

Agar Test pH 8,0 for Inhibition Test

Cat. 2024

Standard medium for the detection of antimicrobial inhibitors in meat and organ samples

Practical information

Principles and uses

Agar Test pH 8,0 for Inhibition Test in combination with Agar test pH 7,2 and 6,0 is used for the detection of antimicrobial inhibitors in meat and organ samples.

Antimicrobial inhibitors contained in the samples diffuse into the nutrient media and cause growth-free inhibition zones to develop on the otherwise thickly covered plates. Repeated tests with pH 6,0, pH 8,0 and pH 7,2 are necessary, as penicillin and streptomycin are optimally active at pH 6,0 and 8,0 respectively and the activity optimum of sulfonamide is found at pH 7.2. Addition of trimethoprim to Test Agar pH 7,2 considerably increases the sensitivity of the test system to sulfonamides.

Complete inhibition of growth with a zone of inhibition of at least 2 mm is considered as a positive result. An inhibitory zone of 1-2 mm must be regarded as questionable. This only applies if the controls, prepared at the same time show inhibition zones measuring about 6 mm.

Formula in g/L

Bacteriological agar	13	Casein peptone	3,45
Meat peptone	3,45	Sodium chloride	5,1
Trisodium Phosphate 12-hydrate	2,4		

Preparation

Suspend 27,5 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add a spore suspension of *Bacillus subtilis* (BGA) containing approximately 1×10^7 CFU/ml (final concentration in medium 1×10^4 cfu/ml). If desired, add a suspension of *Micrococcus luteus* ATCC 9341 suspension. Pour into plates.

Instructions for use

- Prepare meat samples by cutting 2mm thick slices of tissue 8 mm in diameter. A total of 6 discs are required for the complete 3-plate test (Test Agar pH 6,0, pH 7,2 Cat. N° 2023 and pH 8.0 Cat. N°2024).
- Using sterile forceps, place two of the discs in diametrically opposite positions on each test plate.
- Aseptically place appropriate control disc on each of the three plates.
- Incubate the plates at 30°C during 18-24 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber	8,0 ± 0,2

Microbiological test

Incubation conditions: (30°C/18-24 h)

Microorganisms	Gentamycin 10 µg	Gentamycin 30 µg	Penicillin 10 IU	Streptomycin 10 µg
<i>Bacillus subtilis</i> (BGA) (DSZM 618)	36-44	38-47	34-45	30-36
<i>Micrococcus luteus</i> ATCC 9341	28-36	32-40	50-60	30-36

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Arbeitsgruppe des Instituts für Lebensmitteltechnologie und Verpackung der Technischen Universität München: Merkblätter für die Prüfung von Pack-mitteln, Merkblatt 18 "Prüfung auf antimikrobielle Bestandteile in Pack-stoffen". - Verpackgs.-Rdsch., 25; Techn.-wiss. Beilagen; 5-8 (1974).