COLUMBIA CNA AGAR w/ 5% SHEEP BLOOD

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

SUMMARY AND EXPLANATION
Columbia Agar Base was first described by Ellner, Stoessel, Drakeford, and Vasi in 1966 as an improved blood agar base.[1] It was found to be capable of growing fastidious and nonfastidious organisms from clinical specimens. Ellner et al. incorporated colistin and nalidixic acid in the base to produce a selective medium for isolating gram-positive organisms (e.g., streptococci, staphylococci) from specimens containing mixed flora.[2]

PRINCIPLE
Peptones in this medium 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. 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.

REAGENTS (CLASSICAL FORMULA)*

Casein Peptone	12.0	g	Corn Starch	1.0	g
Meat Peptone	5.0	g	Colistin	10.0	mg
Sodium Chloride	5.0	g	Nalidixic Acid	10.0	mg
Beef Extract	3.0	g	Sheep Blood	5	%
Yeast Extract	3.0	g	Agar	13.5	g
			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.
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 18-24 hours.
4. Examine plate for typical colony morphology and hemolytic reactions.

QUALITY CONTROL
All lot numbers of Columbia CNA Agar w/ 5% Sheep Blood have been tested using the following quality control organisms and have been found to be acceptable. This quality control testing meets or exceeds CLSI standards.[3] 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® 29212	CO_2, 18-24 h @ 33-37°C	Growth
**Staphylococcus aureus* ATCC® 25923	CO_2, 18-24 h @ 33-37°C	Growth
**Streptococcus pneumoniae* ATCC® 6305	CO_2, 18-24 h @ 33-37°C	Growth, alpha hemolysis
**Streptococcus pyogenes* ATCC® 19615	CO_2, 18-24 h @ 33-37°C	Growth, beta hemolysis
Escherichia coli ATCC® 25922	CO_2, 18-24 h @ 33-37°C	Inhibition (partial to complete)
**Proteus mirabilis* ATCC® 12453	CO_2, 18-24 h @ 33-37°C	Inhibition (partial to complete)
Pseudomonas aeruginosa ATCC® 27853	CO_2, 18-24 h @ 33-37°C	Inhibition (partial to complete)

*CLSI recommended organism

BIBLIOGRAPHY

1. Ellner, P.D., C.I. Stoessel, E. Drakeford, and F. Vasi. 1966. Am. J. Clin. Pathol. 45:502.
2. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.L. Landry, and M.A. Pfaller. 2007. Manual of Clinical Microbiology. 9th ed. ASM Press, Washington, D.C.
3. Clinical and Laboratory Standards Institute (CLSI). 2004. Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard, 3rd ed. M22-A3. CLSI, Wayne, PA.

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.

IFU 1320, Revised October 27, 2011

Printed in U.S.A.

remel

12076 Santa Fe Drive, Lenexa, KS 66215, USA
General Information: (800) 255-6730 Website: www.remel.com Email: remel@remel.com
Local/International Phone: (913) 888-0939 International Fax: (913) 895-4128