralizing buffer). DO NOT use distilled or RO water as these can be isotonic and kill off some of the target bacteria you are trying to recover.
4) Dilute the sample into these serially to create tubes with 10,000, 1000, 100 and 10 CFU/ml
5) Transfer 1ml of each of these to STEP 1 nutrient broth and incubate for 8 hours at 37C.
6) Transfer 0.1ml as per Microsnap instruction to STEP 2 and test.
7) Record the results.

Relative to the first number all the other tubes should show a 10-fold decrease if no interference has occurred.

If interference is occurring the first number will be lower than the second. (Or the second lower than the 3rd …)

Examine the results. The point at which the subsequent dilution is 10 fold lower indicates the point of no interference and this will be the starting dilution to be used.

Once this is determined you can then write your test protocol using the standard Microsnap procedure with the required dilution as a precursor.

If you have any question regarding this, please contact us at Scigiene 416-261-4865.

*To create a postive control you will neeed actual healthy living Coliform and E.coli cultures. These can be isolated from Agar plates with typical Coliforms or E,.coli colonies. These can be found by swabbing or contacting the plates on typical sources known to harbour these colonies. Comntact us for help here if needed.

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