

BALL- SELLERS' MOTILITY MEDIUM

for the detection of bacterial motility,
gelatin liquefaction and nitrate reduction

Typical formula (g/L)

Heart Infusion from	500
Sodium Chloride	5
Tryptose	10
Dipotassium Phosphate	2
Potassium Nitrate	2
Gelatin	30
Agar	1

DIRECTIONS

Suspend 60 g in 1000 mL of cold distilled water; heat to boiling and sterilise by autoclaving at 121°C for 15 minutes. Cool to 60°C and add 10 mL of TTC 1% Solution (code 42111801). Mix well and distribute into sterile tubes. Incubate overnight at 37°C for sterility and store in the refrigerator until needed.

Final pH 7.2 ± 0.2

DESCRIPTION

Ball Sellers' Motility Medium is suitable for the detection of bacterial motility: the medium is solid at a temperature below 20°C and liquid at 37°C and permits the greatest freedom of motility during the incubation period. The medium may moreover be used to detect the gelatin liquefaction, nitrates reduction and production of N₂.

TECHNIQUE

The strains to be tested are to be inoculated by stabbing into the medium immediately after removal from refrigerator (the gel should be still fairly hard): after incubation at 37°C for 24 hours the growth is shown by the reduction of colourless TTC to red formazan. The red colour is restricted to the inoculation line for not-motile strains, whereas it is more or less diffused to the whole tube for motile strains. The appearance of foam on the surface of the medium indicates production of N₂. The production of gelatinase after incubation is determined by placing the cultures and a reference tube (which has been kept at 37°C, but not inoculated) in refrigerator until the reference tube solidifies: the gelatinase-positive cultures do not solidify. The reduction of nitrates is shown by using the usual reagents. The red colour developing in case of positive reaction is soluble and therefore it can be differentiated from the formazan red which is insoluble. Ball and Sellers, who conceived the composition of the medium, assert that the heart infusion permits the growth of fastidious species and stimulates the formation of gelatinase, 0,5% sodium chloride and potassium monophosphate allows the swarming of *Proteus* and 0,2% potassium nitrate allows the motility of the nitrate-reducing strains. Comparative tests with media, which are commonly used for the study of motility, have shown the advantages of the Ball-Sellers' formulation.

REFERENCE

- Ball R.Y. & Sellers, W. (1966) Appl. Micr. 14, 670-673.

PACKAGING

4011182 **Ball Sellers' Motility Medium, 500 g (8.3 L)**