Columbia Sheep Blood Agar Plate (M200)

Recommended for isolation and cultivation of fastidious organisms.

Composition

Composition (g/l):

Peptone, special ---------- 23.000
Corn starch ---------- 1.000
Sodium chloride ---------- 5.000
Agar ---------- 15.000
Sheep Blood ---------- 60-70ml

Description

Columbia Blood Agar Base was devised by Ellner et al. This medium contains special peptone which supports rapid and luxuriant growth of fastidious and non-fastidious organisms. Also, this medium promotes typical colonial morphology, better pigment production and more sharply defined haemolytic reactions.

Corn starch serves as an energy source and also neutralizes toxic metabolites. Sheep blood permits the detection of haemolysis and also provides heme (X factor) which is required for the growth of many bacteria. However it is devoid of V factor (Nicotinamide adenine dinucleotide) and hence Haemophilus influenzae which needs both the X and V factors, will not grow on this medium.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. For professional use only. Follow good microbiological lab practices while handling specimens and culture.

Limitations

1. As this medium have a relatively high carbohydrate content, beta-haemolytic Streptococci may exhibit a greenish haemolytic reaction which may be mistaken for the alpha haemolysis.
2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any organisms based on the user's requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality control

Physical/Chemical control

Color : Red pH: 7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Microbiological activity

Organisms	Inoculum CFU/ml	Growth	Haemolysis
Streptococcus pyogenes ATCC 19615	50-100	Good growth	Beta haemolytic reaction
Streptococcus pneumoniae ATCC 6305	50-100	Good growth	Alpha haemolytic reaction
Staphylococcus aureus ATCC 25923	50-100	Good growth	Beta haemolytic reaction
Escherichia coli ATCC 25922	50-100	Good growth	Gamma haemolysis

Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Bailey R. K., Voss J. L. and Smith R. F., 1979, J. Clin. Microbiol., 9 ; 65-71
2. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
3. Chapin K. C. and Doern G. V., 1983, J. Clin. Microbiol., 17:1163.
4. Ellner P. P., Stoessel C. J., Drakeford E. and Vasi F., 1966, Am. J. Clin. Pathol., 45:502.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.