EPA

Readycult® Coliforms 100

Selective enrichment broth for the simultaneous detection of total *coliforms* and *E. coli* within the bacteriological water examination.

General Information

Content: 20 snap packs

1 snap pack each for 100 ml of water sample.

Principle

The high nutritional quality of the peptones and the incorporated phosphate buffer guarantee rapid growth of coliforms whereas lauryl sulfate largely inhibits the accompanying flora, especially the Gram-positive. By adding the chromogenic substrate X-GAL which is cleaved by coliforms and the fluorogenic substrate MUG which is highly specific for *E. coli* the simultaneous detection of total coliforms and *E. coli* is possible. The presence of total coliforms is indicated by a blue-green colour of the broth and *E. coli* by a blue fluorescence under UV-light.

Composition (g/snap pack)

Tryptose 0.5; sodium chloride 0.5; sorbitol 0.1; tryptophan 0.1; di-potassium hydrogen phosphate 0.27; potassium dihydrogen phosphate 0.2; lauryl sulfate sodium salt 0.01; X-GAL 0.008; MUG 0.005; IPTG 0.01.

pH: 6.8 ± 0.2 at 25 °C.

Preparation

1. Add 100 ml of water sample into a sterile, transparent vessel with screw cap. (minimum capacity: >100 ml)
   Attention: please use material e.g. glass that is not self-fluorescing!
2. Take one snap pack, shortly tap to ensure the granules are at the bottom. Bend the upper part of the snap pack until it breaks open.
   Attention: do not touch the opening to avoid contamination risk!
3. Add the content to the water sample. Seal the vessel and shake to dissolve the granules completely.

   The prepared broth is clear and yellowish.

   Incubation: up to 24 h at 35 °C to 37 °C.
   If incubated at room temperature (+20 to +25 °C) the incubation time is prolonged to 48 hours.

Experimental Procedure and Evaluation

Interpretation of results for the detection of Total Coliforms / E. coli:

Negative: No colour change.

The broth remains yellowish in colour.

Total coliforms: Any colour change of the broth to blue-green, even in the upper section of the broth only, confirms the presence of coliforms (X-GAL reaction).

No decolouration with shaking!

E. coli: Check blue-green coloured vessels for fluorescence by using UV-lamp (366 mm) in front of the vessel. Light blue fluorescence indicates presence of *E. coli* (MUG reaction).

Attention: Protect your eyes from direct UV light!

To confirm *E. coli* in the vessel with positive fluorescence, overlay the broth with 2.5 ml of KOVAC's reagent (indole reaction).

A red ring confirms presence of *E. coli*.

	Colour change to blue-green	Fluorescence	Indole-Reaction
Total coliforms	+	-	-
E. coli	+	+	+
Negative	yellow colour (no change)		

Disposal

Autoclave the broth (15 min/121 °C).

Alternatively heat the broth for 30 min. in boiling water or use a proper disinfectant.

Storage

In case the sample is to be stored below +25 °C, the examination has to be started within 6 hours. Exceptionally the sample can be stored at +2 to +8 °C (refrigeration) for up to 24 hours.

Store dry at +15 °C to +25 °C.

If stored under recommended conditions the unopened snap pack has a shelf-life of 3 years after day of production (see expiry date on the label).

Ordering Information

Product	Ordering No.	Pack size
Readycult® Coliforms 100	1.01298.0001	1 x 20 tests
Bactident® Indole (dropper bottle)	1.11350.0001	1 x 30 ml
CULTURA® Mini-Incubator (100-110 V)	1.15533.0001	
CULTURA® Mini-Incubator (220-235 V)	1.13311.0001	1 ea
KOVÁCS Indole Reagent	1.09293.0100	100 ml
UV Lamp (366 nm)	1.13203.0001	1 ea

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Quality control

Test strains	Growth	Color change to blue-green	MUG (Fluorescense)	Indole
Escherichia coli ATCC 11775	+	+	+	+
Citrobacter freundii ATCC 8090	+	+	-	-
Salmonella typhimurium ATCC 14028	+	-	-	-
Klebsiella pneumoniae ATCC 31488	+	+	-	-
Pseudomonas aeroginosa ATCC 10145	+	-	-	-