

## BLOOD AGAR PLATE

Used for cultivation of fastidious organisms and studying haemolytic reactions. It provides improved and enhanced haemolysis.

REF: BS.1/BHP01.010.0010

10 Plates

### CLINICAL SIGNIFICANCE <sup>(1-4)</sup>

Infusion Agar is an all-purpose medium which has been used for many years as a base for the preparation of blood agars. In a study of viability of streptococci, Snavelly and Brahier performed comparative studies of horse, rabbit and sheep blood with Blood Base Agar, and found that sheep blood gave the clearest and most reliable colony and hemolysis characteristics at both 24 and 48 hours. In the course of the investigation, about 1,300 isolations of streptococci were made with Blood Base Agar containing 5% sheep blood. Blood Base Agar media are specified in standard methods for food testing. Infusion Agar has been largely replaced as a blood base agar by the Tryptic/Trypticase Soy Agar formulations, which contain milk and plant peptones in place of the variable infusion component.

### METHOD PRINCIPLE <sup>(5)</sup>

Peptone mixture and yeast beef provide nitrogen, amino acids, minerals and vitamins essential for growth. Sodium chloride supplies essential electrolytes for transport and to maintain osmotic equilibrium and agar is the solidifying agent. Supplementation with blood (5%) provides additional growth factors for fastidious microorganisms, and is the basis for determining hemolytic reactions. Hemolytic patterns may vary with the source of animal blood or type of base medium used.

### MEDIA COMPOSITION

Item	Formula in g/L
Beef Extract	10.0
Peptone Mixture	10.0
Sodium Chloride	5.0
Bacteriological Agar	15.0
Sterile sheep blood	70 ml

### 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.

For further information, refer to the Blood Agar Base material safety data sheet.

### Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

**Final pH after sterilization  $7.2 \pm 0.2$  at  $25^{\circ}\text{C}$**

### STORAGE AND STABILITY

**BioScien** Blood Agar plates on receipt store between  $2-8^{\circ}\text{C}$ . Use before expiry date on the label. Product performance is best if used within stated expiry period.

### Media Appearance and Deterioration

**BioScien** Blood Agar Plate Red coloured medium in 90 mm disposable plates with smooth surface and absence of black particles/ cracks/ bubbles. If there are any physical changes, discard the medium.

### SPECIMEN COLLECTION AND PRESERVATION

A big variety of clinical specimens were bacteriologically analyzed by Blood Agar Base including sputum, ETT, throat swab, conjunctival swab, ear swab, CSF, wound and pus swab, urine, urine catheter, and any effusion fluid.

### 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.

**Note:** for patient preparation follow medical laboratory instruction, however, it is recommended to stop any antibiotic 4 days before culture.

### EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile loops
- Incubator

## CHARACTERISTICS OF THE COLONIES <sup>(1)</sup>

**Growth Characteristics on Blood Agar Base Medium** Examine plates for growth and hemolytic reactions after 18-24 hours and again after 40-48 hours incubation at 35±2° C.

<i>Streptococci</i>	Translucent or opaque, grayish, small (1 mm), or large matte or mucoid (2-4 mm) colonies, encircled by a zone of hemolysis
<i>Staphylococci</i>	appear as opaque, white to gold-yellow colonies with or without zones of beta hemolysis
<i>Pneumococci</i>	usually appear as very flat, smooth, translucent, grayish and sometimes mucoid colonies surrounded by a narrow zone of alpha (green) hemolysis
<i>Listeria</i>	May be distinguished by their rod shape in stains, and by motility at room temperature. Small zones of beta hemolysis are produced.

## 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.

Positive controls:	Expected results
<i>Streptococcus Pyogenes</i> ATCC ® 19615	Good growth; Beta hemolysis
<i>Streptococcus Aureus</i> ATCC ® 25923	Good Growth; Beta hemolysis
<i>Streptococcus Pneumoniae</i> ATCC ® 6303	Good Growth; Alpha hemolysis
Negative controls:	Expected results
Uninoculated medium	No change











## PERFORMANCE CHARACTERISTICS <sup>(4)</sup>

Performance of the medium after incubation at a temperature of 35 ± 2°C and observed after 24 and 48 hours

Test Organisms	Results
<i>Enterococcus Faecalis</i> ATCC ® 19433	Growth; Alpha/gamma hemolysis
<i>Escherichia Coli</i> ATCC ® 25922	Inhibited
<i>Staphylococcus Epidermidis</i> ATCC ® 12228	Growth; Gamma hemolysis
<i>Streptococcus Pneumoniae</i> ATCC ® 6303	Growth; Alpha hemolysis
<i>Streptococcus Pyogenes</i> ATCC ® 19615	Growth; Beta hemolysis

## REFERENCES

1. Snively and Brahier. 1960. Am. J. Clin. Pathol. 33:511.
2. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.
3. Downes and Ito (Ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
4. Atlas. 1993. Handbook of microbiological media. CRC Press, Boca Raton, Fla.
5. Ruoff, Wiley and Beighton. 1999. In Murray, Baron, Pfaller, Tenover and Tenover (ed.), Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.

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		



**Medical Device Safety Service**  
**MDSS GmbH**  
 Schiffgraben 41  
 30175 Hannover, Germany

