ARENA BioScien

Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 01211550941/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

Columbia Blood Agar Base

Solid medium recommended for the cultivation of fastidious and non-fastidious microorganisms from clinical samples. It is also used as a base for the preparation of a variety of special media.

REF: BS.1/CO01.100.0100	100 Gram	REF: BS.1/CO01.250.01250	250 Gram
REF: BS.1/CO01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Columbia Agar Base is a recommended isolation medium for isolation of non-fastidious and fastidious microorganisms from clinical specimens. It is a primary isolation medium on which most microorganisms, such as Enterobacteriaceae, *Pseudomonas,* and other non-fermenting Gram-negative rods, streptococci, enterococci, staphylococci, coryneforms, *Candida* species, and many others will grow. The medium is suitable for supporting the growth and determining hemolytic reactions of a variety of microorganisms

METHOD PRINCIPLE

Columbia Agar base contains special peptones which supply nitrogen, carbon, vitamins, and trace elements necessary for the growth of microorganisms. Corn starch serves as the energy source for microorganisms and neutralizes toxic metabolites by absorbing toxic by-products contained in the specimen. Sodium chloride maintains osmotic equilibrium.

The Columbia Agar can also be used as a base medium to prepare a wide range of other media by adding special supplements for selective cultivation and isolatiom. Chocolate agar supplemented with 10% heated blood is suited for isolating *Haemophilus* and *Neisseria* species. Gentamicin Blood Agar is used for the selective cultivation of *Streptococcus pneumoniae* and other *Streptococci* as well as bacterioides, *Clostridium* and yeasts. The Colombia CNA Agar suppresses the growth of *Proteus*, *Klebsiella* and *Pseudomonas* species while *Staphylococci*, haemolytic *Strepptococci* and *Enterococci* still grow. Lactose Milk Egg-Yolk Agar is recommended for the isolation of fastidious *Clostridia*. The addition of blood, cycloserine and cefoxitin to Columbia Agar Base is recommended for the isolation of *Clostridium difficile*. It can also be employed in the so-called *Corynebacterium diphtheriae* toxicity (virulence) test when using the agar plate diffusion method. It is used to prepare Vaginalis agar for the cultivation of *Gardnerella vaginalis*. Also possible is to make Acriflavin-Ceftacidim Agar (AC Agar) for the selective cultivation of *Listeria* from foodstuffs.

MEDIA COMPOSITION

Item	Formula per liter of medium
Special peptone	23 gm
Starch	1 gm
Sodium chloride	5 gm
Agar	10 gm

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 Columbia Agar Base material safety data sheet.

STORAGE AND STABILITY

BioScien Columbia 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.

Final pH 7.3 ± 0.2 at 25°C

PREPARATION

Dissolve 39 grams in 1 liter of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and add heat sensitive components. Incubate at 35°C under anaerobic conditions.
To prepare Blood agar: Add 5% blood to Columbia Agar after cooling, mix well and pour into sterile petri dishes.

To prepare Chocolate agar: Add 10% sterile defibrinated blood to Columbia Agar and heat for 10 minutes at 80ºC or until the medium turns chocolate brown then pour into sterile petri dishes.

Deterioration

The color of ***BioScien*** Columbia Agar Base is cream to yellow homogeneous free flowing powder. Prepared basal media is light amber in color. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Pharmaceutical samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile petri dishes
- Incubator
- Autoclave

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed after incubation at 35-37°C for 18-24H, then sub-cultured on MacConkey Agar, incubated and examined after 18-24 hours.

Microorganism	Result
Neisseria meningitidis *ATCC* 13090	Luxuriant growth with no haemolysis
Staphylococcus aureus *ATCC* 25923	Luxuriant growth with beta-gamma haemolysis
Streptococcus pneumoniae *ATCC* 6303	Luxuriant growth with alpha haemolysis
Streptococcus pyogenes *ATCC* 19615	Luxuriant growth with beta haemolysis
Clostridium sporogenes ATCC 19404	Luxuriant growth
Clostridium perfringens ATCC 13124	Luxuriant growth

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

1. I.J. Al-Jumaili, A.J Bint, Simple method of isolation and presumptive identification of Clostridium difficile, Zbl. Bakt., I. Abt. Orig. A, 250, 152 (1981).
2. P.D. Ellner , C.J. Stoessel, E. Drakeford, F. Vasi, Tech. Bull. Reg. Med. Techn., 36, No. 3 (1966), reprinted in Amer. J. Clin. Path., 45, 502 (1966)
3. . E.S. Bannerman, J. Bille, Base agar in a medium for isolating Listeria spp. from heavily contaminated material, Appl. Env. Microbiol. 54, 165 (1988)
4. D. Hunter, M. Kearns, Brit. Vet. J., 133, 486 (1977)
5. I.D. Farrel, L. Robinson, J. Appl. Bact., 35, 625 (1972)
6. G.J. Hermann, M.S. Moore, E.J. Parson, A substitute for serum in the diphtheria in vitro toxigenicity test, Amer. J. Clin. Path., 29, 181 (1958)
7. . W.L. Hynes, J.R. Tagg, In a simple plate assay for detection of group A streptococcus proteinase, J. Microbiol. Methods 4, 25 (1985)
8. . W.A. Black, F. van Buskirk, Gentamicin blood agar used as a general-purpose selective medium, Appl. Microbiol., 25, 905 (1973).
9. . D.E. Hunt, J.V. Jones, V.R. Dowell, Selective medium for the isolation of Bacteroides gingivalis, J. Clin. Microbiol., 23, 441 (1986)

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

EC REP

Medical Device Safety Service
MDSS GmbH
Schiffgr aben 41
30175 Hannover, Germany

CE