

Panta Germ Test

Instructions / Information about the Panta Germ Test

Description:

The Panta Germ Test is a method to determine the bacteriological development and the current status of the bacterial community in an aquarium, pond, natural swimming pool, or aquaculture facility. The latest version of the Panta Germ Test now includes two different types of sampling, which together provide a clear picture of both the total bacterial count and the composition of the bacterial community within the aquatic system.

The composition of bacteria in aquatic systems is of particular importance when assessing potential impacts on the health of living organisms. Currently, water quality is usually described only in terms of physical (e.g., density, conductivity, temperature) and chemical parameters (e.g., pH, macro-, micro-, and trace elements). Microbiology and the associated bacteria, however, receive little attention, even though they are highly relevant. In this context, both the total bacterial count in the water and the composition of different bacterial species in the water and in biofilms are crucial. Most bacteria in aquatic facilities are organized in biofilms, which form on all surfaces in contact with water. Depending on their composition, bacterial communities can either be beneficial to the animals kept or, in the case of unfavorable composition or high abundance of certain species, negatively affect the system and pose a health risk to aquatic animals.

The Panta Germ Test allows determination of the total bacterial count in the water, the bacterial community in the water, and the biofilm-associated bacterial community on surfaces. For this purpose, water from the system being tested is passed through a filter, where the bacteria accumulate. This sampling determines both the total bacterial count and the bacterial community in the water. By swabbing the biofilm from a submerged surface using the provided cotton swab, the biofilm community can also be sampled. Both the filter containing the filtered water and the swab with the collected biofilm are then sent back to us. In our laboratory, both samples are processed and analyzed using state-of-the-art molecular biological methods. This enables precise determination of the total bacterial count as well as the composition of the bacterial community in water and biofilm. The results can then be used to assess the diversity of bacterial species in the aquatic system.

Contents of the Panta Germ Test:

Documents:

- 1 pc original packaging
- 1 pc anamnesis form
- 1 pc instructions / information about the Panta Germ Test
- 1 pc pair of disposable gloves
- 1 pc return label

Sampling 1

Water Test Kit (for determining the total bacterial count and bacterial community in water):

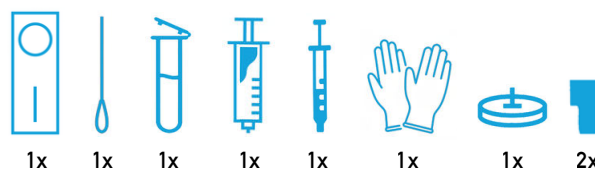
- 1 pc sterile, round syringe filter
- 1 pc sterile disposable syringe
- 1 pc 1 ml dosing syringe filled with 0.2 ml preservation buffer
- 2 pcs sterile sealing caps for the filter inlet and outlet

Sampling 2

Biofilm Test Kit (for determining the bacterial community on surfaces):

- 1 pc sterile cotton swab
- 1 pc sampling aid with defined swabbing area
- 1 pc 2 ml reaction tube filled with preservation buffer

Content:



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Procedure:

Please put on the disposable gloves before starting the sampling process. This will reduce the risk of contamination.

Sampling 1:

Water Test Kit (for determining the total bacterial count and bacterial community in water):

For the first sampling, the water must be filtered. To do this, first remove the enclosed sterile disposable syringe from the packaging and fill it with the water that is to be examined. Then remove the filter from the packaging and place it onto the disposable syringe. The syringe must be inserted into the inlet of the filter (transparent side) in such a way that the filtered water can leave the filter through the outlet (yellow side). Now press the water slowly and evenly through the filter. The water should then be returned to the system. Repeat this process until you have filtered approx. 500 ml with water repeatedly freshly taken from the system, or until the filter is "clogged." This is the case when the water can only be pressed through the filter with considerable pressure and only comes out of the filter drop by drop. Note: Please do not overdo it, as too much pressure can damage the filter. Please remove the filter each time the disposable syringe is filled and draw up the water without the filter. It is essential to make sure that no water is drawn into the syringe through the filter.

Please document on the anamnesis form how many millilitres of water you have pressed through the filter. Then dispose of the disposable syringe. Unpack one of the two sealing plugs and close the filter outlet (yellow side) with the sealing plug. Due to its shape, the sealing plug can be turned onto the outlet so that the filter outlet is tightly closed. Then press 0.2 ml of preservation buffer into the filter inlet (transparent side) using the filled 1-ml dosing syringe. To do this, first remove the sealing plugs from the 1-ml dosing syringe. Then insert the syringe outlet into the filter inlet and inject 0.2 ml of preservation buffer. Now unpack the second sealing plug and use it to close the filter inlet. Due to its shape, the sealing plug can be turned onto the inlet so that this is also tightly closed. This prevents any liquid from leaking out during return transport and prevents the sample from being contaminated.

Sampling 2:

Biofilm Test Kit (for determining the bacterial community on surfaces):

For the second sampling, the biofilm is swabbed from a surface located in the water. To do this, remove the sterile packaged cotton swab from the packaging. Hold the cotton swab by the wooden stick and do not touch the cotton. Then take the sampling aid with the defined swabbing area and select a location in your system that you would like to sample. When selecting the location, it must be ensured that it is freely washed around by the water, has been untouched for a longer period of time, and has not been cleaned. After you have decided on a location, press the sampling aid onto the surface with one hand so that the desired location is visible in the defined swabbing area, a round hole in the sampling aid. Make sure that the sampling aid does not slip during sampling. Now swab the biofilm from the defined swabbing area with the cotton swab that you are holding in the other hand. You can also swab this area several times with the cotton.

In the next step, transfer the cotton into the 2-ml reaction tube filled with preservation buffer. To do this, open the 2-ml reaction tube with the preservation buffer and insert the cotton into it. As soon as the cotton is in the reaction tube, the wooden stick can be broken off by bending it sideways. Then carefully close the reaction tube with the lid for return transport to the lab. The wooden stick can then be disposed of. Please make sure not to touch or bump the cotton during removal and transfer in order not to contaminate or damage the swabbed biofilm. Also do not touch the inside of the 2-ml reaction tube with your hands. The preservation buffer preserves the sample and prevents the loss of DNA through biological degradation during transport. Please fill out the enclosed anamnesis form completely and send everything back to us together with the collected samples in the original packaging with the return label. Please understand that the laboratory work, evaluation, and report preparation may take up to one month. We therefore ask you for a little patience.

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Safety Instructions:

The Panta Germ Test does not contain any biologically or chemically hazardous components. Furthermore, the components of the Panta Germ Test filled with preservation buffer contain only small amounts of the preservation buffer itself. Nevertheless, make sure to store the test safely and out of the reach of children, as the individual parts can cause injuries if swallowed. Should you, contrary to expectations, inhale, swallow, or bring the preservation buffer into contact with the skin or eyes, please follow the first-aid measures below:

After inhalation:

Move to fresh air.

Seek medical advice if symptoms persist.

After skin contact:

Remove contaminated clothing and shoes immediately.

Wash skin thoroughly with plenty of water/shower.

Seek medical advice if symptoms persist.

After eye contact:

Remove contact lenses. Protect the unaffected eye.

Rinse thoroughly with plenty of water for at least 15 minutes.

Seek medical advice if symptoms persist.

After ingestion:

Rinse mouth with water.

Drink water (up to 2 glasses).

Seek medical advice if symptoms persist.

Important:

Do not allow the preservation buffer to enter the aquarium, as this could disrupt the microbiome.



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