

Readycult® Coliforms 50

Cat. No. 1.01295.0001

Readycult® Coliforms 50 (20 tests / pack)

Readycult® is a most convenient product line for the determination of the presence or absence of either total coliforms and E. coli (Readycult® Coliforms) or Enterococci (Readycult® Enterococci) in potable or surface water. Both tests are a one-step, ready-to-use, dehydrated and granulated culture media in an irradiated snap pack format, which is then added to a water sample (either 50 or 100 ml). **The US-EPA approval is pending.**

Content: 20 snap packs

1 snap pack each for 50 ml or 100 ml of water sample.

Application

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

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.

[Typical Composition \(g/litre\)](#)

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Composition in g / snap pack

Tryptose 0.25; sodium chloride 0.25; sorbitol 0.05; tryptophan 0.05; di-potassium hydrogen phosphate 0.135; potassium dihydrogen phosphate 0.1; lauryl sulfate sodium salt 0.005; X-GAL 0.004; MUG 0.0025; IPTG 0.005.

pH: 6.8 ± 0.2 at 25 °C.

Procedure

1. Add 50 / 100 ml of water sample into a sterile , transparent 100 / 250 ml vessel with screw cap.
Attention: please use material e.g. glass that is not self-fluorescing!
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.
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.
4. Incubation: 18-24 h at 35 ° to 37 °C.
If incubated at room temperature (+20 to +25 °C) the incubation time is prolonged to 48 hours.

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 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 | | |

Disposal

Autoclave the broth (15 min/121 °C).

Alternatively heat the broth for 30 min. in boiling water or use a proper disinfectant (e.g. Extran® MA 04).

Storage

Store dry at +15 °C to +25 °C.

Shelf life

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

| <i>Test strains</i> | <i>Growth</i> | <i>Color change to blue-green</i> | <i>MUG</i> | <i>Indole</i> |
|--|---------------|-----------------------------------|------------|---------------|
| Escherichia coli ATCC 11775 | + | + | + | + |
| Citrobacter freundii ATCC 8090 | + | + | - | - |
| Salmonella typhimurium ATCC 14028 | + | - | - | - |

Additives

| Merck Cat.No. | Product | Pack Size |
|----------------------|-------------------------------------|------------------|
| 1.07551.2000 | EXTRAN® MA 04 disinfectant | 2 liter |
| 1.09293.0100 | KOVACS Indole Reagent | 100 ml |
| 1.11350.0001 | Bactident® Indole (dropper bottle) | 1 x 30 ml |
| 1.13203.0001 | UV Lamp (366 nm) | 1 ea |
| 1.13311.0001 | CULTURA® Mini-Incubator (220-235 V) | 1 ea |
| 1.15533.0001 | CULTURA® Mini-Incubator (100-110 V) | 1 ea |

