COLUMBIA CNA AGAR w/ 5% SHEEP BLOOD w/ ANTIBIOTICS

INTENDED USE
Remel Columbia CNA Agar w/ 5% Sheep Blood w/ Antibiotics is a solid medium recommended for use in qualitative procedures for primary, selective isolation of gram-positive cocci.

SUMMARY AND EXPLANATION
Columbia Agar Base was first described by Ellner et al. in 1966 for the isolation of fastidious and nonfastidious organisms from clinical specimens.[1] Colistin and nalidixic acid were incorporated in the base to produce a selective medium for isolating gram-positive organisms (e.g., streptococci, staphylococci) from specimens containing mixed flora. Gentamicin, vancomycin, and amphotericin B are antibiotics added to enhance the selectivity of this medium.

PRINCIPLE
Casein and meat peptones provide essential growth factors such as nitrogen, carbon, vitamins, and trace elements necessary for bacterial growth. Beef extract and corn starch serve as energy sources and yeast extract supplies B-complex vitamins. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. Sheep blood provides the X factor (hemin) necessary for the growth of many bacteria and enables the demonstration of hemolytic activity. Colistin and nalidixic acid are selective agents which inhibit the growth of most gram-negative bacilli. Gentamicin and vancomycin are also selective agents which inhibit gram-negative bacilli and amphotericin B inhibits the growth of yeast. Agar is a solidifying agent.

REAGENTS (CLASSICAL FORMULA)*

Casein Peptone	12.0	g	Nalidixic Acid	10.0	mg
Meat Peptone	5.0	g	Vancomycin	10.0	µg
Sodium Chloride	5.0	g	Gentamicin	5.0	µg
Beef Extract	3.0	g	Amphotericin B	1.0	µg
Yeast Extract	3.0	g	Sheep Blood	5	%
Corn Starch	1.0	g	Agar	13.5	g
Colistin	10.0	mg	Demineralized Water	1000.0	ml

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE
1. Inoculate and streak the specimen as soon as possible after it is received in the laboratory. Selective and nonselective media should be inoculated for recovery of microorganisms that may be inhibited on selective agar.
2. If material is being cultured directly from a swab, roll the swab over a small area of the agar surface and streak for isolation.
3. Incubate in ambient air or in 5-10% CO_2 at 33-37°C for up to 48 hours.
4. Examine plate for typical colony morphology and hemolytic reactions.

QUALITY CONTROL
All lot numbers of Columbia CNA Agar w/ 5% Sheep Blood w/ Antibiotics have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	INCUBATION	RESULTS
Enterococcus faecalis ATCC® 51299	Ambient, 48 h @ 33-37°C	Growth
Candida albicans ATCC® 10231	Ambient, 48 h @ 33-37°C	No growth
Enterococcus faecalis ATCC® 29212	Ambient, 48 h @ 33-37°C	No growth
Proteus mirabilis ATCC® 12453	Ambient, 48 h @ 33-37°C	No growth
Pseudomonas aeruginosa ATCC® 27853	Ambient, 48 h @ 33-37°C	No growth

LIMITATIONS
1. Organisms isolated on this medium should be Gram stained and require additional testing for definitive identification. Consult appropriate references for further instruction.[2-4]

BIBLIOGRAPHY

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4. Versalovic, J., K.C. Carroll, G. Funke, J.H. Jorgensen, M.L. Landry, and D.W. Warnock. 2011. Manual of Clinical Microbiology. 10th ed. ASM Press, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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