

PRODUCT INFORMATION

Product Type: PETRI DISHES 90mm

Cat No. PD093 - CNA COLUMBIA AGAR

Intended Use:

Columbia CNA Agar supplemented with 5% sheep blood, is a selective and differential media used for the isolation and differentiation of gram-positive microorganisms from clinical and nonclinical materials.

Principle and Uses:

Selective blood agar medium containing colistin and nalidixic acid to suppress Gram-negative bacteria, make it highly selective for Gram positive-cocci, *Staphylococci* and *Streptococci*, particularly when Gram negative bacilli (e.g. *Proteus*) are present and tend to overgrow on conventional blood agar plates. The medium enriched with 5% sheep blood for the growth and hemolytic differentiation of Gram-positive cocci.

CNA Columbia + Blood derive its superior growth-supporting properties from the combination of peptones prepared from pancreatic digest of casein, peptic digest of animal tissue and beef extract. Yeast extract and corn starch are also included in the formulation and serve as energy sources, with yeast extract being a supplier of the B-complex vitamins. Sheep blood supports the growth of fastidious organisms and allows detection of hemolytic reactions. It should be noted that this medium has a relatively high carbohydrate content and, therefore, beta-hemolytic streptococci may produce a greenish hemolytic reaction that may be mistaken for alpha hemolysis.

The addition of the antimicrobial agents, colistin (or polymyxin B) and nalidixic acid, renders the medium selective for gram-positive microorganisms. Colistin and polymyxin B disrupt the cell membrane of gram-negative organisms, whereas the nalidixic acid blocks DNA replication in susceptible gram-negative bacteria.

Instructions for use

1. Allow the medium in the plate to dry before use.
2. Observe aseptic techniques.
3. Streak the specimen as soon as possible after receiving. Alternatively, if material is being cultured directly from swab, roll the swab over a small area of the surface at the edge and streak from this inoculated area.
4. Incubate plates in :5% CO₂ conditions for 24 hours at 35±2° C

Expected Results

Typical colonial morphology on Colombia CNA Agar with 5% Sheep Blood is as follows:

<i>Streptococcus pyogenes</i> group A	Small, white to grayish. Beta hemolysis.
<i>Streptococci</i> (non-group) D	Small, white to grayish. Beta or alpha hemolysis.
<i>Enterococci</i> (group D)	Small, but larger than <i>group A streptococci</i> , blue-gray. Beta or alpha hemolysis.
<i>Staphylococci</i>	Large, white to gray or cream to yellow, with or without hemolysis.
Micrococci	Large, white to gray or yellow to orange, with or without hemolysis.
<i>Corynebacteria</i>	Small to large, white to gray or yellow, with or without hemolysis.
<i>Candida</i>	Small, white.
<i>Listeria monocytogenes</i>	Small to large, blue-gray, with beta hemolysis.
Gram-negative bacteria	No growth to trace growth.

Composition

Pancreatic Digest of Casein - 12.0 g/L
Peptic Digest of Animal Tissue - 5.0 g/L
Yeast Extract - 3.0 g/L
Beef Extract - 3.0 g/L
Corn Starch - 1.0 g/L
Sodium Chloride - 5.0 g/L
Agar - 13.5 g/L
Colistin - 10.0 mg/L
Nalidixic Acid - 10.0 mg/L
Sheep Blood – 50 ml/L

Storage: 2-8°C

Appearance: Cherry-red, opaque

pH Range: 7.1 - 7.5

Package contents: 10 plates in a package

Exp. Date: Printed on label and on the item.

Required materials not supplied: Laboratory equipment as required.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Waste Disposal

After interpretation all plates should be destroyed by standard incineration methods.

Performance Testing Results

GPT: Inoculum 10-100 cfu.

Inhibitory properties: Inoculum 10000 cfu.

Test	ATCC	Incubation Temp. (°C)	Incubation Cond	Reaction 1	
<i>Staphylococcus aureus</i>	25923	33-37 °C	5% CO ₂ , 24 hours	Growth	Beta hemolytic reaction
<i>Streptococcus pyogenes group A</i>	19615	33-37 °C	5% CO ₂ , 24 hours	Growth	Beta hemolytic reaction
<i>Streptococcus pneumoniae</i>	49619	33-37 °C	5% CO ₂ , 24 hours	Growth	Alpha hemolytic reaction
<i>Escherichia coli</i>	25922	33-37 °C	5% CO ₂ , 24 hours	Partially inhibited	
<i>Proteus mirabilis</i>	4630	33-37 °C	5% CO ₂ , 24 hours	Partially inhibited	
<i>Pseudomonas aeruginosa</i>	27853	33-37 °C	5% CO ₂ , 24 hours	Inhibited	

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