

Microbial Test Kit

TTC/Potato-Dextrose Agar

USE

A ready-to-use dip slide designed for the semi-quantitative detection of microorganisms in liquid samples. The dual-sided slide features TTC agar for estimating total bacterial count and modified Potato-Dextrose agar for detecting yeasts and molds. The TTC side produces visible bacterial colonies, while the orange Potato-Dextrose agar supports the detection of yeast and fungal growth.

APPLICATION

Recommended for the simultaneous detection of total bacteria, yeasts, and fungi in liquid samples, including raw materials, ingredients, process liquids, environmental monitoring samples and surfaces.

INSTRUCTIONS

DIRECT IMMERSION Protocol— low viscous liquids

1. Mix liquid test sample.
2. Remove the paddle from the vial. Follow aseptic technique; do not touch the agar surfaces.
3. When taking the sample:
 - a. Pour the sample into the vial. Dip the paddle into the volume liquid in the vial. Maintain a contact time of at least 15 seconds (30 seconds optimal). Both agar surfaces must be completely contacted.
 - b. Or dip the paddle into the sample directly. Maintain a contact time of at least 15 seconds (30 seconds optimal). Both agar surfaces must be completely contacted.
4. Allow excess fluid to drain off both paddle agar surfaces.
5. Replace paddle in vial.

SPREAD Protocol – high viscous liquids or precise inoculation volumes

1. Mix liquid test sample.
2. Using aseptic technique, remove paddle from vial. Do not touch the agar surfaces.
3. Holding the contact agar surface on a horizontal plane, pipet 330 μ L (0.33mL) (deposit volume as a single drop) approximately 1cm from the handle boundary
4. Position a sterile glass rod on the “handle” side of the drop and bring it into contact with the drop creating a meniscus. Drag the glass tube over the paddle agar surface.
5. Replace paddle in vial.

INCUBATION

Incubate at 80-86°F (27-30°C) $\pm$ 2°C for results for total bacterial count can be read after 24 - 48 hours while results for yeasts and fungi will show after 3 days. Alternatively, tubes can be incubated at room temperature, and the total bacterial count can be read after 2 - 4 days, while results for yeasts and molds can be read after 4 - 7 days.

CULTURE

TTC-Agar

- Escherichia coli: Growth/reddish colonies
- Proteus mirabilis: Growth/reddish colonies
- Klebsiella pneumoniae: Growth/reddish colonies
- Pseudomonas aeruginosa: Growth/reddish colonies
- Enterococcus faecalis: Growth
- Wild yeast (Strain 2): Growth/reddish colonies
- Wild yeast (Strain 4): No/poor growth
- Penicillium commune ATCC 10428: Growth

Potato-dextrose-agar

- Escherichia coli: No growth
- Proteus mirabilis: No growth
- Klebsiella pneumoniae: No growth
- Pseudomonas aeruginosa: Inhibited
- Enterococcus faecalis: No growth
- Wild yeast (Strain 2): Growth
- Wild yeast (Strain 4): Growth
- Penicillium commune ATCC 10428: Growth

STORAGE

Should be storage tightly sealed (unopened) in a cool, dry location at 59-77°F (15-25°C). Do not store in a refrigerator. Refrigeration may result in water condensation. Do not freeze.

Interpretation of results

Total bacterial count (colorless TTC agar)

Most aerobic bacteria grow on the TTC side of the Cult-Dip combi slide. Most bacterial colonies appear red. Estimate the bacterial count per mL by comparing colony density with the model chart. Include any colorless colonies in the estimate. When large colonies are present, evaluate colony density rather than colony size.

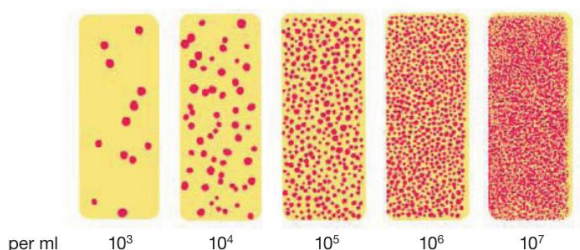
If bacterial content is very high (over 10⁷/mL), growth may become confluent and appear as a uniformly red layer. This can be mistaken for a poor or negative result; when uncertain, compare the incubated slide with an unused slide.

The source notes that there are no universally valid critical limits. For process waters and different coolants, the following guide may be used:

Bacterial count	Interpretation
10 ⁴	Slight infection
10 ⁵ -10 ⁶	Moderate infection
10 ⁶ or more	Heavy infection

Total Bacteria Count Agar (TTC-Agar)

Bacteria



Yeasts and fungi (orange agar)

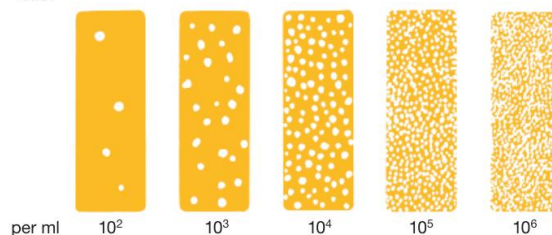
Yeasts and fungi grow on the modified Potato-Dextrose agar side (orange agar). Growth may consist of fungi, yeast, or a mixture of both. Fungal colonies are typically soft and fluffy. Yeast colonies are usually ball-shaped and slightly raised, although they may also appear flat and dry.

Estimate yeast growth by comparing colony density with the model chart, in the same way as for bacteria. Because fungal colonies may develop from mycelium fragments or individual spores, the fungal chart is qualitative: slight (+), moderate (++), or heavy (+++) growth.

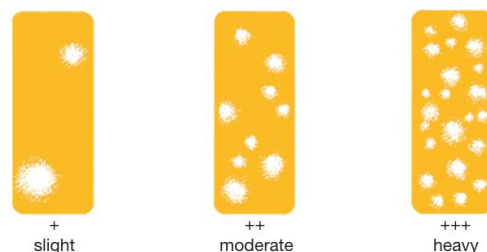
Colonies may be removed from the slide for microscopic examination. Fungal contamination may also be visible to the naked eye as a coating on the surface of the liquid.

Potato Dextrose – Agar mod.

Yeast



Fungi



Disposal

Make a 1:9 dilution of household bleach (5.25% sodium hypochlorite solution). Twist and remove Microslide Paddle from Vial. Fill vial with 40ml diluted hypochlorite solution, covering the agar. Allow 15-minute contact time. Discard bleach solution. Replace paddle in a vial dispose.

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