

Blood Agar Base

Designed for isolation and cultivation of many fastidious pathogenic micro-organisms like Neisseria, Streptococci after addition of blood from clinical and non-clinical specimens.

REF: BS.1/CMP01.100.0100 100 Gram
REF: BS.1/CMP01.500.0500 500 Gram

REF: BS.1/CMP01.250.0250 250 Gram

CLINICAL SIGNIFICANCE

Blood Agar Base is a nutrient-rich medium commonly employed as a basal medium for the preparation of blood agar following supplementation with blood. It may also be utilized as a general-purpose culture medium in the absence of added blood. Additionally, Blood Agar Base can be supplemented with phenolphthalein phosphate (1) for the detection of phosphatase-producing Staphylococci, and with salt and agar for evaluating surface contamination on equipment and pig carcasses (2) as well as for determining the salinity tolerance range of marine Flavobacteria (3). Furthermore, it has been used in the preparation of antigens of Salmonella Typhi (4).

METHOD PRINCIPLE

Blood Agar Base is recommended by APHA (5) and Standard Methods (6,7) for testing of food samples. HM peptone B and tryptose provides carbon, nitrogen, amino acids and vitamins. Sodium chloride helps in maintaining the osmotic equilibrium of the medium. Addition of blood makes the medium more nutritious by providing additional growth factors required by fastidious organisms. It also helps in visualizing the haemolytic reactions. However, haemolytic reactions depend on the animal blood used. Sheep blood gives best results for Group A Streptococci (8). But sheep blood fails to support growth of Haemophilus haemolyticus since sheep blood is deficient in pyridine nucleotides. However when horse blood is used H. haemolyticus colonies produce haemolysis and mimic Streptococcus pyogenes (9).

MEDIA COMPOSITION

Item	Formula per liter of medium
- Tryptose	10.00 gm
- HM peptone B	10.00 gm
- Sodium chloride	5.000 gm
- Agar	15.00 gm

Final pH 7.3± 0.2 at 25 °C

Equivalent to Beef Heart peptone

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.

- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

STORAGE AND STABILITY

BioScien Blood Agar Base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

Suspend 40.0 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 5% v/v sterile defibrinated blood. Mix well and pour into sterile Petri plates.

Deterioration

- The color of **BioScien** blood Agar Base is Cream to yellow homogeneous free flowing powder. prepared medium Basal medium : Light amber coloured clear to slightly opalescent gel. After addition of 5% v/v sterile defibrinated blood : Cherry red coloured opaque gel forms in Petri plates.

If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile petri-dishes
- Incubator

SPECIMEN

Clinical material : Throat swabs, vaginal secretions and other pathological material; food samples.

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed with added 5% w/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours.

Oranism	Growth	Haemolysis
<i>Neisseria meningitidis</i> ATCC 13090	<i>luxuriant</i>	<i>none</i>
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923	<i>luxuriant</i>	<i>beta</i>
<i>Staphylococcus</i> <i>epidermidis</i> ATCC 12228	<i>luxuriant</i>	<i>none</i>
<i>Streptococcus pyogenes</i> ATCC 19615	<i>luxuriant</i>	<i>beta</i>

SYMBOLS IN PRODUCT LABELLING			
	For in-vitro diagnostic use		Number of <n> test in the pack
	Batch Code/Lot number		Caution
	Catalogue Number		Do not use if package is damaged
	Temperature Limitation		Consult Instruction for use
	Expiration Date		
	Manufactured by		

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Noble W. C., 1962, J. Clin. Pathol., 15:552.
2. Hansen N. H., 1962, J. Appl. Bacteriol., 25:46.
3. Hayes P. R., 1963, J. Gen. Microbiol., 30:1.
4. Schuber J. H., Edwards P. R. and Ramsere C. H., 1959, J. Bacteriol., 77:648.
5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. U.S. Food and Drug Administration, 1995, Bacteriological Analytical Manual, 8th Ed., AOAC International, Gaithersburg, Md.
7. Atlas R. M., 1993, Handbook of Microbiology of Microbiological Media, CRC Press, Boca Raton, Fla.
8. Isenberg, H.D. 8. Snavey J. G. and Brahier J., 1960, Am. J. Clin. Pathol., 33:511.
9. Murray P. R., Baron J. H., Jorgensen J. H., Pfaller M. A., Tenover F. C., Tenover J. C., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
10. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition. 11. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S. and Warnock, D.W. (2015) Manual Clinical Microbiology, 11th Edition. Vol. 1.