

MEDIUM PURPOSE

Chromogenic medium for detection and isolation of Carbapenemase-producing Enterobacteriaceae (CPE)

COMPOSITION

The product is composed of a powder base (B) and 2 supplements (S1 + S2).

Product	=	Base (B)	+	Supplement (S1)	+	Supplement (S2)
Total		42.5 g/L		2 ml/L		0.25 g/L
Composition		Agar 15.0 Peptones 20.0 Salt 5.0 Chromogenic and selective mix 0.8 Growth factors 1.7		Growth factors mix		Selective mix 0.25
Aspect		Powder Form		Liquid Form		Powder Form
STORAGE		15-30 °C		15-30 °C		2-8 °C
FINAL MEDIA pH		7.2 +/- 0.2				

PREPARATION (Calculation for 1 L)

Step 1

Preparation of
Base + S1

- Disperse slowly 42.5 g of powder base in 1 L of purified water.
- Add 2ml of CHROMagar™ mSuperCARBA™ supplement S1 into slurry.
- Stir until the agar is well thickened.
- Heat and bring to boiling (100 °C) while swirling or stirring regularly. DO NOT HEAT TO MORE THAN 100 °C. DO NOT AUTOCLAVE AT 121 °C.

Warning 1: If using an autoclave, do so without pressure.

Advice 1: For the 100 °C heating step, mixture may also be brought to a boil in a microwave oven: after initial boiling, remove from oven, stir gently, then return to oven for short repeated bursts of heating until complete fusion of the agar grains has taken place (large bubbles replacing foam).

- Cool in a water bath to 45-50 °C, swirling or stirring gently to homogenize.

Step 2

Preparation of
S2

- In a transparent vessel, add 250 mg of CHROMagar™ mSuperCARBA™ supplement S2 in 2 ml of purified water.
- Swirl well until complete dissolution.
- Filter to sterilize at 0.45 µm.

Final Media	HELPING CALCULATION
1 L	250 mg in 2 ml
5 L	1.25 g in 10 ml
25L	6.25 g in 50 ml

Step 3

Base + S1 + S2

- Add the 2 ml of the supplement solution (S2) to the melted base (Step1) at 45-50 °C.
- Swirl or stir gently to homogenize.

Step 4

Pouring

- Pour into sterile Petri dishes.
- Let it solidify and dry.

Storage

- Store in the dark before use.
- Prepared media plates can be kept for one day at room temperature.
- Plates can be stored for up to 1 month under refrigeration (2/8 °C) if properly prepared and protected from light and dehydration.

INOCULATION

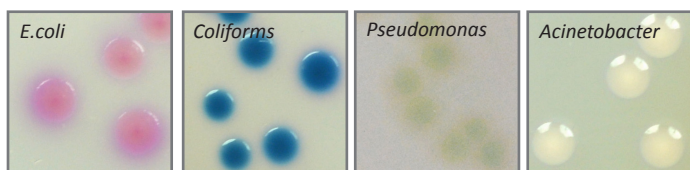
Related samples can be processed by direct streaking on the plate.

- If the agar plate has been refrigerated, allow to warm to room temperature before inoculation.
- Streak sample onto plate.
- Incubate in aerobic conditions at 37 °C for 18-24 hours.

INTERPRETATION

Microorganism	Typical colony appearance
CPE <i>E.coli</i>	→ dark pink to reddish
CPE Coliforms	→ metallic blue
CPE <i>Pseudomonas</i>	→ translucent, +/- natural pigmentation cream to green
CPE <i>Acinetobacter</i>	→ cream
Other Gram negative CPE	→ colourless, natural pigmentation
Non-CPE <i>E.coli</i> / Coliforms	→ inhibited
Other Gram negative non-CPE	→ inhibited
Gram positive	→ inhibited

Typical colony appearance



The pictures shown are not contractual.

PERFORMANCE & LIMITATIONS

- Species final identification may require additional testing such as biochemical tests.
- CPE characterization can be done using methods based on the detection of the acidification resulting from imipenem hydrolysis or by susceptibility testing methods, directly from CHROMagar™ mSuperCARBA™.
- Some strains with multidrug resistance or with a decrease in membrane permeability may grow.
- Some strains showing a low level of carbapenem resistance may have an irregular to poor growth.

QUALITY CONTROL

Please perform Quality Control according to the use of the medium and the local QC regulations and norms.
Good preparation of the medium can be tested, isolating the reference strains below:

Microorganism	Typical colony appearance
<i>E.coli</i> IMP NCTC 13476	→ dark pink to reddish
<i>K.pneumoniae</i> KPC ATCC® BAA 1705	→ metallic blue
<i>E.faecalis</i> ATCC® 29212	→ inhibited
<i>K.pneumoniae</i> ESBL ATCC® 700603	→ inhibited

WARNINGS

- Do not use plates if they show any evidence of contamination or any sign of deterioration.
- Do not use the product beyond its expiry date or if product shows any evidence of contamination or any sign of deterioration.
- For Research Use Only. Not for use in Diagnostic Procedure. Performance has not been established. This laboratory product should be used only by trained personnel in compliance with good laboratory practices.
- Any change or modification in the procedure may affect the results.
- Any change or modification of the required storage temperature may affect the performance of the product.
- Unappropriate storage may affect the shelf life of the product.
- Recap the bottles/vials tightly after each preparation and keep them in a low humidity environment, protected from moisture and light.
- For a good microbial detection: collection and transport of specimen should be well handled and adapted to the particular specimen according to good laboratory practices.

DISPOSAL OF WASTE

After use, all plates and any other contaminated materials must be sterilized or disposed of by appropriate internal procedures and in accordance with local legislations. Plates can be destroyed by autoclaving at 121°C for at least 20 minutes.

REFERENCES

Please contact DRG for further information.

IFU/LABEL INDEX

- Quantity of powder sufficient for X liters of media
- Expiry date
- Required storage temperature
- Store away from humidity

Pack Size	Ordering References	Base (B)	Supplement (S1)	Supplement (S2)
5000 ml 250 Tests of 20ml	SC172	SC172(B) Weight: 212.5 g	SC172(S1) Volume: 10 ml	SC172(S2) Weight: 1.25 g
25 L 1250 Tests of 20ml	SC173-25	SC173-25(B) Weight: 1062.5 g	SC173-25(S1) Volume: 50 ml	SC173-25(S2) Weight: 6.25 g

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NT-EXT-090 V1.0 / 26-Nov-15