

## Bile Esculin Azide Broth

Selective medium recommended for the isolation and presumptive identification of intestinal Enterococcus.

### Practical information

Applications	Categories
Selective isolation	Enterococci
Detection	Enterococci

### Principles and uses

Bile Esculin Azide Broth is a selective medium for the differentiation, isolation and presumptive identification of enterococci.

The ability to hydrolyze esculin is a characteristic of enterococci. Organisms positive for esculin hydrolysis, hydrolyze the glucoside esculin to esculetin and dextrose. The esculetin reacts with the ferric citrate to form a dark brown or black colony. Ox bile does not inhibit enterococci while other Gram positive bacteria are inhibited. Sodium azide inhibits Gram negative bacteria. Tryptone, peptone and yeast extract supply the nutrients essential for growth. Sodium chloride provides the osmotic balance. Bacteriological agar is the solidifying agent.

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

### Formula in g/L

Esculin	1	Ferric ammonium citrate	0,5
Ox Bile	10	Peptone	3
Sodium azide	0,15	Sodium chloride	5
Tryptone	17	Yeast extract	5

### Preparation

Suspend 41,6 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 and incubate at 35±2 °C and observe after 18-24 hours.

### Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
Sin restos	Fine powder	Toasted	Tournaşol	7,0±0,2

### Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microorganisms	Specification	Characteristic reaction
<i>Enterococcus faecalis</i> ATCC 11700	Good growth	Esculin (+)
<i>Streptococcus pyogenes</i> ATCC 12344	Null growth	Esculin (-)
<i>Escherichia coli</i> ATCC 25922	Null growth	Esculin (-)
<i>Enterococcus faecium</i> ATCC 8043	Good growth	Esculin (+)

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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