

KAA Presumptive Broth

For the presumptive detection of intestinal enterococci in foods according to Mossel

Practical information

Applications	Categories
Detection	Enterococci

Industry: Food

Principles and uses

KAA Presumptive Broth (Kanamycin, Aesculin, Azide) is a selective medium for the isolation of intestinal enterococci in foods. KAA Presumptive Broth is used in conjunction with KAA Confirmatory Agar (Cat. 1027).

Kanamycin, sodium azide and sodium citrate have a great inhibitory effect on the accompanying bacterial flora, they inhibit the growth of Gram-positive and Gram-negative bacteria, and the medium is highly selective for esculin-hydrolyzing enterococci. Ferric ammonium citrate is an indicator which detect the esculin-hydrolysing bacteria. They hydrolyze the glucoside esculin to give glucose and esculetin. Tubes have a black color due to the reaction of the resulting esculetin with the iron ions. Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group essential for bacterial growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

The presence of intestinal enterococci is an indicator for faecal en contamination, especially when the contamination occurred long ago and the less resistant coliform bacteria, including *Escherichia coli*, are already dead when the analysis is carried out.

Formula in g/L

Esculin	1	Ferric ammonium citrate	0,5
Kanamycin sulfate	0,02	Sodium azide	0,15
Sodium chloride	5	Sodium citrate	1
Tryptone	20	Yeast extract	5

Preparation

Suspend 33 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. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

Inoculate 1 ml of sample in tubes with 9 ml of single-strength medium. Incubate at 35±2 °C for 24-48 hours. Presumptive positive tubes have a brown-black color.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	TournaSol	7,0±0,2

Microbiological test

Incubation conditions: (35±2 °C / 24-48 h).

Microorganisms	Specification	Characteristic reaction
<i>Enterococcus faecalis</i> ATCC 11700	Good growth	Esculin hydrolysis (+)
<i>Escherichia coli</i> ATCC 11775	Total inhibition	

Staphylococcus aureus ATCC 6538
Enterococcus faecium ATCC 8043

Moderate growth
Good growth

Esculin hydrolysis (-)
Esculin hydrolysis (+)

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

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Brandl, E. Aspergerger H., Pfleger, F. U-IBEN CH: Zum Vorkomment von D-streptokokken in Käse. 1985.