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COLUMBIA BLOOD AGAR BASE TM 071

INTENDED USE

For isolation and cultivation of fastidious bacteria with or without blood

COMPOSITION

Ingredients	Gms/Ltr
Peptone special	23.000
Agar	15.000
Sodium chloride	5.000
Corn starch	1.000

PRODUCT SUMMARY AND EXPLAINATION

Columbia Blood Agar Base was developed after the Columbia Agar formulation described by Ellner et al. from Columbia University. Columbia Blood Agar Base is specified in the Compendium of Methods for the Microbiological Examination of Foods.

Columbia Blood Agar Base is used as an efficient base for the preparation of blood agar, chocolate agar and for various selective and identification media. This medium with the added special peptone supports rapid and luxuriant growth of fastidious and non-fastidious organisms.
Columbia Agar Base is used as the base for the media containing blood and for selective media formulations in which different combinations of antimicrobial agents are used as additives.

PRINCIPLE

The nitrogen, vitamin, and carbon, sources are provided by Peptone special. Corn starch serves as an energy source and also neutralizes toxic metabolites. Sodium Chloride maintains the osmotic balance of the medium. Agar is the solidifying agent. In general, blood agar bases are relatively free of reducing sugars, which have been reported to adversely influence the hemolytic reactions of β-hemolytic streptococci. Supplementation with blood (5 - 10%) provides additional growth factors for fastidious microorganisms, and aids in determining hemolytic reactions. Hemolytic patterns may vary with the source of animal blood and the type of basal medium used.

INSTRUCTIONS FOR USE

1) Dissolve 44 gm in 1000 ml of distilled water.
2) Gently heat to dissolve the medium completely.

3) Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
4) Cool to 45 - 50°C.
5) Add sterile defibrinated blood and / or other supplement as desired.

For Blood Agar: Add 5% sterile defibrinated sheep blood to the sterile cool base.

For Chocolate Agar: Add 10% sterile defibrinated sheep blood to sterile cool base. Heat to 80°C for 10 minutes with constant agitation.

For Brucella species: Add rehydrated contents of 2 vials of Brucella Selective Supplement (TS 006) to 1000 ml sterile molten base.

For Campylobacter species: Add rehydrated contents of 2 vials of Campylobacter Supplement- I (Blaser-Wang) (TS 007) or Campylobacter Supplement- II, (Butzler) (TS 008) or Campylobacter Supplement- III (Skirrow) (TS 009) or Campylobacter Selective Supplement (TS 026) or Campylobacter Supplement- VI (Butzler) (TS 027) to 1000 ml sterile molten base along with rehydrated contents of 2 vials of Campylobacter Growth Supplement (TS 010) and 5-7% v/v horse or sheep blood.

For Gardnerella species: Add rehydrated contents of 2 vials of G.Vaginalis Selective Supplement (TS 025) to 1000 ml sterile molten base.

For Cocci: Add rehydrated contents of 2 vials of Staph-Strepto Supplement (TS 089) or Strepto Supplement (TS 011) to 1000 ml sterile molten base.

QUALITY CONTROL SPECIFICATIONS

Appearance Dehydrated powder: Cream to yellow colour, homogeneous free flowing powder
Appearance of the prepared medium:
Basal medium: Light amber colour, clear to slightly opalescent gel.
After addition of 5%w/v sterile defibrinated blood: Cherry red colour, opaque gel
pH (at 25°C): 7.3 ± 0.2.

INTERPRETATION

Cultural characteristics observed with added 5% w/v sterile defibrinated blood, after incubation at 35-37°C for 24-48 hours

Microorganisms	ATCC	*Inoculum (CFU)	Growth W/ blood	Haemolysis	Standard recovery (%)
Columbia Agar Base					
Staphylococcus aureus	25923	50-100	Luxuriant	Beta	≥ 70%
Streptococcus pyogenes	19615	50-100	Good, whitish colonies	Beta	≥ 70%
Streptococcus pneumoniae	6303	50-100	Luxuriant	Alpha	≥ 70%

Brucella selective supplement (TS 006)					
Brucella abortus	4315	50-100	Good, whitish-yellow	Beta	≥ 70%
Campylobacter supplement - I (Blaser-Wang) (TS 007) Or **Campylobacter supplement - II (Butzler) (TS 008)**					
Campylobacter jejuni	33291	50-100	Good, grey – brown colonies	None	≥ 70%
G. vaginalis selective supplement (TS 025)					
Gardnerella vaginalis	14018	50-100	Good, grey – white colonies	None	≥ 70%

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

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NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.