



Evaluation aid for checking solutions using ROTI®DipSlides

ROTI®DipSlides are evaluated by counting the colonies grown by visual inspection. The evaluation scheme shown below serves as an aid here. The evaluation scheme is a simplified representation of the colony growth of bacteria, yeasts and moulds. Some routine is required to count the colonies on grown ROTI®DipSlides.

To minimise possible deviations in the evaluation, the following points should be taken into account:

- Avoid changing personnel during evaluation
- No comparison of different culture media (different manufacturers)
- Maintaining the correct storage temperature
- Maintain incubation conditions (do not change temperature and time)
- Avoid foreign contamination (e.g. skin contact during sampling)
- Observe ERD (no longer use expired ROTI®DipSlides)

When incubating ROTI®DipSlides, fluctuations in colony growth may occur. A single determination does not provide any meaningful information. For correct validation of the results, it is therefore recommended to prepare two or three replicates per sampling. If there are significant deviations in the results of individual DipSlides, the sampling should be repeated.

Please make sure that the ROTI®DipSlides are closed during the evaluation to avoid the release of microorganisms. To remove the condensation that has formed on the inside, the closed tube can be swivelled down with the lid down so that the condensation collects in the lid.

When evaluating the ROTI®DipSlides you should note the following:

- No absolute numbers are determined; the evaluation is semi-quantitative
- Maintaining the incubation temperature (see instructions for use)
- Adherence to the incubation period (see instructions for use)
- If you have little experience with the evaluation, a daily reading of the results is recommended
- To ensure that all colonies and moulds have been recorded, the incubation period can be extended by 1-2 days

Evaluation of bacteria:

2493.1 / 2924.1 / 2925.1 / 2927.1 / 2837.1 / 8023.1 / 8715.1 / 2954.1 / 2957.1 / 8045.1

Bacteria are unicellular microorganisms and due to their small size of 0.03 to 1 µm they are not visible to the naked eye. Due to their exponential growth, it is possible to perceive bacteria as colonies on solid culture media from a corresponding number of cells, with each colony corresponding to an original viable bacterial cell. The number of colonies is equal to the number of viable bacteria in the sample.

Technical Info

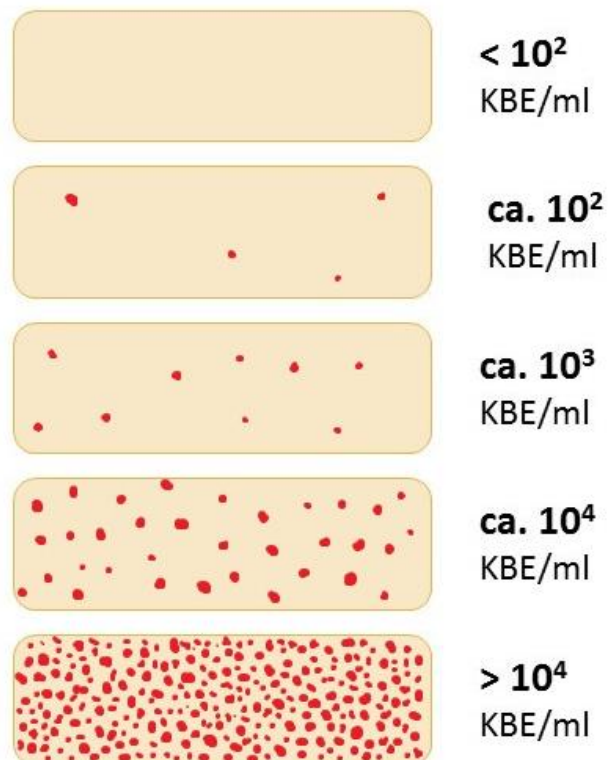
These bacterial colonies usually show a colourless to ivory-coloured, roundish appearance. Due to the mostly colourless colonies, bacterial colonies appear similar to the colour of the culture medium and are difficult to distinguish from it. In order to facilitate the evaluation, you can either change the colour of the culture medium or add additives (e.g. TTC) to the culture medium and thus achieve a better visualisation of the colonies.

The number of colonies is given in CFU/ml (colony forming unit/ml). Please note that this (semi-quantitative) evaluation does not give an exact colony count. The following evaluation aid is only applicable when checking solutions.

Bacteria grow on amber-coloured culture medium, for example plate-count agar (PCA), nutrient agar or CASO agar.

They are able to reduce TTC added to the culture medium via the respiratory chain. This results in a red dye which stains the bacteria. This serves for easier evaluation.

To determine the bacterial load after disinfection, we offer ROTI®Dip-Slides (8023.1 / 8715.1), which additionally contain inhibitors that neutralize residues of disinfectants and preservatives and thus ensure bacterial growth.



Evaluation of yeasts/moulds:

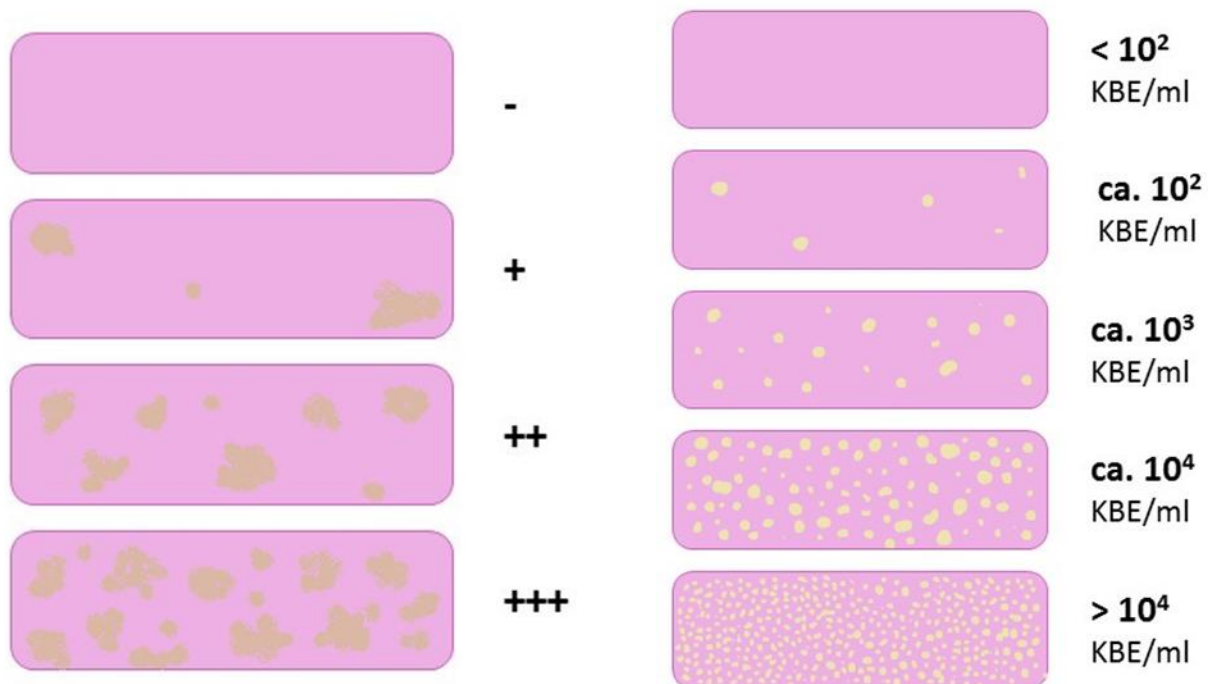
2926.1 / 3934.1 / 2956.1

In contrast to bacteria, moulds are multicellular organisms which are characterised by a thread-like growth. They form fluffy colonies that emerge from individual spores. The biggest difference between bacteria and moulds is their reproduction, which in the case of moulds takes place through continued cell division. Moulds also have several branches during their growth, which lead to the formation of a network. The resulting flat cell body gives the moulds their characteristic appearance, which is perceived as a single large mould (mycelium).

In contrast to moulds, yeasts, which are also fungi, do not show extensive growth or the formation of a mycelium. Yeasts grow similar to bacteria and are difficult for laypersons to distinguish from them. If bacterial colonies appear on breeding grounds for moulds, these are yeasts. Due to their affiliation to fungi, some yeasts form pseudohyphae, so-called runners. This makes some yeast colonies appear frayed.

Technical Info

The determination of the total germ count (TBC) for moulds differs from that for bacteria. Since moulds take up bigger surfaces through the formed mycelium under circumstances, it is difficult for the layman to determine an exact colony count. Therefore, only between no (-), weak (+), moderate (++) or strong (+++) growth is distinguished with moulds.



Moulds (left side) grow on pink Bengal red agar with antibiotic (2926.1 / 2927.1) or Sabouraud 4% glucose agar with antibiotic (2956.1). The antibiotic chloramphenicol inhibits a possible growth of bacteria.

Bengal red agar promotes both mould and yeast growth. **Yeasts** (right side) grow as round, slightly humpy, lustreless colonies.

Disposal:

Disposal of overgrown ROTI®DipSlides must be carried out in accordance with legal regulations for the disposal of the respective microorganisms and in accordance with the rules of good laboratory practice. Examples: Autoclaving for 20 minutes at 121 °C or incubation in 70 % ethanol. Suitable reagents for the disposal of ROTI®DipSlides with an overgrown surface are hypochlorite (0078) or ethanol (0081), which are classified as biocides.

j.h. 04/2020

