

Microbial Screening test for the presumptive detection of antibiotic and sulfonamide residues in particularly fresh meat. NF VALIDATION certification scope includes beef, pork and poultry meat (with the exception of ground meat). The following selected antibiotics were investigated:

Penicillins: Penicillin G (CC β = 6 µg/kg); Amoxicillin (CC β = 11 µg/kg); Cloxacillin (CC β = 150 µg/kg)
Tetracyclines: Chlortetracycline (CC β = 160 µg/kg); Oxytetracycline (CC β = 160 µg/kg); Doxycycline (CC β = 100 µg/kg)
Sulfonamides: Sulfadiazine (CC β = 75 µg/kg); Sulfadiazine (CC β = 90 µg/kg)
Macrolides: Erythromycin A (CC β = 200 µg/kg); Tylosin A (CC β = 90 µg/kg)

The CC β values were determined by spiking in meat juice; the detection capabilities in other samples may differ.

Cefalosporins, Aminoglycosides, Amphenicols, Quinolones, Tiamulin, and Lincomycin are detected above the Maximum Residue Level (MRL).

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Contents

25 ampoules with *Bacillus stearothermophilus* var. *calidolactis* in a solid agar medium, disposable pipette tips, perforated cover foil + syringe.

Product description

Premi®Test is a broad spectrum microbial screening test especially developed for the detection of antimicrobial substances, such as antibiotic and sulfonamide residues particularly in fresh meat, in the range of MRL.

Test principle

Premi®Test is based on the inhibition of the growth of *Bacillus stearothermophilus*, a micro-organism very sensitive to many antibiotic and sulfonamide residues.

A standardised number of spores are imbedded in an agar medium with selected nutrients. When meat fluid is added to the Premi®Test and heated at 64 °C, the spores will germinate. The germinated spores will multiply and form an acid when no inhibitory substances are present. This will be visible by a colour change from purple to yellow of the indicator in the ampoule. When antimicrobial residues are present in sufficient amount (above the detection level) no growth will occur and the colour will remain purple.

Caution

This test is sensitive to certain antibiotics and other inhibitory substances, any contamination with such materials should be avoided at all time. It is advised to wash hands thoroughly before starting the test procedure. Use tissue paper or a clean towel to dry hands.

Instruction for use

- Wash hands thoroughly before starting the test procedure.
- Cut out the required number of ampoules without damaging the aluminum foil of the adjacent ampoules.
- Remove foil carefully from the required amount of ampoules (do not open more ampoules as needed).
- Take approximately 2 cm³ of lean meat and use a meat press to extract approximately 250 µl of meat fluid. Alternatively, the meat juice can be obtained with the help of the Multipress or by freeze/thawing the meat. (A technical bulletin on the Multipress is available at www.r-biopharm.com).
- Use a new disposable tip on the syringe for each sample.
- Pipette 100 µl of the fluid onto the agar in the ampoule. Do not distort the agar.
- Allow to stand at room temperature for 20 minutes for a pre-incubation.
- Flush the meat juice away by gently filling and emptying the test ampoule twice with demineralized (dem) water. Wash the ampoules with demineralized water only and do not use tap-water!
- Remove the last water carefully from the test ampoule.
- Close the test ampoule with the foil supplied to avoid evaporation.
- Incubate the test ampoule in a Premi®Test Incubator or water bath (64 °C ± 1 °C).
- It is required to use, in parallel, a negative control of the same matrix that is being tested. Read the test results after the negative control has changed color.
- All necessary equipment (meat press, scissors, incubator, and timer) are available in the Premi®Test Starter Kit.
- To facilitate the use of the Premi®Test there is a Powerpoint document available on request for all users.

Reading test results

- Read the color only from the bottom 2/3 part of the ampoule.
- A clear color change (from purple towards yellow) indicates the absence of antibiotics / sulfonamides above the detection limit.
- No clear color change indicates the presence of antibiotics and/or sulfonamides at/or above the limit of detection of the test.

Negative control

The use of a negative control is required (obligatory for NF VALIDATION). Start to check the color of the negative control after an incubation time of 2 h 40 min and then in intervals of 5 min until the color of the negative control has changed from purple to yellow. At that time, the samples should be compared to the negative control, because a delayed measuring (> 5 min.) can lead to increased values of the detection capability (CC β). If there is no color change of the negative control after 4 h, repeat the test. The negative control can be prepared by freezing and storing meat juice from a sample tested negative. Never use water as a negative control!

Positive control

It is strongly recommended to test a positive control (protocol is available from R-Biopharm AG) to verify the correct application of the test.

Storage

The ampoules should be stored cool (3 – 10 °C). Attention: DO NOT FREEZE!

Limited Liability

Premi®Test is a screening test and as such 100% accuracy of the test results cannot be guaranteed. Besides, the assessment of colour, in particular that of a yellow/purple result, may differ from person to person. In cases where severe consequences are involved for the user, test results should be confirmed by a validated comprehensive analytical method. R-Biopharm makes no warranty of any kind, either expressed or implied, except that the materials from which its products are made are of standard quality.

Recommendations for sample-preparations of fish, shrimps, eggs, kidney, liver, urine, blood and feed are available at R-Biopharm AG. These matrices require individual validation by the customer. Supportive information are available at R-Biopharm upon request.

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