Product :
BLOOD AGAR BASE (COLUMBIA)

CE IVD

Also known as
CA; C Agar; Columbia Blood Agar; CB Agar

Specification
Nutrient rich medium suitable for the isolation of pathogenic microorganisms from clinical specimens, and ISO standard.

Formula * in g/L
Casein peptone..... 12,0
Meat peptone..... 11,0
Starch..... 1,0
Sodium chloride..... 5,0
Agar..... 13,5

Final pH 7,3 ±0,2 at 25 ºC
* Adjusted and /or supplemented as required to meet performance criteria

Directions
Add 42,5 g of powder to 950 mL of distilled water and bring it to the boil. Distribute into suitable containers and sterilize at 121ºC for 15 minutes. To obtain Blood Agar cool to 45-50ºC and aseptically add sterile defibrinated blood a proportion of 5%.

Description
Blood Agar Base contains a balanced mixture of meat and casein peptones, making it suitable for preparing selective media and as a diagnostic medium with the addition of blood or inhibitors. The base formulation, without additives, is also an excellent general culture medium. Generally, Blood Agar base contains a casein peptone, that aids large colony formation, or a meat peptone, that provides for well defined haemolysis haloes or zones. Blood Agar Base is prepared according to the Columbia University formulation, and meets the two conditions mentioned above. Some applications for this base are:

- Agar base without either enrichment or inhibitors: This medium supports growth of normal microorganisms such as enterobacteria and more fastidous organisms such as *Pasteurella*, *Brucella* and *Clostridium perfringens*.
- *Clostridium* Selective Agar base: Should a selective *clostridium* medium be desired, add 240 mg/L sodium Azide and 180 mg/L neomycin before sterilization.
- Blood Agar: Aseptically add to the sterile medium 5% sterile defibrinated Horse/Sheep's blood when cooled to 45°C. The medium is now enriched and allows the determination of typical haemolytic reactions necessary for the identification of enterococci, streptococci, staphylococci and other microorganisms.
- Selective Gram positive cocci Blood Agar: As above add blood and simultaneously, also add 10 mg/L of colistin and 15 mg/L of nalidixic acid, to obtain an excellent selective medium for Gram positive cocci.

Note: Some authors recommend Blood Agar Base as the maintenance medium for *Campylobacter*.

Technique
Inoculate according to final purpose, samples and validated methods.

Quality control
Incubation temperature: 37°C ±1,0 **Incubation time:** 24-48 h
Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018 . Spiral Plate Methods.

Microorganism	Growth	Remarks
Staphylococcus aureus ATCC® 6538	Productivity > 0.70	ß-hemolysis
Escherichia coli ATCC® 8739	Productivity > 0.70	ß-hemolysis
Enterococcus faecalis ATCC® 19433	Productivity > 0.70	g-hemolysis
Streptococcus pneumoniae ATCC® 49619	Productivity > 0.70	a-hemolysis
Streptococcus pyogenes ATCC® 19615	Productivity > 0.70	ß-hemolysis
Streptococcus agalactiae ATCC® 12386	Productivity > 0.70	ß-hemolysis
Campylobacter jejuni ATCC® 29428	Productivity > 0.50	41,5±1ºC / microaerophilic atmosphere

References

· ATLAS, RM & LC PARKS (1993) Handbook of Microbiological Media. CRC Press. London.
· CASMAN, E. (1947) A non-infusion blood agar base for neiseriae, pneumococci and streptococci. Am. J. Clin. Path. 17:281-289.
· ELLNER, PD, CJ STOESSEL, E. DRAKEFORD, & F. VASI (1966) A new culture medium for medical bacteriology. Amer.J.Clin.Path 45:502-504.
· ISENBERG H.D. (1992) Clinical Microbiology Procedures Handbook. ASM Washington. DC. USA.
· ISO 10272-1 Standard (2017) Microbiology of the food chain - Horizontal Method for detection and enumeration of Campylobacter spp. - Part 1: Detection method.
· ISO 10272-2 Standard (2017) Microbiology of the food chain - Horizontal Method for detection and enumeration of Campylobacter spp. - Part 2:Colony count-tecnique.
. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).