

43264 Agar Test pH 6,0 for Inhibition Test (Antimicrobial Inhibitor Test Agar)

For the detection of antimicrobial inhibitors in meat and organ samples together with *Bacillus subtilis* (BGA) spore suspension and *Micrococcus luteus* ATCC 9341 as test organisms.

Composition:

Ingredients	Grams/Litre
Peptone from Casein,	3.45
Meat peptone	3.45
Sodium chloride	5.1
Agar-Agar	13.0

Final pH 6.0 +/- 0.2 at 25°C

Store dehydrated powder between 10-30°C in a tightly closed container and use freshly prepared medium. Protect from moisture and light by keeping container in a low humidity environment. Use before expiry date on the label.

Appearance(color): Faintly beige to light beige, free flowing powder
Solubility(color): Light beige
Gelling: Firms
Color and Clarity: Light amber coloured, clear to slightly opalescent gel forms in petri plates.

Directions:

Dissolve Suspend 25 g/litre Test Agar pH 6.0, autoclave (15 min at 121°C), test the pH and if necessary, adjust. Cool to 50-45 °C, mix in 1ml/litre Bacillus subtilis (BGA) spore suspension. After mixing the spore suspension, immediately pour the plates and place in.

Principle and Interpretation:

In addition to washing, treatments with antimicrobial compounds such as chlorine and organic acids are used to sanitize muscle foods. Various concentrations and the degree of effectiveness of the concentrations of these antimicrobial compounds have been reported. Antimicrobial Inhibitor Test Agar pH 6.0 is recommended for residual analysis of antimicrobial components in meat and organ samples, using *Bacillus subtilis* (ATCC 6633) as test organism by agar diffusion procedure and EEC Four-Plate-Test (1). Antimicrobial Inhibitor Test Agar pH 6.0 contains peptone from casein and meat peptone which serve as source for carbon, nitrogen and growth factors for the growth of organisms. Sodium chloride helps to maintain osmotic balance in the medium.

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 considered as doubtful. This only applies if the controls, prepared at the same time show inhibition zones measuring about 6 mm.



Cultural characteristics and zone of inhibition observed after an incubation of 18-24 hours at 30°C.

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth	Recovery	Inhibition zone with Penicillin (10 IU)	Inhibition zones with Streptomycin (10µg)
<i>Bacillus subtilis subsp. spizizenii</i> ATCC 6633/00003)	50-100	+++	++	36-48	19-27

References:

1. Ferrini, A. M.; Mannoni, V., Aurdi P. Combined plate microbial assay (CPMA). Food additives and Contaminants, 23(1);16-24 (2006)
2. Working group of the Institute for Food Technology and Packaging at the Technical University of Munich: Leaflets for the testing of Packaging, leaflet 18 "Testing for antimicrobial components in packaging". - Verpackgs.-Rdsch., 25; Technical-scientific Side dishes; 5-8 (1974)

Precautions and Disclaimer

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