



Biokar Diagnostics Interpretation Booklet



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ALTERNATIVES METHODS

COMPASS® *BACILLUS PLUS* AGAR

NOTE

Some strains of *B. cereus* produce little or no lecithinase and therefore don't have a precipitation halo.

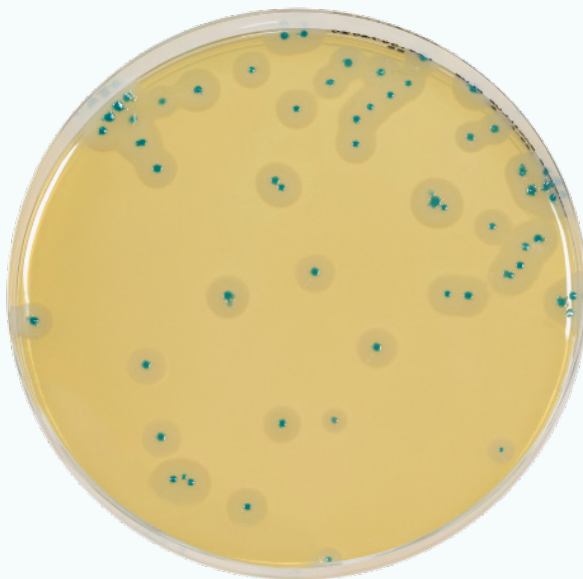


Microorganisms:

Bacillus cereus: blue-green colonies with an opaque halo

Incubation:

24h at 30°C



Microorganisms:

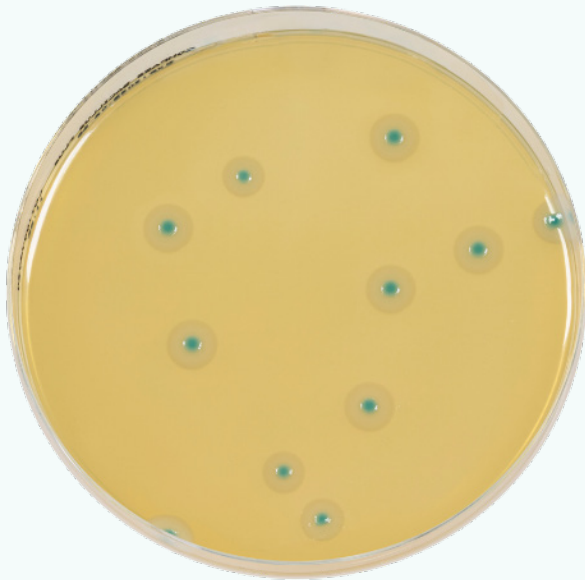
Bacillus cereus cytotoxicus: blue-green colonies with an opaque halo

Incubation:

24h at 30°C

ALTERNATIVES METHODS

COMPASS® *BACILLUS PLUS* AGAR

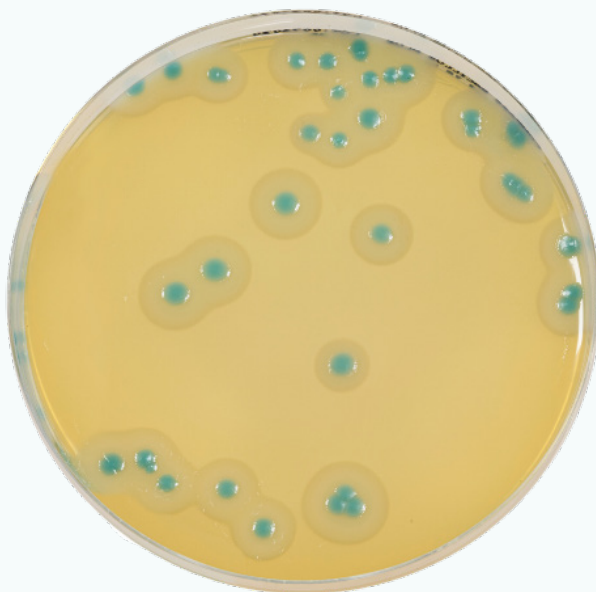


Microorganisms:

Bacillus weihenstephanensis: blue-green colonies with an opaque halo

Incubation:

24h at 30°C



Microorganisms:

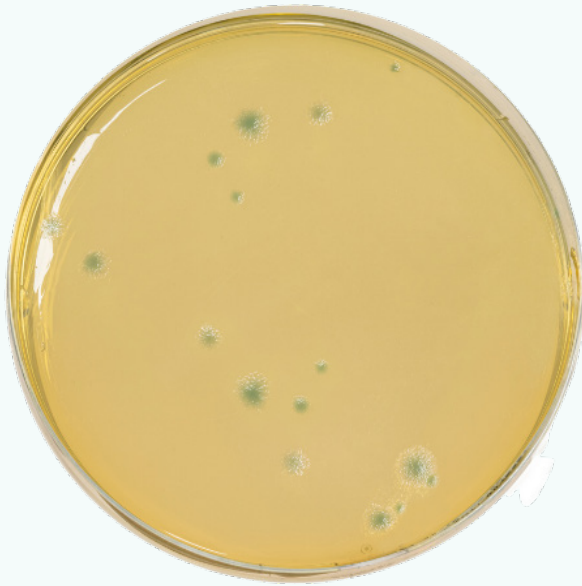
Bacillus thuringiensis: blue-green colonies with an opaque halo

Incubation:

24h at 30°C

ALTERNATIVES METHODS

COMPASS® *BACILLUS PLUS* AGAR

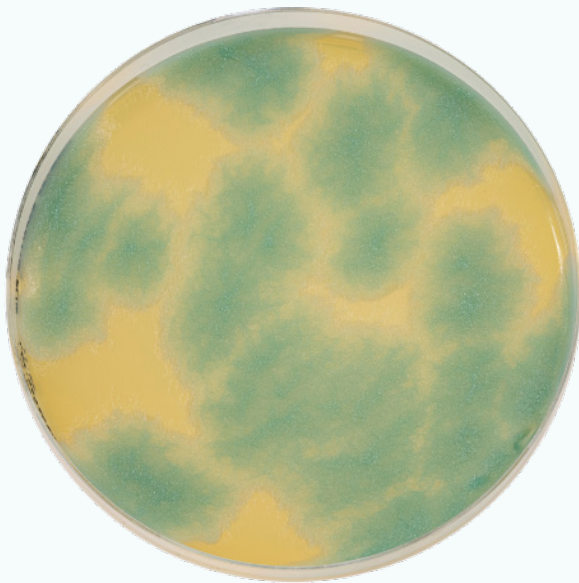


Microorganisms:

Bacillus mycooides: blue-green colonies

Incubation:

24h at 30°C



Microorganisms:

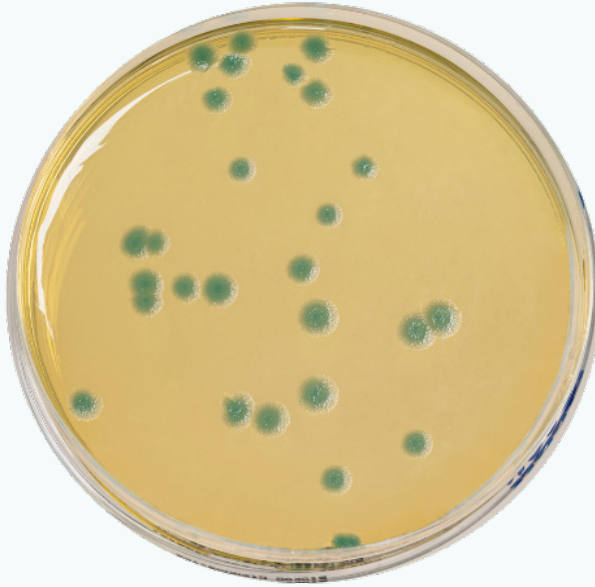
Bacillus pseudomycooides:
blue-green colonies

Incubation:

24h at 30°C

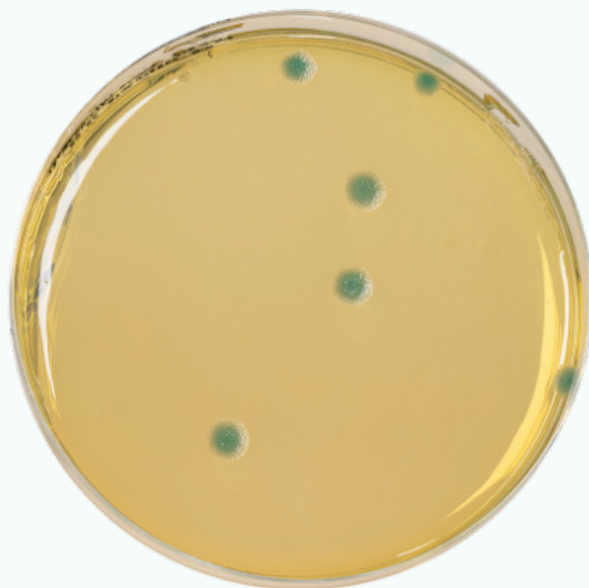
ALTERNATIVES METHODS

COMPASS® *BACILLUS CEREUS* AGAR



Microorganisms:
Bacillus cereus: blue-green colonies

Incubation:
24h at 30°C



Microorganisms:
Bacillus mycoides: blue-green colonies

Incubation:
24h at 30°C

ALTERNATIVES METHODS

COMPASS® cc AGAR

NOTE

Reading can be performed through the back of the plates.

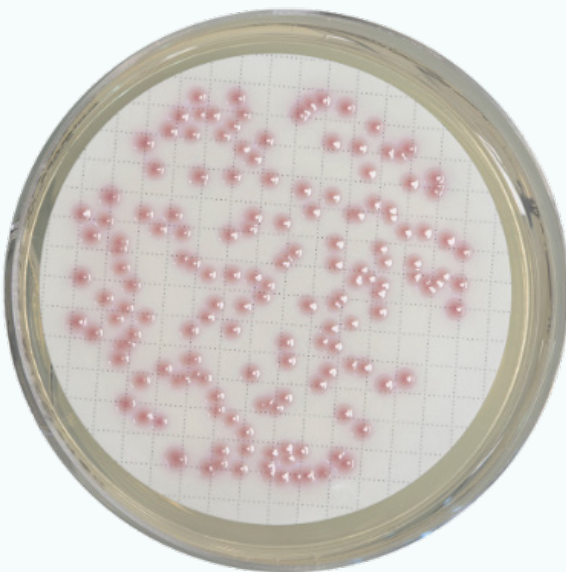


Microorganisms:

Citrobacter freundii: pink colonies

Incubation:

24h at 36 °C



Microorganisms:

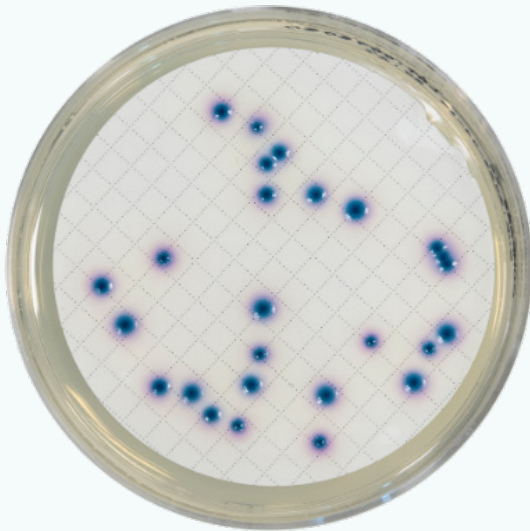
Enterobacter aerogenes: pink colonies

Incubation:

24h at 36 °C

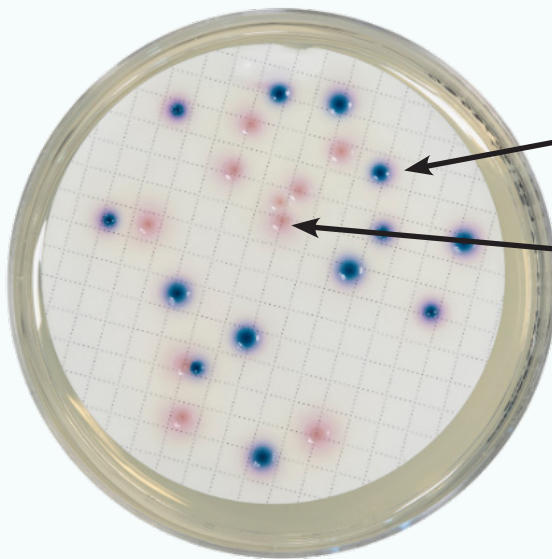
ALTERNATIVES METHODS

COMPASS® cc AGAR



Microorganisms:
Escherichia coli: blue-violet colonies

Incubation:
24h at 36 °C



Microorganisms:
Escherichia coli: blue-violet colonies

Citrobacter freundii: pink colonies

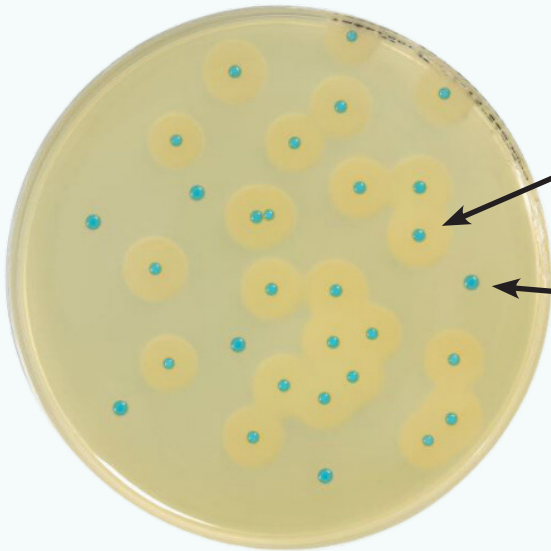
Incubation:
24h at 36 °C

ALTERNATIVES METHODS

COMPASS® *LISTERIA* AGAR: Detection

NOTE

Listeria ivanovii is rarely present in food and is mainly pathogen for animals.



Microorganisms:

Listeria monocytogenes: blue-green colonies surrounded by an opaque halo

Listeria innocua: blue-green colonies without halo

Incubation:

22h at 37°C

NOTE

The size of the *L. ivanovii* halos at 22h is smaller than *L. monocytogenes*.



Microorganisms:

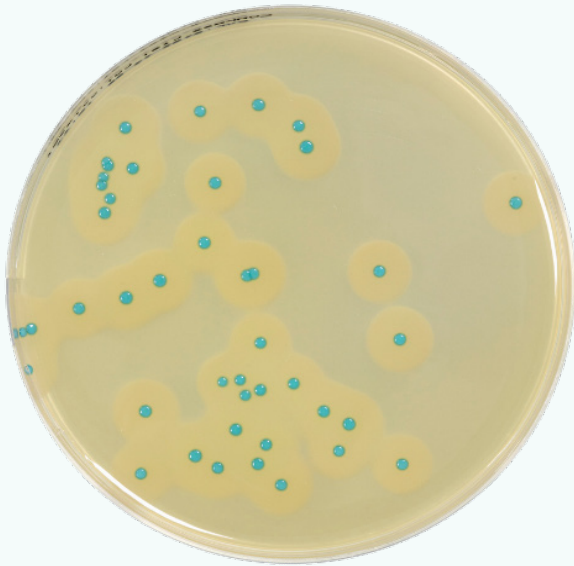
Listeria welshimeri: blue-green colonies without halo

Incubation:

22h at 37°C

ALTERNATIVES METHODS

COMPASS® *LISTERIA* AGAR: Enumeration



Microorganisms:

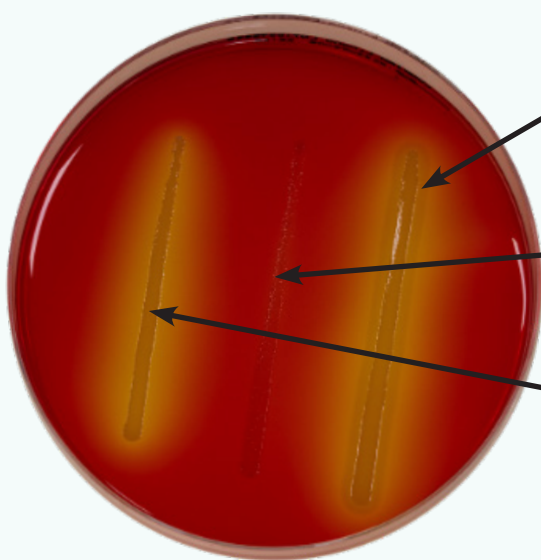
Listeria monocytogenes: blue-green colonies surrounded by an opaque halo

Incubation:

48h at 37°C

CLASSICAL METHODS

CONFIRM L'MONO AGAR®



Microorganisms:

Listeria monocytogenes: yellow discoloration of the agar surrounded by an opaque halo

Listeria ivanovii: inhibited and no discoloration of the agar, no opaque halo

Listeria innocua: yellow discoloration of the agar but without opaque halo

Incubation:

24h at 37°C

NOTE

Strains of *Listeria ivanovii* are normally partially inhibited on CONFIRM® L. mono Agar®, which can be manifested in an absence of growth when struck on the plate. However, sometimes, an opaque halo can appear due to the presence of the active enzymes present on the cells placed on the surface of the agar.

ALTERNATIVES METHODS

CSD METHOD® - CCI AGAR

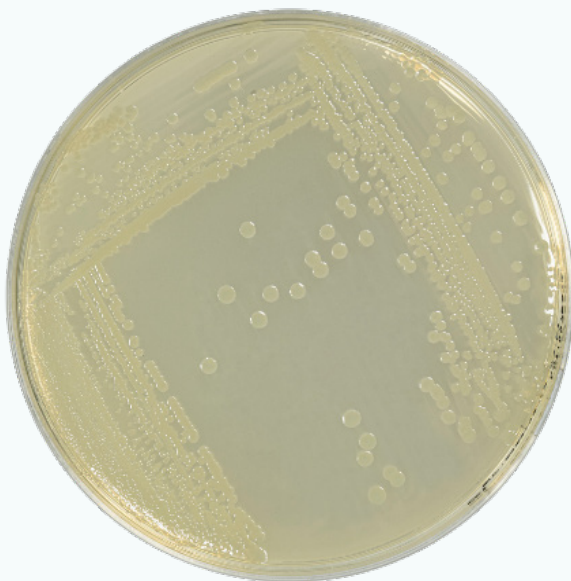


Microorganisms:

Cronobacter sakazakii: blue-green colonies

Incubation:

24h at 41.5°C



Microorganisms:

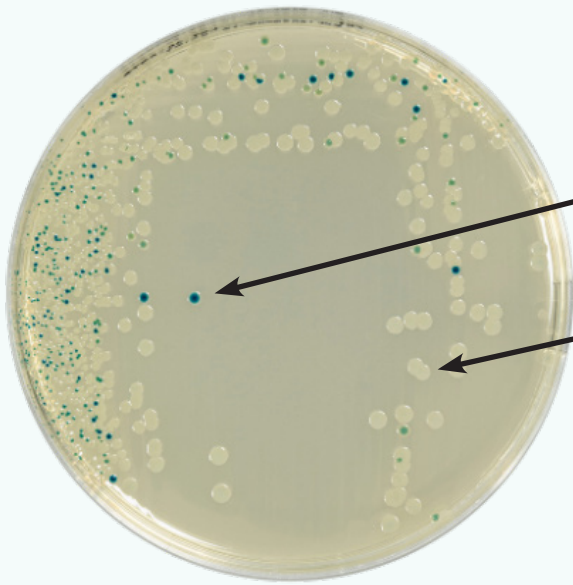
Enterobacter cloacae: white colonies

Incubation:

24h at 41.5°C

ALTERNATIVES METHODS

CSD METHOD® - CCI AGAR



Microorganisms:

Cronobacter sakazakii: blue-green colonies

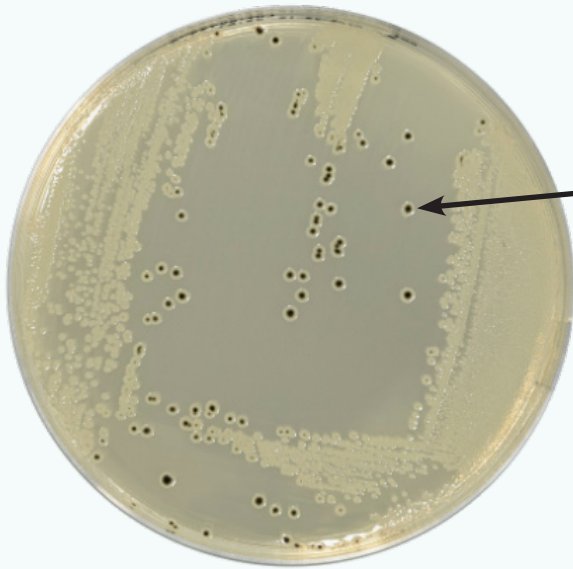
Enterobacter cloacae : White colonies

Incubation:

24h at 41.5°C

ALTERNATIVES METHODS

CSD METHOD® - CCI AGAR

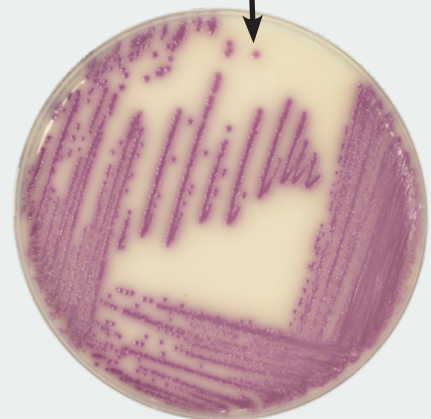


Microorganisms:
Salmonella Typhimurium:
black colonies

Incubation:
24h at 41.5°C

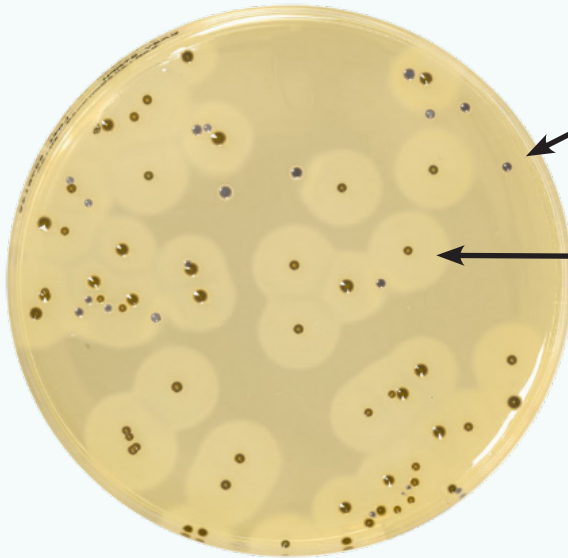
NOTE

As a reminder, the CSD method® uses a common enrichment broth with the CSD supplement to detect *Cronobacter* spp. on CCI and *Salmonella* spp. on an IRIS *Salmonella*®.



ALTERNATIVES METHODS

EASY STAPH® - Surface inoculation



Microorganisms:

Staphylococcus epidermidis:
black colonies without opaque halo

Staphylococcus aureus:
characteristic colonies
surrounded by a halo of fibrin

Incubation:

24h at 37°C



Microorganisms:

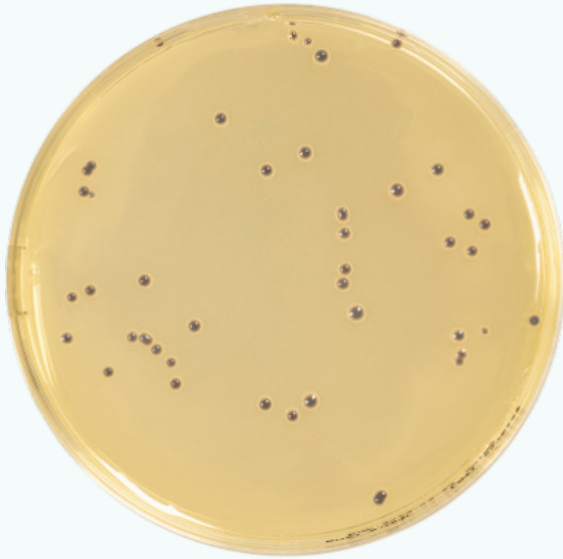
Staphylococcus aureus:
characteristic colonies
surrounded by a halo of fibrin

Incubation:

24h at 37°C

ALTERNATIVES METHODS

EASY STAPH® - Surface inoculation



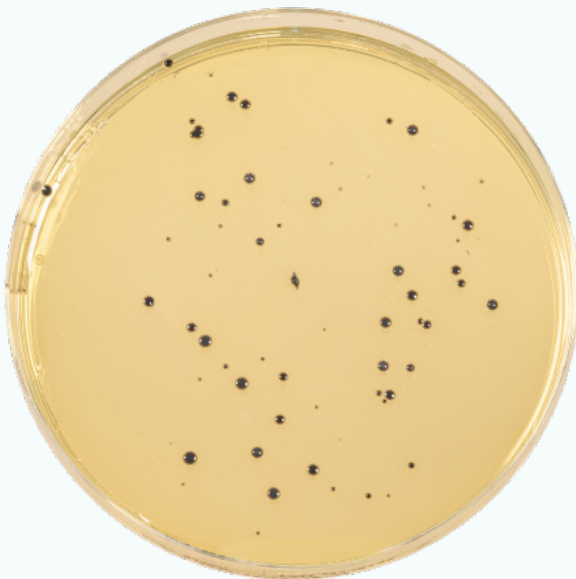
Microorganisms:

Staphylococcus saprophyticus:
black colonies without opaque halo

Incubation:

24h at 37°C

NOTE The colony edge is not considered as halo.



Microorganisms:

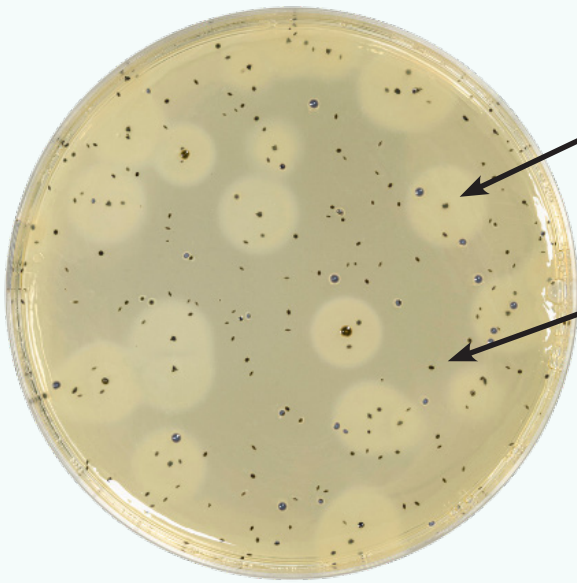
Staphylococcus epidermidis:
black colonies without opaque halo

Incubation:

24h at 37°C

ALTERNATIVES METHODS

EASY STAPH® - Pour plate inoculation



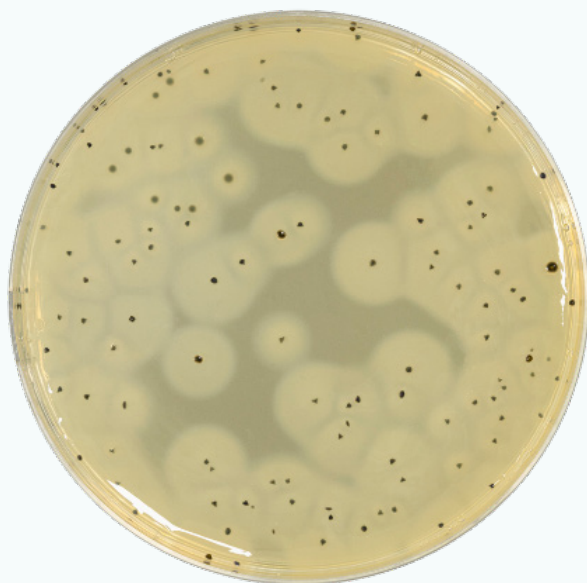
Microorganisms:

Staphylococcus aureus:
characteristic colonies
surrounded by a halo of fibrin

Staphylococcus epidermidis:
black colonies without opaque
halo

Incubation:

24h at 37°C



Microorganisms:

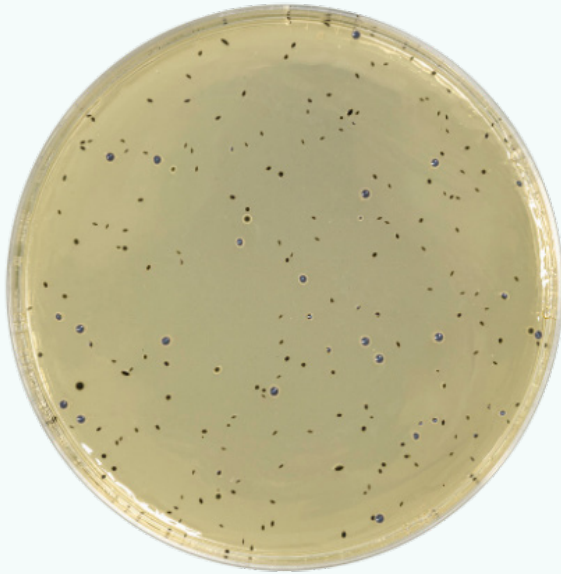
Staphylococcus aureus:
characteristic colonies
surrounded by a halo of fibrin

Incubation:

24h at 37°C

ALTERNATIVES METHODS

EASY STAPH® - Pour plate inoculation



Microorganisms :

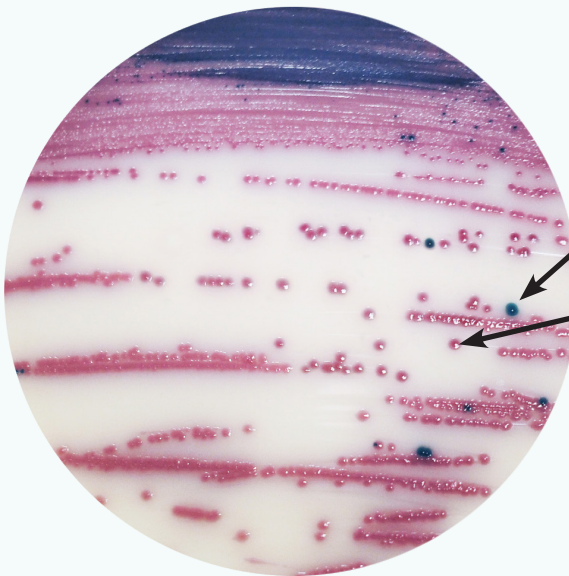
Staphylococcus epidermidis:
black colonies without opaque
halo

Incubation:

24h at 37°C

ALTERNATIVES METHODS

IRIS SALMONELLA®



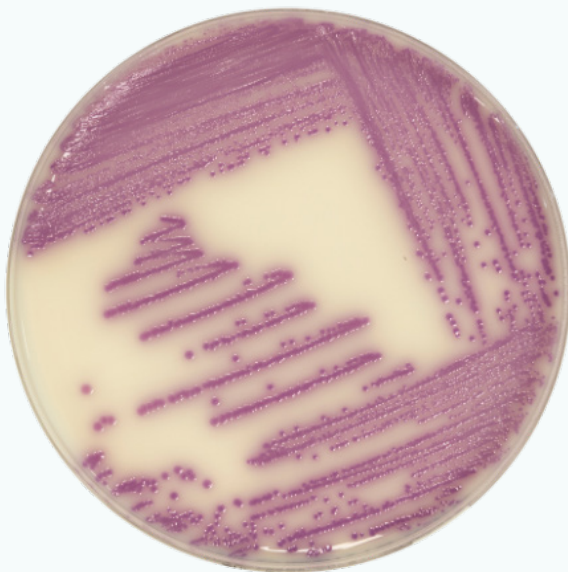
Microorganisms:

Enterobacter aerogenes: blue colonies

Salmonella Typhimurium: magenta colonies

Incubation:

24h at 37 °C



Microorganisms:

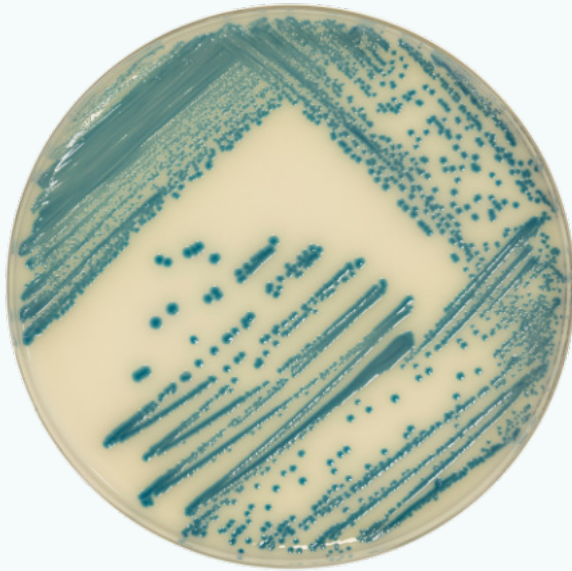
Salmonella Typhimurium: magenta colonies

Incubation:

24h at 37°C

ALTERNATIVES METHODS

IRIS SALMONELLA®



Microorganisms:

Enterobacter aerogenes: blue colonies

Incubation:

24h at 37°C

ALTERNATIVES METHODS

RHAPSODY AGAR®

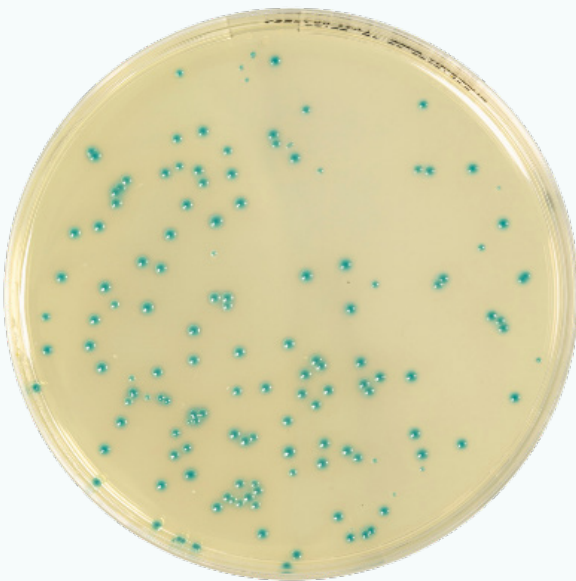


Microorganisms:

Pseudomonas aeruginosa: pale blue to blue-green colonies

Incubation:

48h at 30 °C



Microorganisms:

Pseudomonas fluorescens: pale blue to blue-green colonies

Incubation:

48h at 30 °C

ALTERNATIVES METHODS

SYMPHONY AGAR®



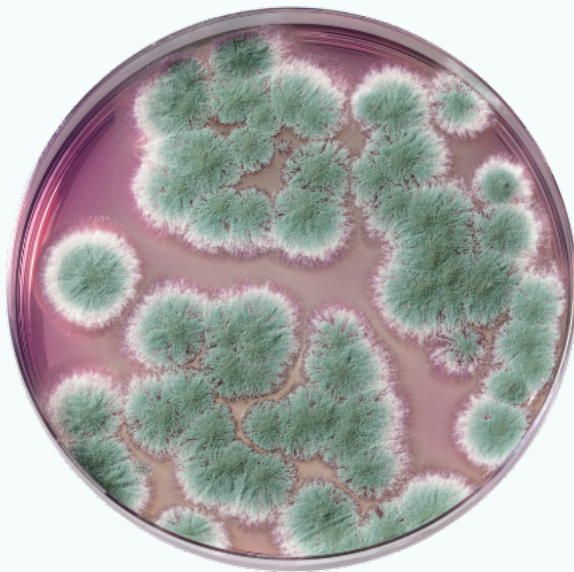
Microorganisms:

Penicillium roqueforti: green molds

Saccharomyces cerevisiae: yeasts

Incubation:

3 days at 25°C



Microorganisms:

Penicillium roqueforti: green molds

Incubation:

3 days at 25°C

ALTERNATIVES METHODS

SYMPHONY AGAR®



Microorganisms:

Saccharomyces cerevisiae: yeasts

Incubation:

3 days at 25°C



Microorganisms:

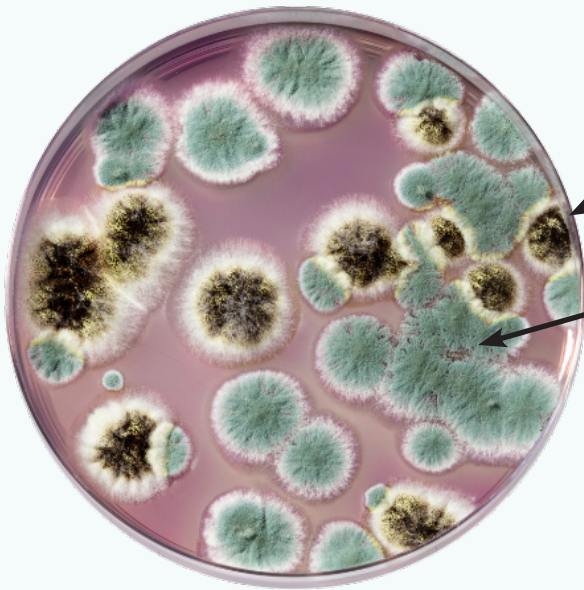
Aspergillus brasiliensis: black molds

Incubation:

3 days at 25°C

ALTERNATIVES METHODS

SYMPHONY AGAR®



Microorganisms:

Aspergillus brasiliensis: black molds

Penicillium roqueforti: green molds

Incubation:

3 days at 25°C



Microorganisms:

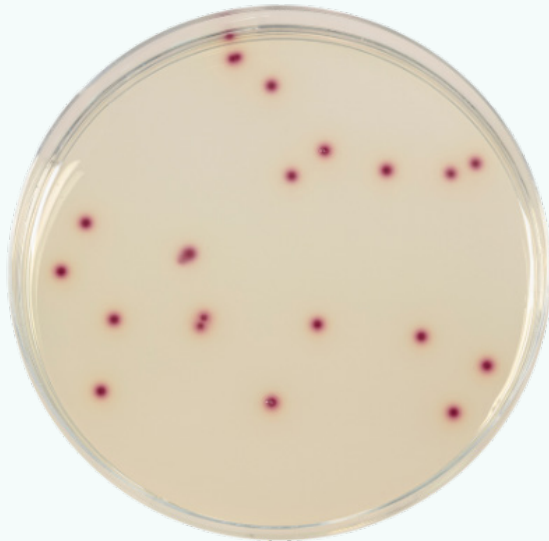
Aspergillus flavus: white molds

Incubation:

3 days at 25°C

RAPID CHROMOGENIC METHODS

COMPASS® ECC AGAR

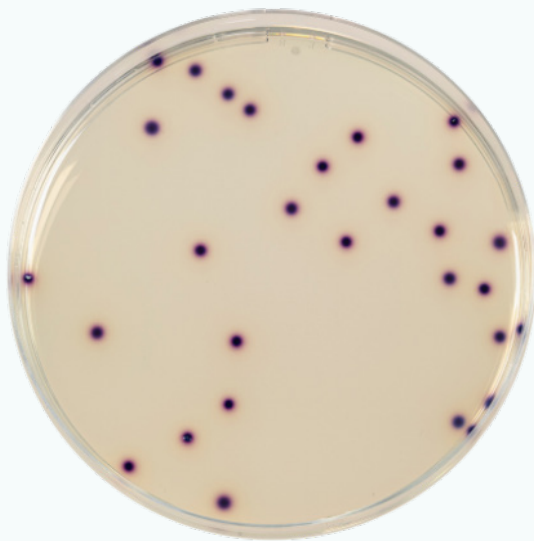


Microorganisms:

Citrobacter freundii: pink colonies

Incubation:

24h at 37 °C



Microorganisms:

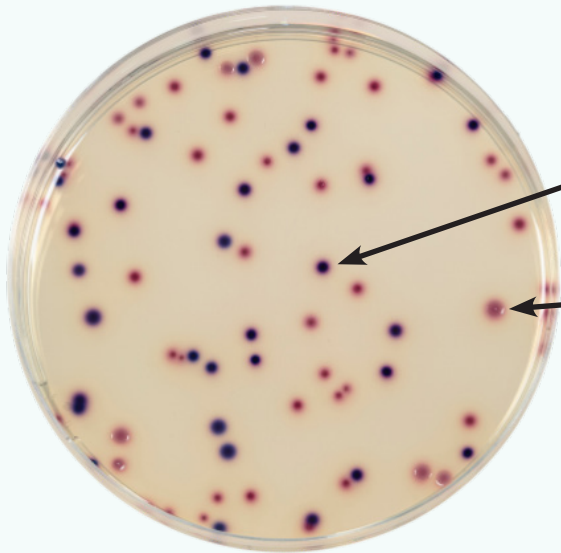
Escherichia coli: blue-violet color with sometimes a diffuse pink halo around the colonies

Incubation:

24h at 37 °C

RAPID CHROMOGENIC METHODS

COMPASS® ECC AGAR



Microorganisms:

Escherichia coli: blue-violet colonies

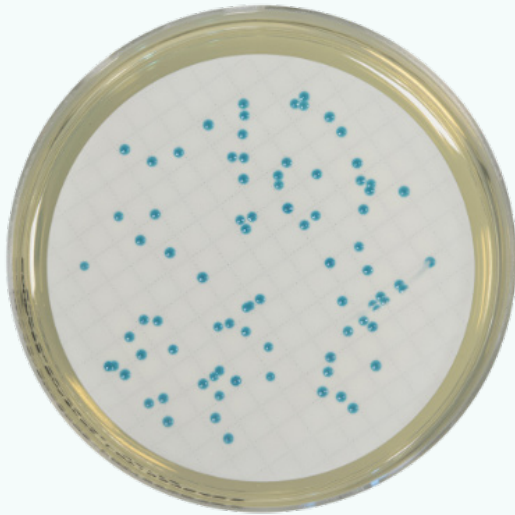
Citrobacter freundii: pink colonies

Incubation:

24h at 37 °C

RAPID CHROMOGENIC METHODS

COMPASS® *ENTEROCOCCUS* AGAR



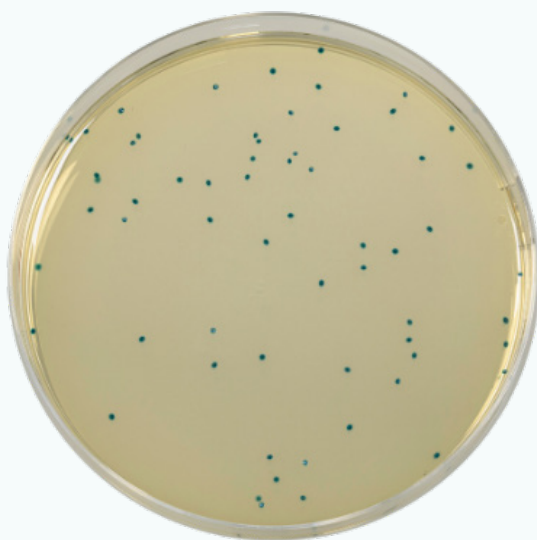
Microorganisms:

Enterococcus faecalis: blue colonies

Incubation:

24h at 44 °C

Through membrane



Microorganisms:

Enterococcus faecalis: blue colonies

Incubation:

24h at 44 °C

CLASSICAL METHODS

***BACILLUS CEREUS* AGAR (ACC. TO MOSSEL)**

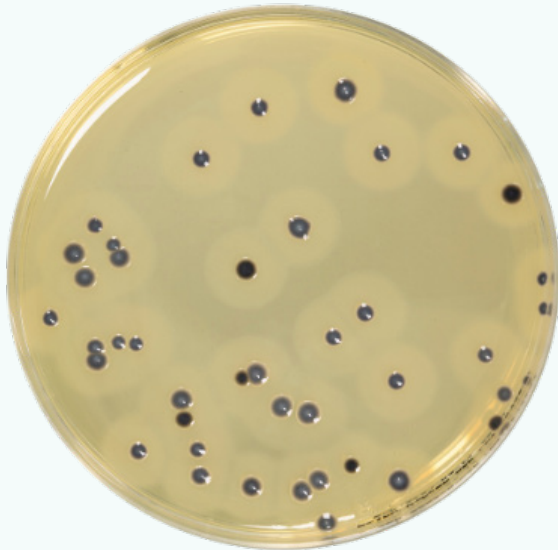


Microorganisms :
Bacillus cereus: pinkish
colonies with a halo

Incubation:
48h at 30 °C

CLASSICAL METHODS

BAIRD-PARKER RPF AGAR

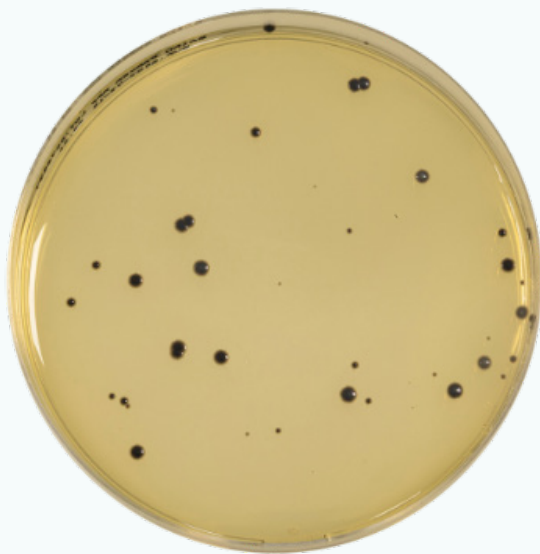


Microorganisms :

Saphylococcus aureus: black colonies, with an opaque halo

Incubation:

24h at 37 °C



Microorganisms:

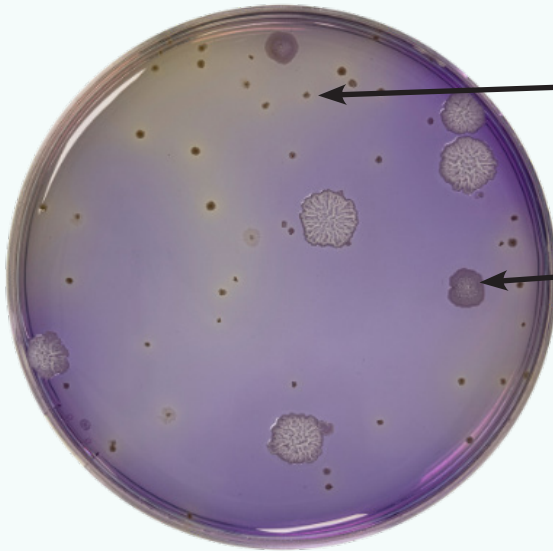
Staphylococcus epidermidis: black or gray colonies without an opaque halo

Incubation:

24h at 37 °C

CLASSICAL METHODS

BCP DEXTROSE AGAR



Microorganisms:

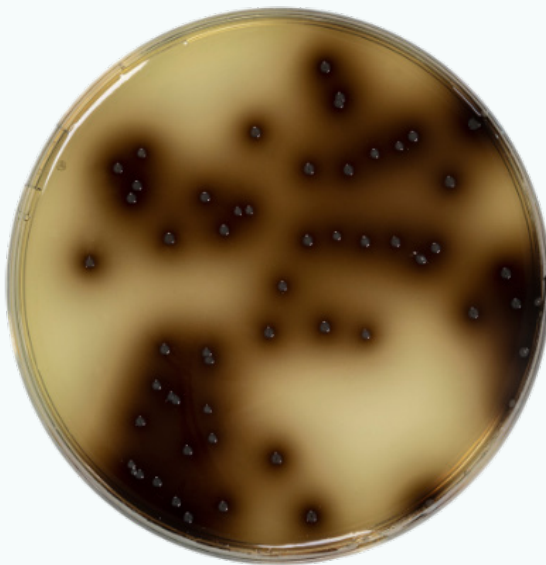
Bacillus cereus: small yellow colonies on violet background of agar

Bacillus subtilis: white and spread colonies

Incubation:

48h at 55 °C

BEA AGAR (BILE, ESCULIN & AZIDE)



Microorganisms :

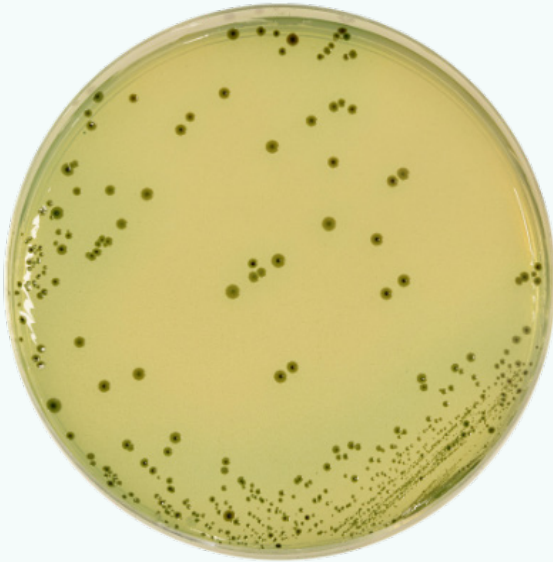
Enterobacter faecalis: small, translucent colonies surrounded by a black halo

Incubation:

24h at 37 °C

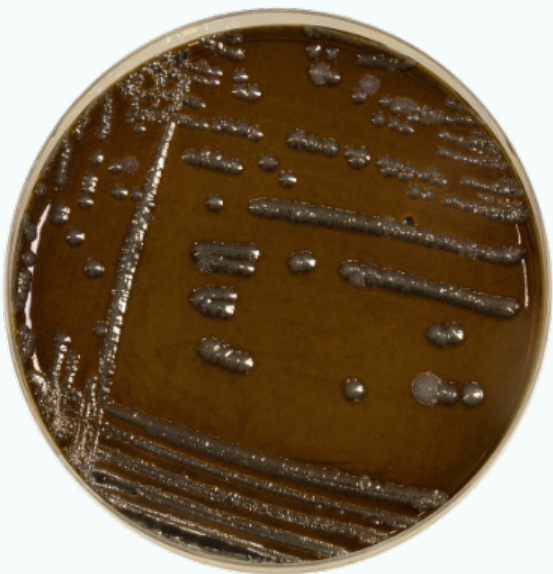
CLASSICAL METHODS

BISMUTH SULFITE AGAR



Microorganisms:
Salmonella enteridis:
greenish brown colonies

Incubation :
24h at 37 °C



Microorganisms:
Salmonella Typhimurium:
black colonies with metallic
reflection

Incubation:
24h at 37 °C

CLASSICAL METHODS

BRILLIANT GREEN AGAR (EDEL & KAMPELMACHER)

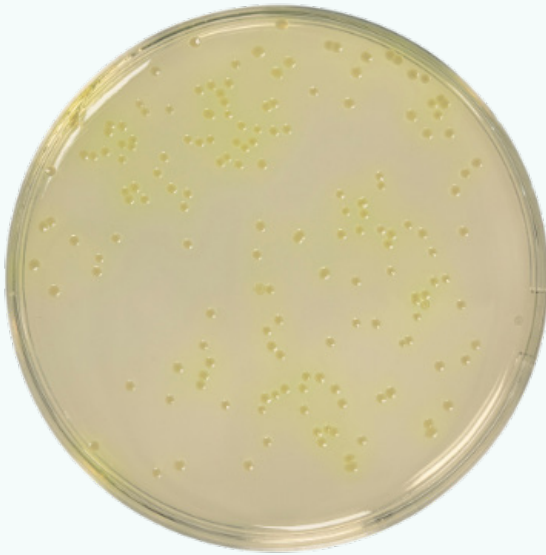


Microorganisms:
Salmonella enteridis: pink colonies

Incubation:
24h at 37 °C

CLASSICAL METHODS

CFC AGAR



Microorganisms:

Pseudomonas aeruginosa:
yellow to greenish,
occasionally fluorescent

Incubation:

48h at 25 °C



Microorganisms:

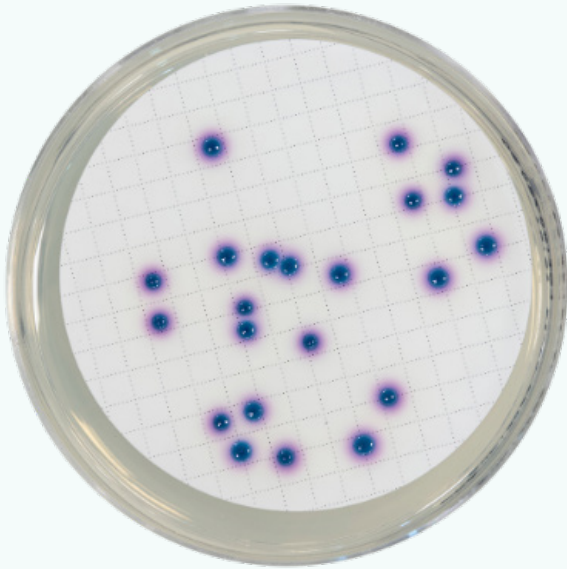
Pseudomonas aeruginosa:
yellow to greenish,
occasionally fluorescent

Incubation:

48h at 37 °C

CLASSICAL METHODS

CHROMOGENIC COLIFORM AGAR

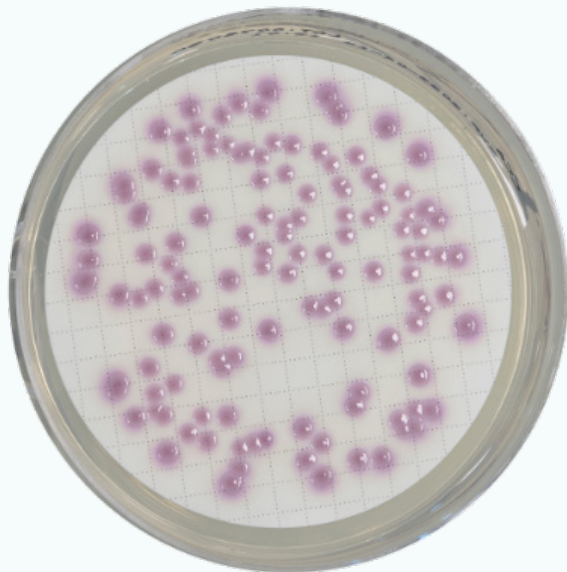


Microorganisms:

Escherichia coli: dark blue to violet colonies

Incubation:

21h at 36 °C



Microorganisms:

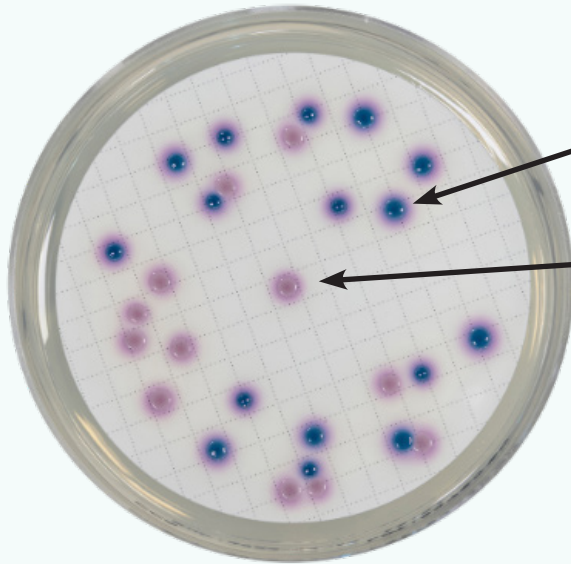
Citrobacter freundii: pink colonies

Incubation:

21h at 36 °C

CLASSICAL METHODS

CHROMOGENIC COLIFORM AGAR (CCA)



Microorganisms:

Escherichia coli: dark blue to violet colonies

Citrobacter freundii: pink colonies

Incubation:

21h at 36 °C

CLASSICAL METHODS

CLED AGAR



Microorganisms:
Salmonella enteridis: white colonies

Incubation:
24h at 37 °C



Microorganisms :
Escherichia coli: large yellow-gold colonies, surrounded by a yellow halo

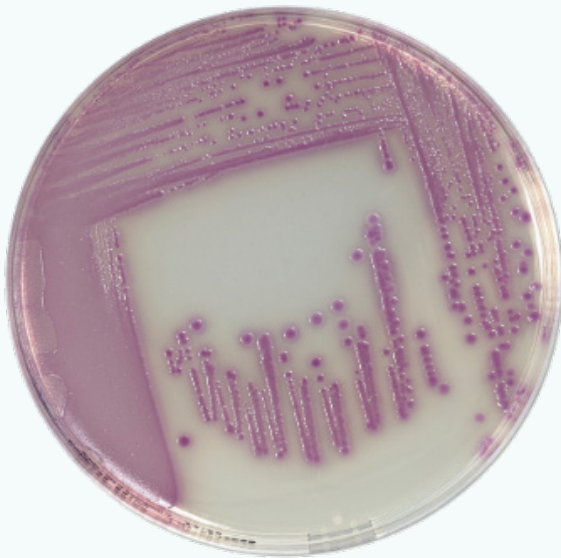
Incubation:
24h at 37 °C

CLASSICAL METHODS

COMPASS® SALMONELLA AGAR

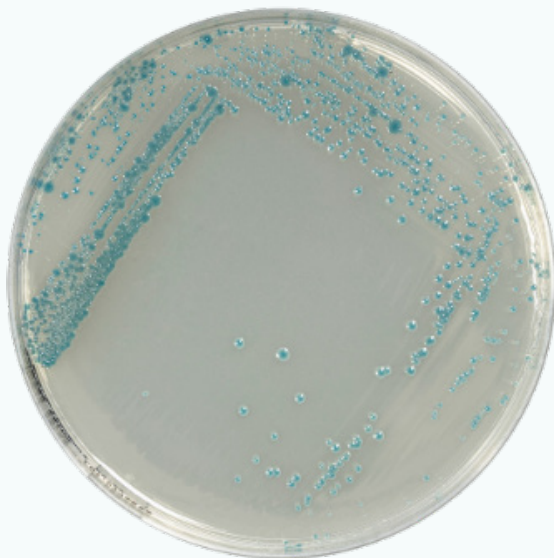
NOTE

COMPASS® Salmonella Agar is transparent



Microorganisms :
Salmonella Typhimurium:
colonies magenta

Incubation:
18h at 37 °C

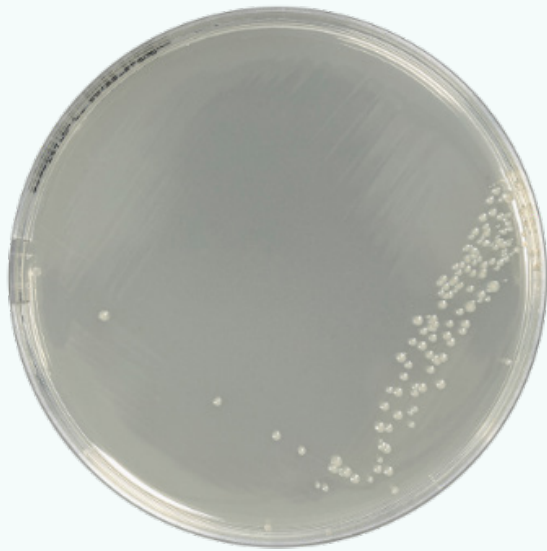


Microorganisms:
Enterobacter aerogenes: blue
colonies

Incubation:
18h at 37 °C

CLASSICAL METHODS

COMPASS® SALMONELLA AGAR

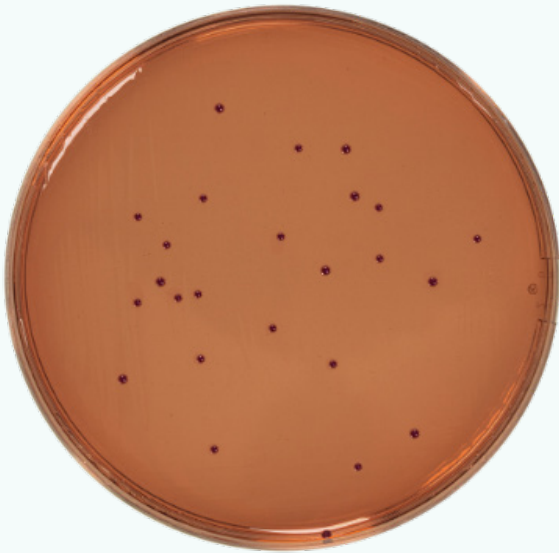


Microorganisms :
Escherichia coli: white colonies

Incubation :
18h at 37 °C

CLASSICAL METHODS

MAC CONKEY SORBITOL (CT-SMAC) AGAR



Microorganisms :
Escherichia coli: pink-red colonies

Incubation:
24h at 37 °C

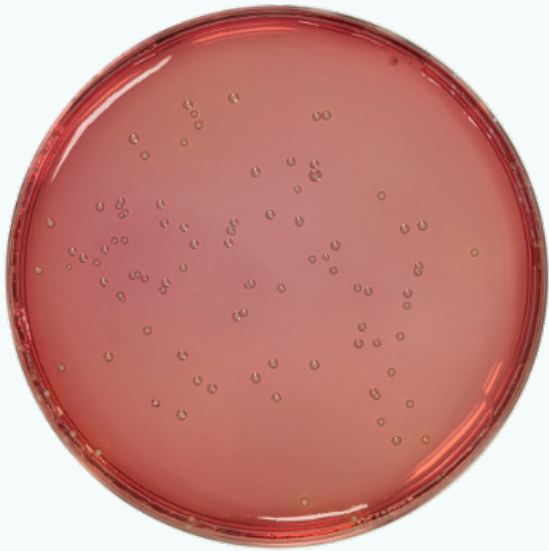


Microorganisms:
Escherichia coli O157: H7: colonies smooth, transparent, may have an orange halo of alkalization.

Incubation:
24h at 37 °C

CLASSICAL METHODS

MANNITOL SALT AGAR

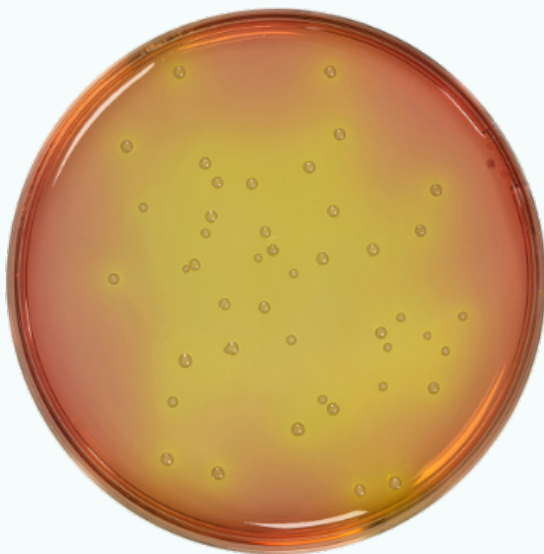


Microorganisms:

Staphylococcus epidermidis:
white colonies on red agar

Incubation:

24h at 37 °C



Microorganisms:

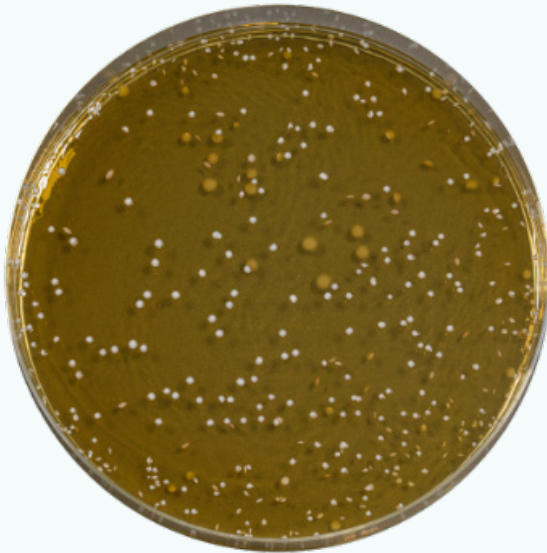
Staphylococcus aureus: yellow
colony surrounded by a yellow
halo

Incubation:

24h at 37 °C

CLASSICAL METHODS

MRS AGAR



Microorganisms:

Lactobacillus plantarum: white colonies

Incubation:

72h at 30°C

PALCAM AGAR



Microorganisms:

Listeria monocytogenes:
green-olive colonies

Incubation:

48h at 37 °C

CLASSICAL METHODS

PENICILLIN AND PIMARICIN AGAR (PPA)



Microorganisms:

Pseudomonas putida: white colonies with yellow halo

Incubation:

48h at 25°C



Microorganisms:

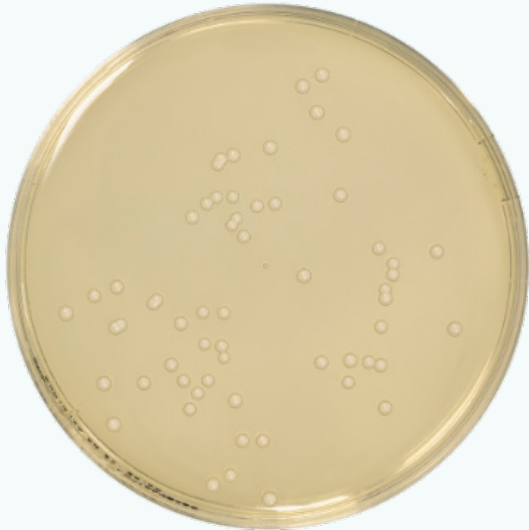
Pseudomonas aeruginosa: white colonies

Incubation:

48h at 25°C

CLASSICAL METHODS

SABOURAUD DEXTROSE AGAR (SDA)



Microorganisms :
Candida albicans: yeasts,
white colonies

Incubation:
3 days at 20-25 °C



Microorganisms:
Aspergillus brasiliensis: molds

Incubation:
3 days at 20-25 °C

CLASSICAL METHODS

SABOURAUD DEXTROSE AGAR (SDA)

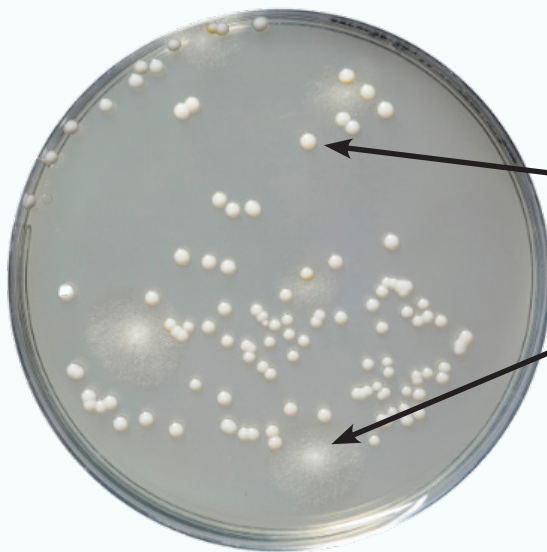


Microorganisms:

Aspergillus brasiliensis: molds

Incubation:

3 days at 20-25 °C



Microorganisms:

Candida albicans: yeasts

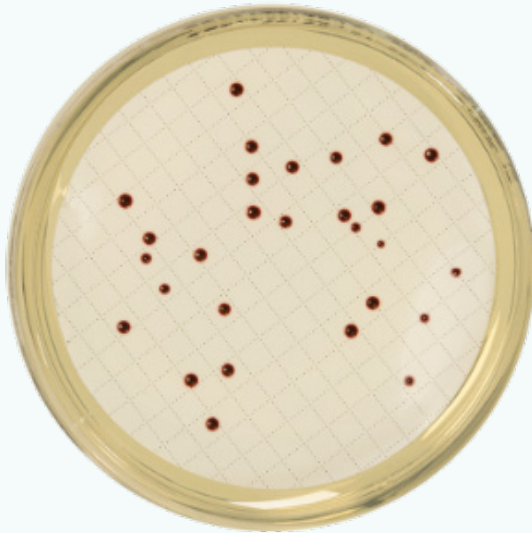
Aspergillus brasiliensis: molds

Incubation:

3 days at 20-25 °C

CLASSICAL METHODS

SLANETZ AND BARTLEY AGAR



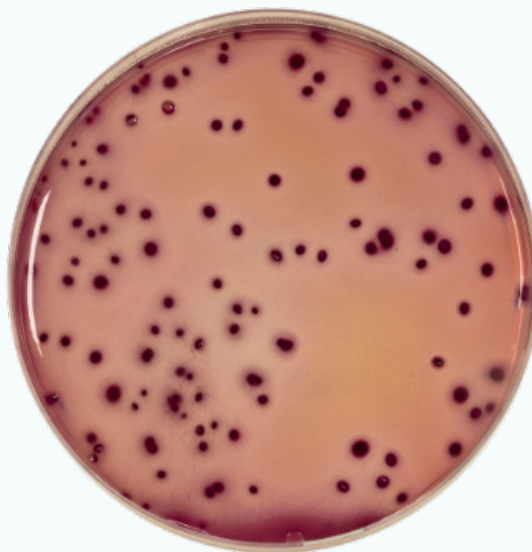
Microorganisms:

Enterococcus faecalis: red to maroon colonies

Incubation:

48h at 36 °C

VRBG AGAR



Microorganisms:

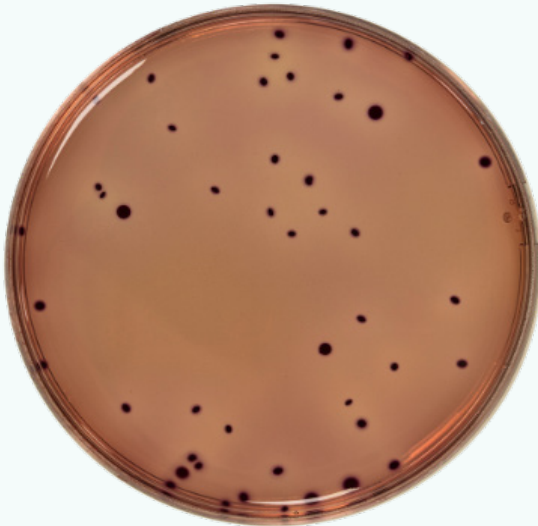
Escherichia coli: red-violet colonies, with a halo of precipitated bile salts.

Incubation:

24h at 37 °C

CLASSICAL METHODS

VRBL AGAR

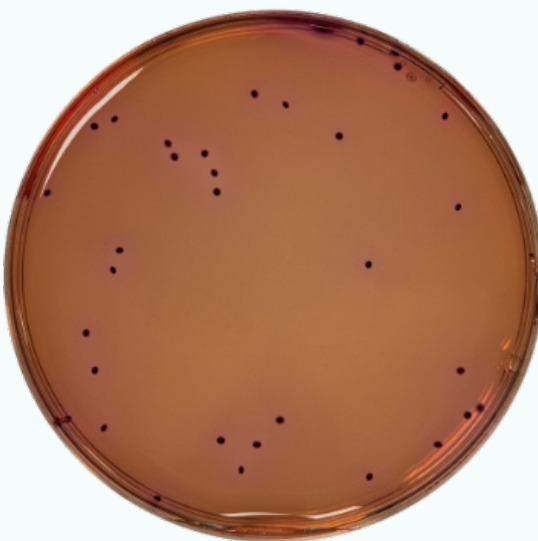


Microorganisms:

Escherichia coli: red-violet colonies, with a halo of precipitated bile salts.

Incubation:

24h at 44 °C



Microorganisms:

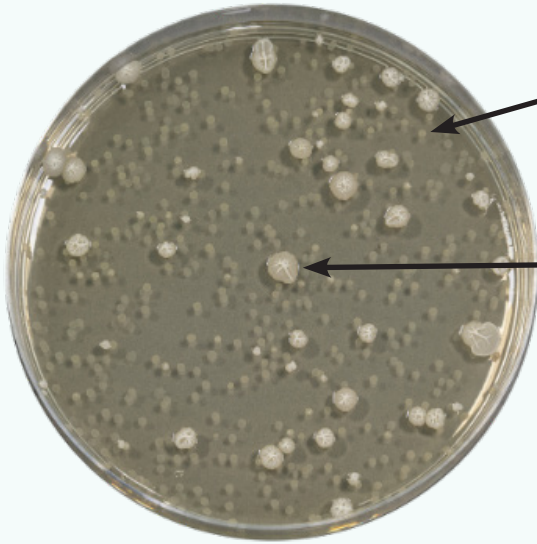
Escherichia coli: red-violet colonies, without halo

Incubation:

24h at 30 °C

CLASSICAL METHODS

YEAST EXTRACT AGAR



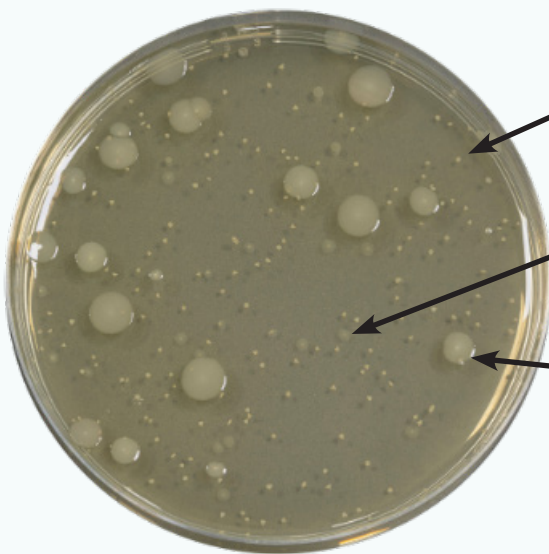
Microorganisms:

Bacillus subtilis: white and pinpoint colonies submerged in agar

Bacillus subtilis: white spread out colonies on surface

Incubation:

24h at 37 °C



Microorganisms :

Bacillus subtilis: white colonies submerged in agar

Escherichia coli: white and pinpoint colonies submerged in agar

Bacillus subtilis + *Escherichia coli*: white, spread out colonies on surface

Incubation:

24h at 30 °C

CONTACT PLATES

CONTACT BAIRD-PARKER + NEUTRALIZERS



Microorganisms:

Staphylococcus aureus: black colonies with an opaque halo

Incubation:

48h at 37 °C

NOTE Some strains of *Staphylococcus aureus* may present colonies with no or barely visible brightening halo.



Microorganisms:

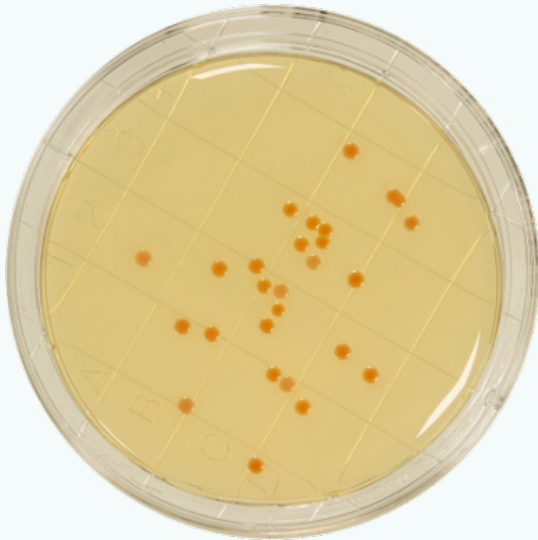
Staphylococcus epidermidis: black colonies

Incubation:

24h at 37 °C

CONTACT PLATES

CONTACT PCA + TTC + NEUTRALIZERS



Microorganisms:

Staphylococcus aureus:
circular, orange colonies

Incubation:

48h at 30 °C



Microorganisms:

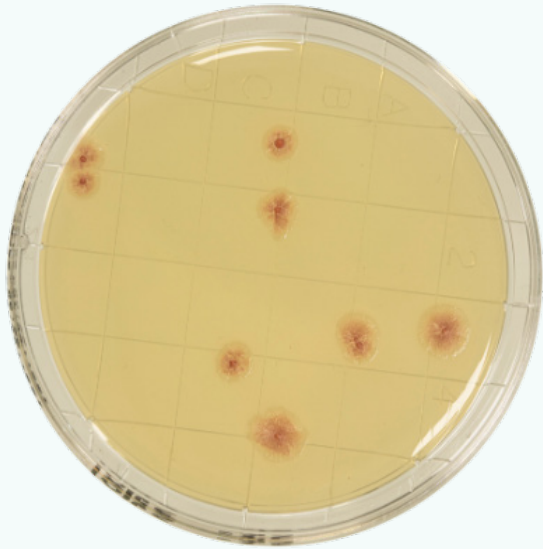
Bacillus subtilis: orange
colonies

Incubation:

48h at 30°C

CONTACT PLATES

CONTACT PCA + TTC + NEUTRALIZERS

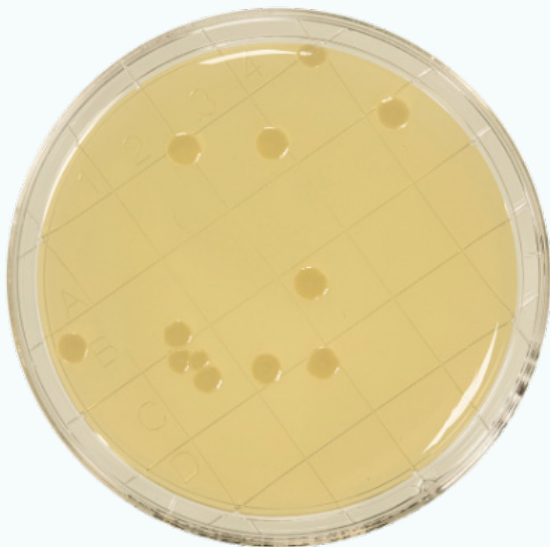


Microorganisms:

Pseudomonas aeruginosa :
orange colonies

Incubation:

48h at 30 °C



Microorganisms:

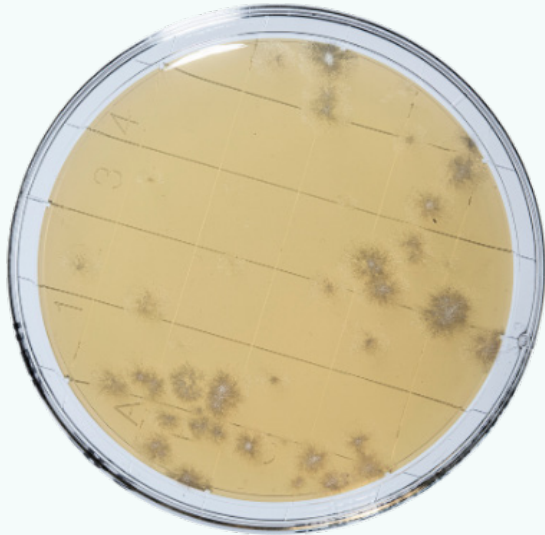
Escherichia coli: white
colonies

Incubation:

48h at 30 °C

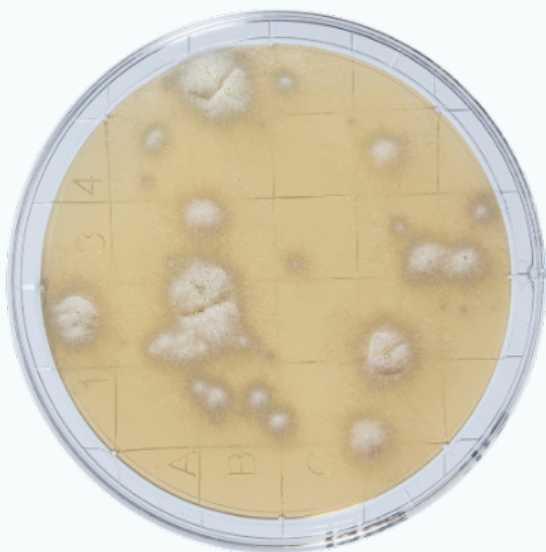
CONTACT PLATES

CONTACT SABOURAUD CHLORAMPHENICOL + NEUTRALIZERS



Microorganisms:
Candida albicans: molds

Incubation:
3 days at 25 °C



Microorganisms:
Penicillium roqueforti: molds

Incubation:
3 days at 25°C

CONTACT PLATES

CONTACT SABOURAUD CHLORAMPHENICOL + NEUTRALIZERS



Microorganisms:

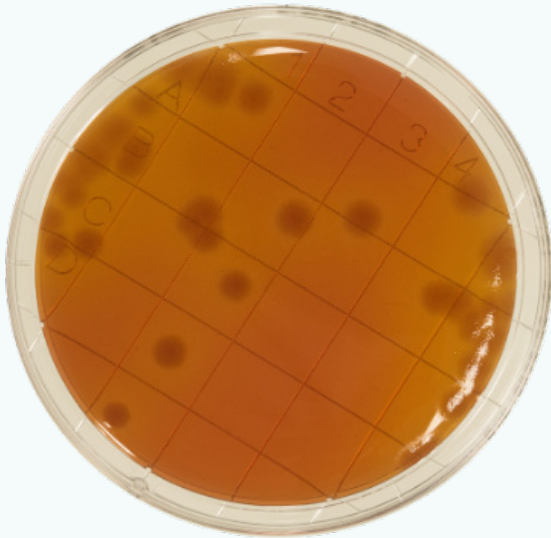
Aspergillus brasiliensis: molds

Incubation:

3 days at 25°C

CONTACT PLATES

CONTACT VRBG + NEUTRALIZERS



Microorganisms:

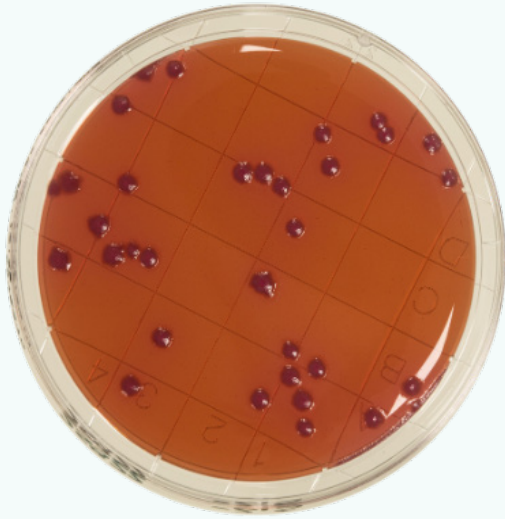
Pseudomonas aeruginosa:
colorless to pinkish beige
colonies

Incubation :

24h at 30°C

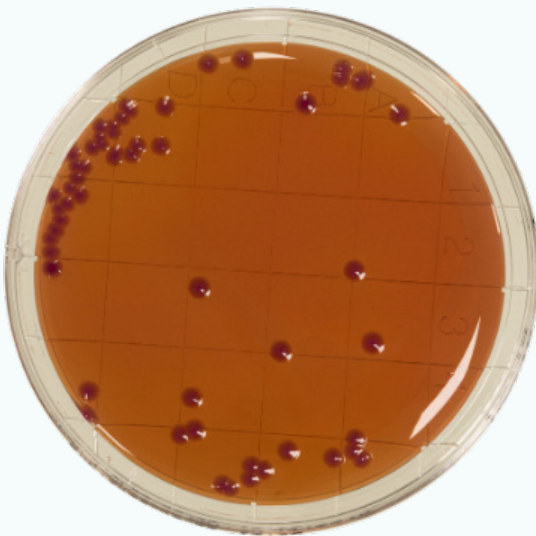
CONTACT PLATES

CONTACT VRBL + NEUTRALIZERS



Microorganisms :
Escherichia coli:
reddish-purple colonies

Incubation:
24h at 30°C

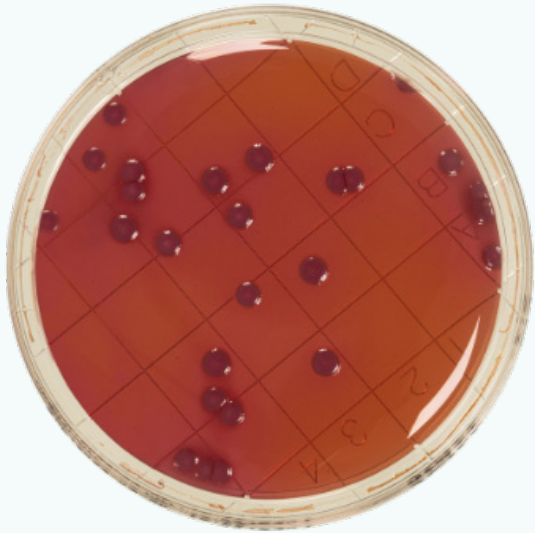


Microorganisms:
Enterobacter aerogenes:
reddish-purple colonies

Incubation:
24h at 30 °C

CONTACT PLATES

CONTACT VRBL + NEUTRALIZERS



Microorganisms:

Escherichia coli: pink-red to purplish colonies

Incubation:

24h at 37 °C



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