Technical Data Sheet

Readycult®
Coliforms 100

Ordering number: 1.01298.0001

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

Readycult® Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters has been reviewed and approved by USEPA's Office of Ground Water and Drinking Water as acceptable method for monitoring total coliforms and *E. coli* under the Total Coliform Rule (40 CFR 141.21). This version incorporated changes that were approved in May 2005 (ATP Case No. BD03-001).

General Information

Content: 20 snap packs

1 snap pack each for 100 ml of water sample.

Mode of Action

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 color of the broth and E. coli by a blue fluorescence under UV-light.

Typical Composition (g/L)

Readycult® Coliforms 100	
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: >120 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 color change.

The broth remains yellowish in color.

Total coliforms: Any color 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 decoloration with shaking!

E. oli: Check blue-green colored vessels for fluorescence by using a long wave UV-lamp (366 mm) in front of the vessel. Light blue fluorescence confirms the presence of **E. coli** (MUG reaction). Further confirmation or verification steps are not required.

Attention: Protect your eyes from direct UV light!

Optional: Further verification of E. coli in the vessel with positive fluorescence is possible with Raedycult Coliforms: Overlay the broth with 2.5 ml of KOVAC's reagent (indole reaction). A red ring confirms presence of **E. coli**. This step is not mandatory for the confirmation of E.coli !

	Colour change to blue-green	Fluorescence	Indole-Reaction (optional)
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.

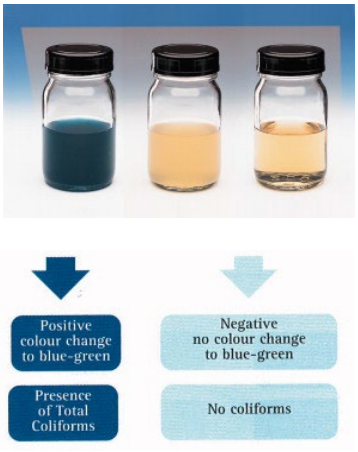
If stored under recommended conditions the unopened snap pack has a shelf-life of 3 years after day of production (see expiry date on the label).

Quality Control

Control strains	Inoculum on reference medium	Growth	Color change to blue-green	Fluorescence	Indole formation
Escherichia coli ATCC 11775 (WDCM 00090)	10-100	+	+	+	+
Citrobacter freundii ATCC 8090	10-100	+	+	-	-
Salmonella typhimurium ATCC 14028 (WDCM 00031)	10-100	+	-	-	-
Klebsiella pneumoniae ATCC 31488	10-100	+	+	-	-
Pseudomonas aeruginosa ATCC 10145 (WDCM 00024)	≥1000	No limit	-	-	-

Incubation: 24 h; 35°C; aerobic

Please refer to the actual batch related Certificate of Analysis.



Literature

USEPA United States Environmental Protection Agency – National Primary Drinking Water Regulations - Analytical Methods Approved for Drinking Water Compliance Monitoring under the Total Coliform Rule. Revised December 2009

Ordering Information

Product	Cat. 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	1 ea
CULTURA® Mini-Incubator (220-235 V)	1.13311.0001	1 ea
KOVCS Indole Reagent	1.09293.0100	100 ml
UV Lamp (366 nm)	1.13203.0001	1 ea

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