thermo scientific

Comparing prepared plate media from different commercial suppliers

Thermo Scientific Prepared Plate Media

ThermoFisher SCIENTIFIC

Plated media comparison

When changing commercially prepared culture media suppliers you may see some differences in the appearance of the medium and organism growth characteristics. We understand that interpretation of plate growth is paramount, so we have compiled the following plate comparisons to highlight the differences observed when comparing the growth characteristics of stock cultures on Thermo Scientific™ Prepared Plate Media with prepared plate media from an alternative supplier.*

It is recommended that you check with your accrediting body for guidance regarding the evaluation required for your laboratory when switching to a prepared media from a different commercial manufacturer.

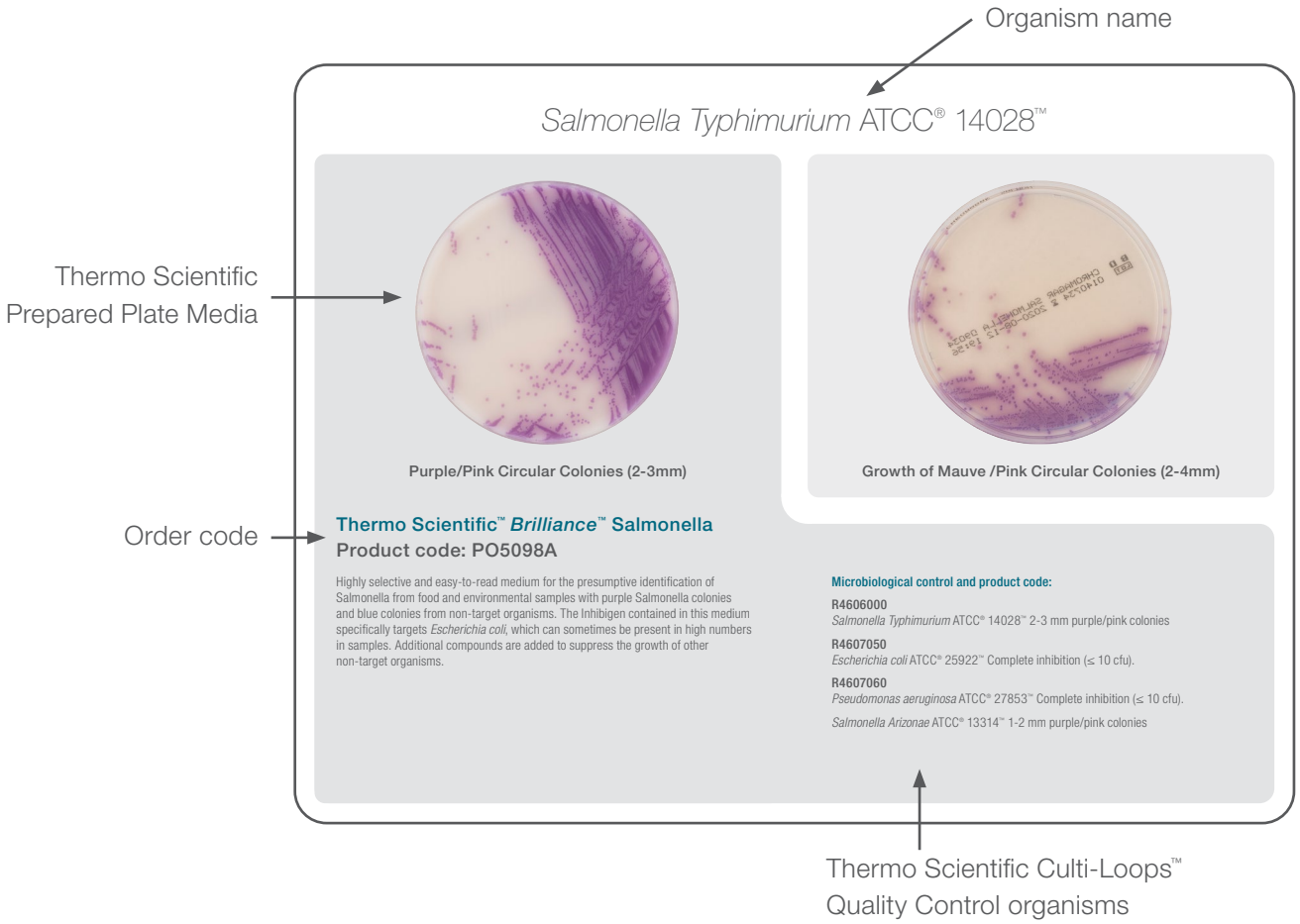
* This document is designed as an aid to reading Thermo Scientific prepared plate media and not to endorse or discredit prepared plate media of any brand or from any specific supplier.

Method summary

Comparison outline

- Each organism (ATCC® strain or patient isolate) was standardized to an estimated 0.5 McFarland or according to the product specification for other organism group density by selecting a colony or colonies and inoculating 5 mL of normal saline and dilute to reach an inoculm of 10^3.
- Samples were inoculated onto the equivalent prepared plate media (Thermo Scientific and alternative supplier) using a 10 µL inoculating loop and streaking for isolationor a linear automated streaking method to reach a 10^3 final inoculum on the plate. The loop was re-loaded for each plate.
- The order of plate inoculation of the Thermo Scientific medium and the Leading manufacturer medium was randomized.
- Each plate was incubated under the same appropriate atmospheric conditions.
- Plates were observed for similarities and differences in colony morphology, level of growth and reactions with the medium.

Comparison method summary

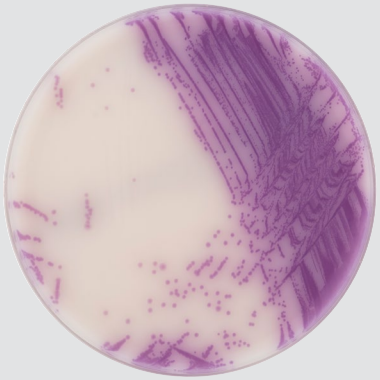


Contents

Highlighted differences

Brilliance™ *Salmonella* (Product code: PO5098A)

Salmonella Typhimurium ATCC® 14028™



Purple/Pink Circular Colonies (2-3mm)

Growth of Mauve /Pink Circular Colonies (2-4mm)

Purple Circular Colonies (3-4mm)

Thermo Scientific™ *Brilliance*™ Salmonella

Product code: PO5098A

Highly selective and easy-to-read medium for the presumptive identification of Salmonella from food and environmental samples with purple Salmonella colonies and blue colonies from non-target organisms. The Inhibigen contained in this medium specifically targets *Escherichia coli*, which can sometimes be present in high numbers in samples. Additional compounds are added to suppress the growth of other non-target organisms.

Principle:

Differentiation of Salmonella from other organisms that grow on *Brilliance* Salmonella Agar is achieved through the inclusion of two chromogens that target specific enzymes: caprylate esterase and ß-glucosidase. The action of the enzymes on the chromogens results in a build-up of colour within the colony. The colour produced depends on which enzymes the organism possesses.

The action of caprylate esterase, present in all salmonellae, results in a purple colony. Some other Enterobacteriaceae species also produce caprylate esterase, but these are either inhibited or differentiated from Salmonella by the ß-glucosidase substrate. This results in blue colonies, which are easy to distinguish from the purple Salmonella colonies.

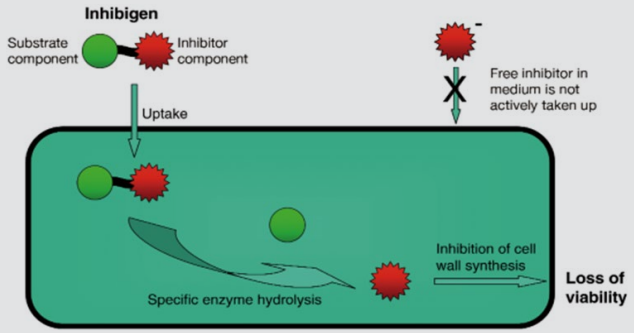
Microbiological control and product code:

R4606000
Salmonella Typhimurium ATCC® 14028™ 2-3 mm purple/pink colonies

R4607050
Escherichia coli ATCC® 25922™ Complete inhibition (≤ 10 cfu).

R4607060
Pseudomonas aeruginosa ATCC® 27853™ Complete inhibition (≤ 10 cfu).

Salmonella Arizonae ATCC® 13314™ 1-2 mm purple/pink colonies



S.S. Agar (Product code: PO5022A)

Salmonella typhimurium ATCC® 14028™

2-3mm, beige/transparent cols with black centre

Circular Black colonies around 3mm
(beige colonies with black center)

Colorless round colonies (2-3mm) with a black center

Thermo Scientific™ Salmonella Shigella Agar

Product code: PO5022A

Differential selective medium for the isolation of Salmonella and Shigella spp. Modifying the formulation to include a bile salt mixture, peptone and an altered pH value considerably improves the performance in the growth of shigellae without increasing the growth of commensal organisms. Salmonella colonies are also larger with improved blackening at the centre.

Colonial Characteristics:

Salmonella species: Transparent colonies usually with black centres

Shigella species: Transparent colonies

Proteus/Citrobacter species: Transparent colonies grey-black centres

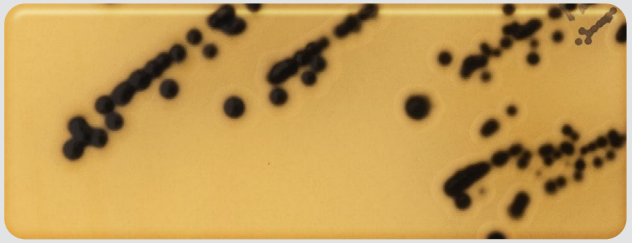
Late-lactose fermenting organisms will develop colonies with pink centres after 48 hours incubation.

Microbiological control and product code:

R4606000
Salmonella Typhimurium ATCC® 14028™ (2 – 3 mm, Transparent colonies with black centre.)

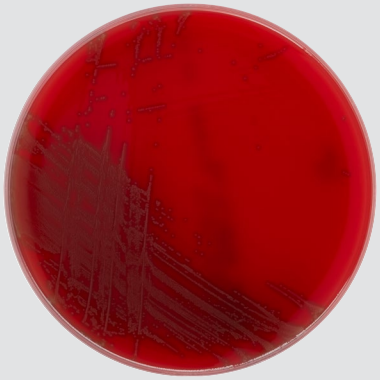
R4608101
Shigella flexneri ATCC® 12022™ (2 – 4 mm, light orange shiny colonies.)

R4607030
Enterococcus faecalis ATCC®29212™ Complete inhibition (≤ 10 cfu).

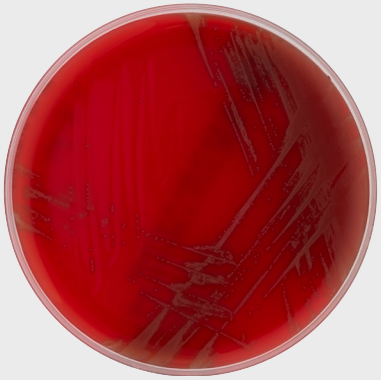


Columbia agar + 5% sheep blood (Product code: PB5008A)

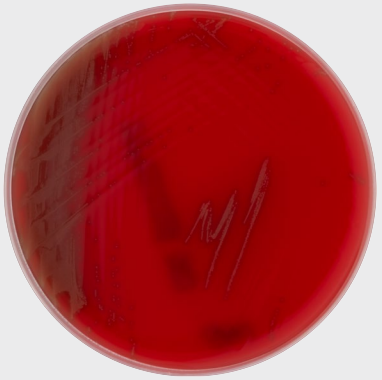
Streptococcus pneumoniae ATCC® 49619™



Small, dark grey Circular Colonies (1mm), with α- hemolysis



Small, dark grey Circular Colonies (1mm), with α- hemolysis



Small, dark grey Circular Colonies (1mm), with α- hemolysis

** Greenish coloration around the colony*

Thermo Scientific™ Columbia Agar with Sheep Blood Product code: PB5008A

Medium containing 7% sheep blood for growth of fastidious organisms with rapid production of large colonies, clearly defined zones of hemolysis and good colonial differentiation, plus an improved all-round performance.

Colonial Characteristics:

Staphylococcus aureus is a coagulase-positive, catalase positive, gram-positive cocci that occurs singly or in pairs, tetrads, short chains, and grape-like clusters.

Streptococci are facultatively anaerobic, catalase-negative, gram-positive cocci that occur as pairs or chains. One of the most useful phenotypic characteristics of streptococci is the hemolytic reaction, generally classified as alpha, beta or gamma according to the appearance of zones around colonies growing on blood agar. β-hemolytic streptococci are further characterized by Lancefield groups based on the antigenic differences in group-specific polysaccharides located in the bacterial cell wall.

Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC®25923™ Good growth, white colonies.

R4607016
Staphylococcus aureus ATCC®6538™ Good growth, yellow colonies with haemolysis.

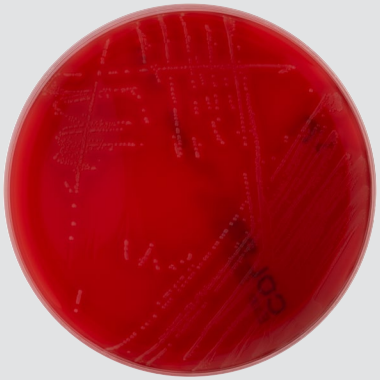
R4607024
Streptococcus pneumoniae ATCC®6305™ Good growth, grey colonies with alpha haemolysis (dent morphology)..

R4607085
Escherichia coli ATCC®8739™ Good growth, dark grey colonies.

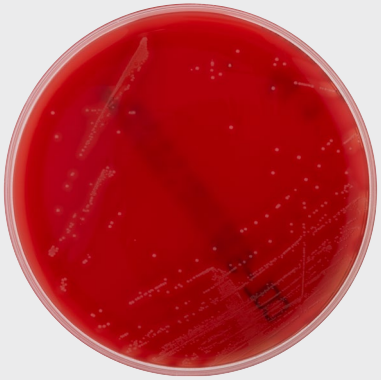
R4609015
Streptococcus pneumoniae ATCC® 49619™

Streptococcus pyogenes ATCC®12344™1 mm, light grey colonies with beta haemolysis.

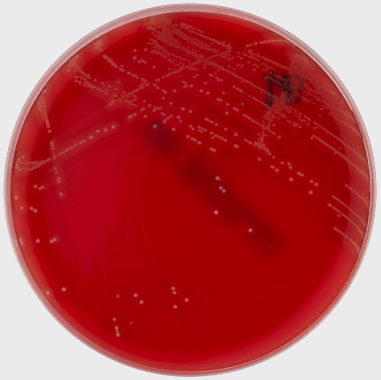
Streptococcus pyogenes ATCC® 19615™



Small Circular Colonies (1-2mm), light grey with Beta hemolysis



Small Circular Colonies (1-2mm), light Grey /white colour with Beta hemolysis



Small, dark grey Circular Colonies (1mm), with α- hemolysis

Thermo Scientific™ Columbia Agar with Sheep Blood Product code: PB5008A

Medium containing 7% sheep blood for growth of fastidious organisms with rapid production of large colonies, clearly defined zones of hemolysis and good colonial differentiation, plus an improved all-round performance.

Colonial Characteristics:

Staphylococcus aureus is a coagulase-positive, catalase positive, gram-positive cocci that occurs singly or in pairs, tetrads, short chains, and grape-like clusters.

Streptococci are facultatively anaerobic, catalase-negative, gram-positive cocci that occur as pairs or chains. One of the most useful phenotypic characteristics of streptococci is the hemolytic reaction, generally classified as alpha, beta or gamma according to the appearance of zones around colonies growing on blood agar. β-hemolytic streptococci are further characterized by Lancefield groups based on the antigenic differences in group-specific polysaccharides located in the bacterial cell wall.

Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC®25923™ Good growth, white colonies.

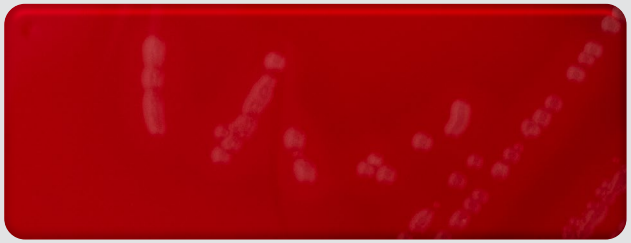
R4607016
Staphylococcus aureus ATCC®6538™ Good growth, yellow colonies with haemolysis.

R4607024
Streptococcus pneumoniae ATCC®6305™ Good growth, grey colonies with alpha haemolysis (dent morphology)..

R4607085
Escherichia coli ATCC®8739™ Good growth, dark grey colonies.

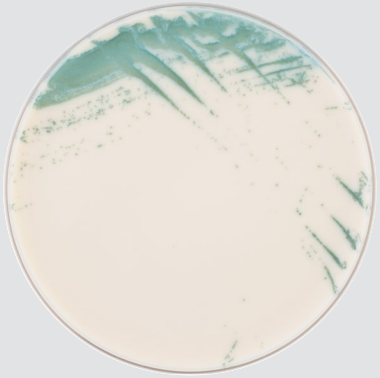
R4609015
Streptococcus pneumoniae ATCC® 49619™

Streptococcus pyogenes ATCC®12344™1 mm, light grey colonies with beta haemolysis.



Brilliance™ Candida (Product code: PO5170A)

Candida albicans ATCC® 10231™



Small (1 - 2mm), Green Circular Colonies

Light to medium green colonies

Small Pale blue to dark blue Colonies

Thermo Scientific™ *Brilliance*™ Candida
Product code: PO5170A

Brilliance Candida Agar contains two chromogenic substrates, which are cleaved by enzymes possessed by certain Candida species; hexosaminidase and alkaline phosphatase. The action of the enzymes on the chromogens results in a build-up of color within the colony. Chloramphenicol inhibits bacterial growth, even after prolonged incubation.

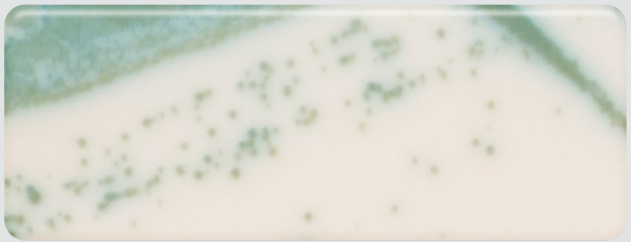
This chromogenic formulation produces four different diagnostic colors for the presumptive identification of clinically significant Candida species and provides faster, easier-to-read results when compared to traditional media.

Colonial Characteristics:

Candida tropicalis, C. albicans and C. dubliniensis all possess **hexosaminidase** which results in **green coloured colonies**, however, other metabolic reactions of C. tropicalis produce a localised drop in pH which results in dark blue colonies.

C. krusei results in a **brown or pink pigmentatio**n, due to alkaline phosphatase activity.

C. glabrata, C. kefyr, C. parapsilosis and C. lusitaniae appear as a variety of **beige/brown/yellow colours** due to the mixture of natural pigmentation and some alkaline phosphatase activity.



Microbiological control and product code:

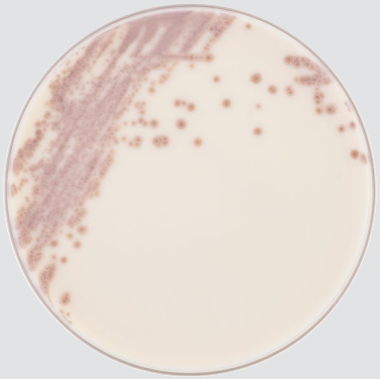
R4601503
Candida albicans ATCC®10231™ 1 – 2 mm, green colonies.

R4601240
Candida tropicalis ATCC®750™ Good growth, dark blue colonies

R4601520
Candida krusei ATCC®6258™ Good growth, dry, irregular pink-browncolonies.

R4607050
Escherichia coli ATCC®25922™ Partial inhibition (= 100 cfu).

Candida krusei ATCC® 6258™



Dry, irregular Pink-Brown Colonies

Light rose to pink, large flat colonies with a whitish border

Creamy-white: No predictive value

Thermo Scientific™ *Brilliance*™ Candida

Product code: PO5170A

Brilliance Candida Agar contains two chromogenic substrates, which are cleaved by enzymes possessed by certain Candida species; hexosaminidase and alkaline phosphatase. The action of the enzymes on the chromogens results in a build-up of color within the colony. Chloramphenicol inhibits bacterial growth, even after prolonged incubation.

This chromogenic formulation produces four different diagnostic colors for the presumptive identification of clinically significant Candida species and provides faster, easier-to-read results when compared to traditional media.

Colonial Characteristics:

Candida tropicalis, C. albicans and C. dubliniensis all possess **hexosaminidase** which results in **green coloured colonies**, however, other metabolic reactions of C. tropicalis produce a localised drop in pH which results in dark blue colonies.

C. krusei results in a **brown or pink pigmentatio**n, due to alkaline phosphatase activity.

C. glabrata, C. kefyr, C. parapsilosis and C. lusitaniae appear as a variety of **beige/brown/yellow colours** due to the mixture of natural pigmentation and some alkaline phosphatase activity.

Microbiological control and product code:

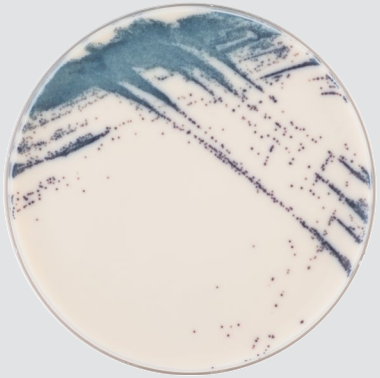
R4601503
Candida albicans ATCC®10231™ 1 – 2 mm, green colonies.

R4601240
Candida tropicalis ATCC®750™ Good growth, dark blue colonies

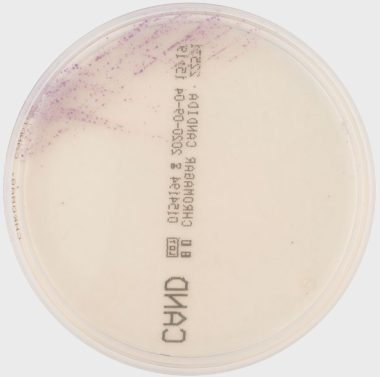
R4601520
Candida krusei ATCC®6258™ Good growth, dry, irregular pink-browncolonies.

R4607050
Escherichia coli ATCC®25922™ Partial inhibition (= 100 cfu).

Candida tropicalis ATCC® 750™



Small (1 - 2mm), Dark Blue Circular Colonies



Blue-greenish or metallic blue colonies with or without violet halos in the surrounding medium

Pink colonies characteristic for *Candida tropicalis*, *Candida lusitaniae* and *Candida kefy*

Thermo Scientific™ *Brilliance*™ Candida

Product code: PO5170A

Brilliance Candida Agar contains two chromogenic substrates, which are cleaved by enzymes possessed by certain Candida species; hexosaminidase and alkaline phosphatase. The action of the enzymes on the chromogens results in a build-up of color within the colony. Chloramphenicol inhibits bacterial growth, even after prolonged incubation.

This chromogenic formulation produces four different diagnostic colors for the presumptive identification of clinically significant Candida species and provides faster, easier-to-read results when compared to traditional media.

Colonial Characteristics:

Candida tropicalis, C. albicans and C. dubliniensis all possess **hexosaminidase** which results in **green coloured colonies**, however, other metabolic reactions of C. tropicalis produce a localised drop in pH which results in dark blue colonies.

C. krusei results in a **brown or pink pigmentatio**n, due to alkaline phosphatase activity.

C. glabrata, C. kefyr, C. parapsilosis and C. lusitaniae appear as a variety of **beige/brown/yellow colours** due to the mixture of natural pigmentation and some alkaline phosphatase activity.

Microbiological control and product code:

R4601503
Candida albicans ATCC®10231™ 1 – 2 mm, green colonies.

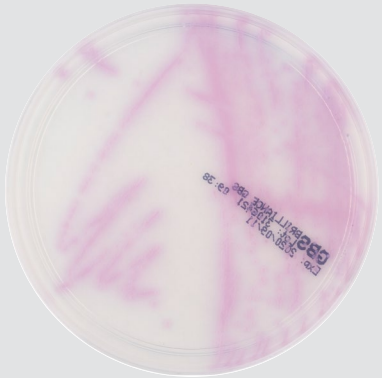
R4601240
Candida tropicalis ATCC®750™ Good growth, dark blue colonies

R4601520
Candida krusei ATCC®6258™ Good growth, dry, irregular pink-browncolonies.

R4607050
E*scherichia coli* ATCC®25922™ Partial inhibition (= 100 cfu).

Brilliance™ GBS Agar (Product code: PO5320A)

Streptococcus agalactiae ATCC® 12386™



Bright pink colonies (0.5 – 1 mm)

Small -Medium Orange Colonies with or without colourless borders

Orange - Red typical S. agalactiae Colonies

Thermo Scientific™ *Brilliance*™ GBS Agar

Product code: PO5320A

Brilliance GBS Agar is a transparent screening medium incorporating two chromogens. One chromogen yields a pink colour due to phosphatase activity in GBS. To allow the medium to differentiate GBS accurately, it contains a second chromogen. Non-GBS are either inhibited or grow as blue or purple colonies.

Broad-spectrum antimicrobial components in the medium suppress the growth of group A and C streptococci. Also included are compounds to inhibit the growth of Enterobacteriaceae, staphylococci, enterococci and group D streptococci. Antifungals eliminate yeasts.

Furthermore *Brilliance* GBS Agar incorporates inhibigen technology for targeted inhibition of enterococci and group D streptococci, ensuring a high level of sensitivity and specificity and a significant reduction in growth of background flora.

Non-GBS are either inhibited, or grow as blue/dark purple colonies

Microbiological control and product code:

R4608250
Streptococcus agalactiae ATCC®13813™ 0.5 – 1 mm, pink colonies.

R4601503
Candida albicans ATCC® 10231™ No growth.

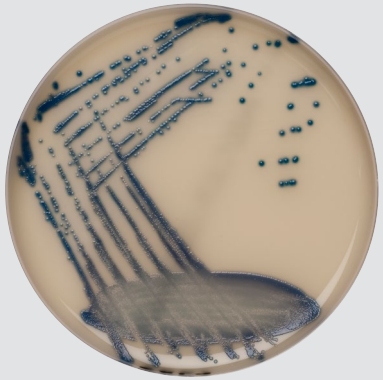
R4609045
Enterococcus faecium ATCC® 19434™ Complete inhibition (= 10 cfu).

R4607027
Streptococcus agalactiae ATCC® 12386

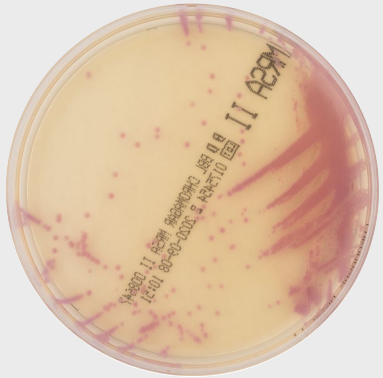
Streptococcus agalactiae NCTC 9993 0.5 – 1 mm, pink colonies.

Brilliance™ MRSA 2 Agar (Product code: PO5310A)

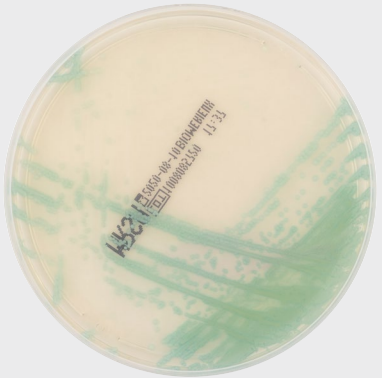
Staphylococcus aureus ATCC® 43300™



Blue Circular Colonies (2-3mm)
Morphologically resembling staphylococci



Mauve colonies morphologically resembling staphylococci



Green colonies Typical Morfology

Thermo Scientific™ *Brilliance*™ MRSA 2 Agar

Product code: PO5310A

Brilliance MRSA 2 Agar has been enhanced over that of the original formulation in two ways. New inhibitory components in the medium inhibit the growth of more non-target organisms. The new improved formulation contains two chromogens to differentiate MRSA and nonMRSA colonies. MRSA colonies are a distinctive blue color, making the identification of MRSA easy and accurate.

MRSA grows as blue colonies which are very easy to read against the light colored, opaque background

Non- MRSA organisms that do grow more easily are distinguished from distinctive blue MRSA colonies, through inclusion of a novel pink counter-stain, further improving ease of interpretation

Microbiological control and product code:

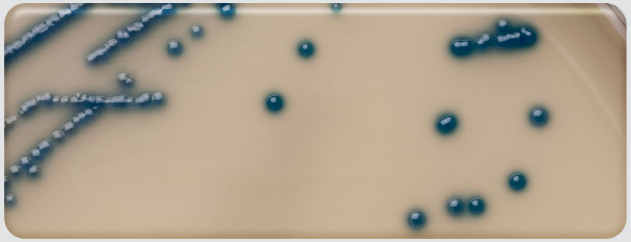
R4607003
Staphylococcus aureus ATCC® 33591™1 – 2 mm, blue colonies.

R4607011
Staphylococcus aureus ATCC® 29213™Total inhibition (= 10 cfu).

R4607060
Pseudomonas aeruginosa ATCC® 27853™ Total inhibition (= 10 cfu).

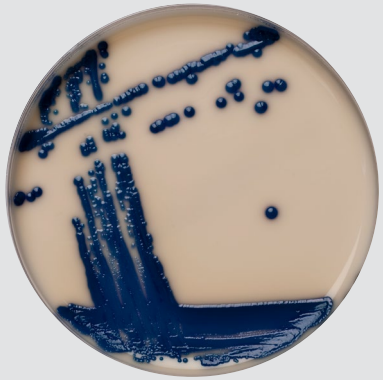
R4609022
Staphylococcus aureus ATCC® 43300™

Bacillus licheniformis ATCC® 14580™ Growth of small rose colonies.

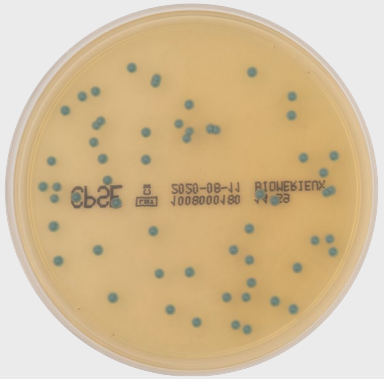


Brilliance™ UTI (Opaque) (Product code: PO5120A)

Klebsiella pneumoniae ATCC®



Dark Blue/Purple Shiny Colonies (2-4mm)



Blue to Green Colonies

Thermo Scientific™ *Brilliance*™ UTI (Opaque)

Product code: PO5120A

The *Brilliance* UTI formulation contains two chromogenic substrates which are cleaved by the ß-galactosidase and ß-glucosidase enzymes produced by E. coli, Enterococcus species and coliforms. These specific enzyme reactions cleave the chromogens giving a range of colors:

Colonial Characteristics:

The ß-galactosidase activity of E. coli and S. saprophyticus results in pink/red colonies. The ß-glucosidase activity of enterococci produces blue/turquoise colonies. The activity of both enzymes (ß-galactosidase and ß-glucosidase) on coliforms gives dark blue/purple colonies. Tryptophan deaminase activity produces a brown halo around colonies of Proteus, Morganella and Providencia species. Most other organisms exhibit their natural pigmentation.

*The specificity of *Brilliance* UTI minimises confirmatory testing, with same day results for E.coli confirmation being achieved by direct identification on the plate.

Microbiological control and product code:

R4607050
Escherichia coli ATCC® 25922™ 2 – 4 mm, rose shiny colonies, Indole positive.

R4607030
Enterococcus faecalis ATCC® 29212™ Good growth, turquoise shiny colonies.

R4603012
Klebsiella oxytoca ATCC® 13182™ Good growth, blue shiny colonies

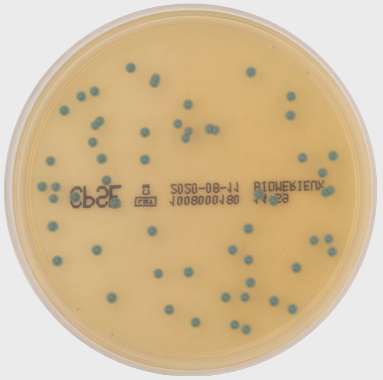
R4607010
Staphylococcus aureus ATCC® 25923™ Good growth, white colonies.

R4605055
Proteus mirabilis ATCC® 29906™ Good growth, cream colonies with brown halo Indole negative.

Enterococcus faecalis ATCC® 29212™

Thermo Scientific™ *Brilliance*™ UTI (Opaque) **Product code: PO5120A**

Turquoise/Blue-Green Shiny Colonies (1-2mm)

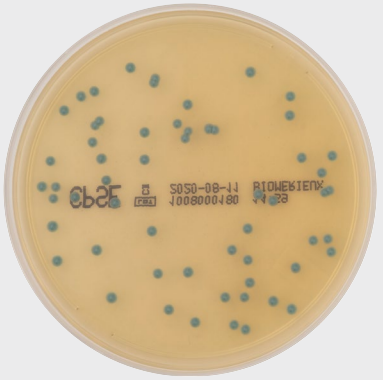


Round Turquoise colonies (2-4mm)

Escherichia coli ATCC® 25922™

Thermo Scientific™ *Brilliance*™ UTI (Opaque) **Product code: PO5120A**

Red / Rose Shiny Colonies (2-4mm) Indole positive

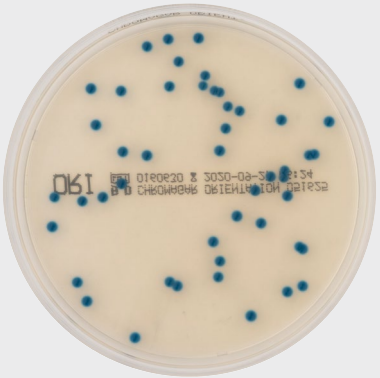


Burgundy colonies

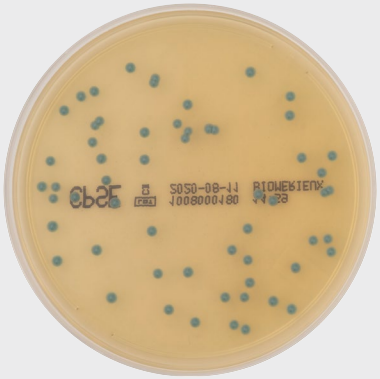
Brilliance™ UTI Clarity™ (Product code: PO5159A)

Klebsiella pneumoniae ATCC®

Dark Blue/Purple Shiny Colonies Medium(4mm)



Medium-sized (2-4mm), Round Blue to Dark blue colonies, with or without violet halos



Blue to Green KESC group

Thermo Scientific™ *Brilliance*™ UTI Clarity™

Product code: PO5159A

The *Brilliance* UTI formulation contains two chromogenic substrates which are cleaved by the ß-galactosidase and ß-glucosidase enzymes produced by E. coli, Enterococcus species and coliforms. These specific enzyme reactions cleave the chromogens giving a range of colors.

Colonial Characteristics:

The ß-galactosidase activity of E. coli and S. saprophyticus results in pink/red colonies. The ß-glucosidase activity of enterococci produces blue/turquoise colonies. The activity of both enzymes (ß-galactosidase and ß-glucosidase) on coliforms gives dark blue/purple colonies. Tryptophan deaminase activity produces a brown halo around colonies of Proteus, Morganella and Providencia species. Most other organisms exhibit their natural pigmentation.

*The specificity of *Brilliance* UTI minimizes confirmatory testing, with same day results for E.coli confirmation beingachieved by direct idendification on the plate.

Microbiological control and product code:

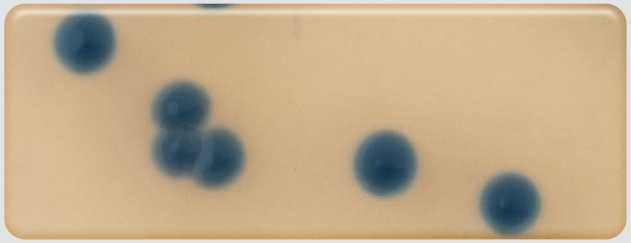
R4607050
Escherichia coli ATCC ®25922™ 2 – 4 mm, rose shiny colonies, Indole positive.

R4607030
Enterococcus faecalis ATCC®29212™ Good growth, turquoise shiny colonies.

R4603012
Klebsiella oxytoca ATCC®13182™ Good growth, blue shiny colonies

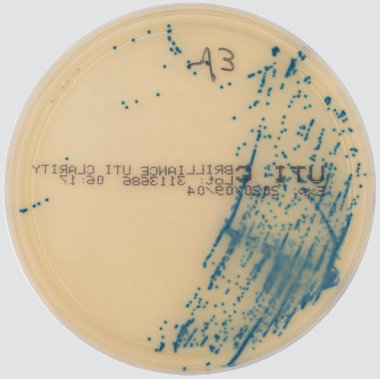
R4607010
S taphylococcus aureus ATCC®25923™ Good growth, white colonies.(0,5– 2 mm, white colonies.)

R4605055
Proteus mirabilis ATCC®29906™ Good growth, cream colonies with brown halo,Indole negative.



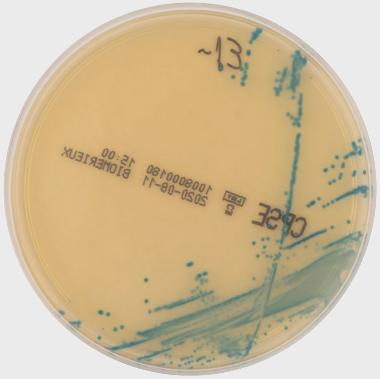
Enterococcus faecalis ATCC® 29212™

Thermo Scientific™ *Brilliance*™ UTI Clarity™
Product code: PO5159A



Turquoise/Blue-Green Shiny Colonies Small (1-2mm)

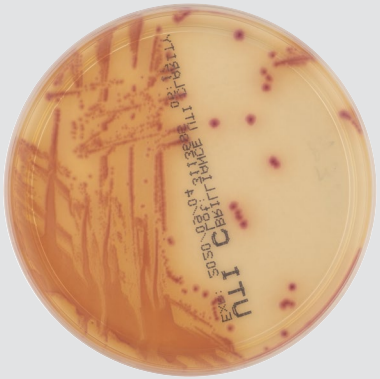
Small (1-2mm), blue-green to blue Colonies



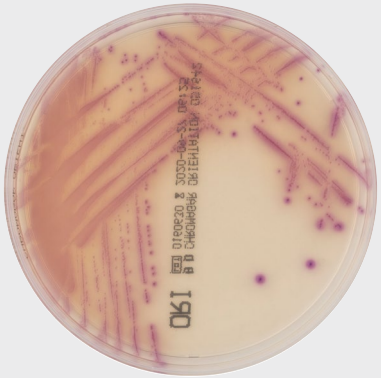
Small (1-2mm) Round Turquoise Colonies

Escherichia coli ATCC® 25922™

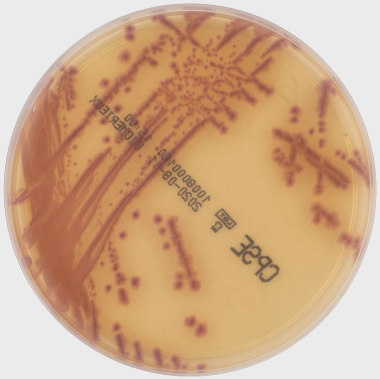
Thermo Scientific™ *Brilliance*™ UTI Clarity™
Product code: PO5159A



Red / Rose Shiny Medium Colonies (2-4mm) Indole positive



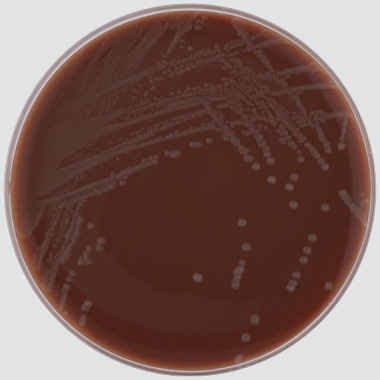
Dark Rose to pink
Medium-sized to large Colonies



Burgundy colonies

Chocolate Agar with Vitox (Product code: PO5090A)

Neisseria gonorrhoeae ATCC® 43069™



Cream Shiny Medium Colonies (2-3mm)

Small Grayish/white to colorless, mucoid Colonies

Small Grayish/white Colonies

Thermo Scientific™ Chocolate Agar with Vitox

Product code: PO5090A

Highly nutritious medium for the isolation and cultivation of fastidious microorganisms with a mixture of meat and plant enzymatic digests.

Principle:

The presence of starch ensures that toxic metabolites produced by Neisseria are absorbed. Phosphate buffers are included to prevent changes in pH due to amine production that would affect the survival of the organism.

Microbiological control and product code:

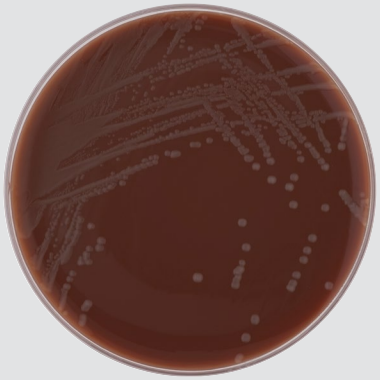
R4603810
Haemophilus influenzae ATCC ®10211™ 3 – 5 mm, cream shiny colonies.

R4609006
Neisseria gonorrhoeae ATCC®49226™ Good growth, cream shiny colonies

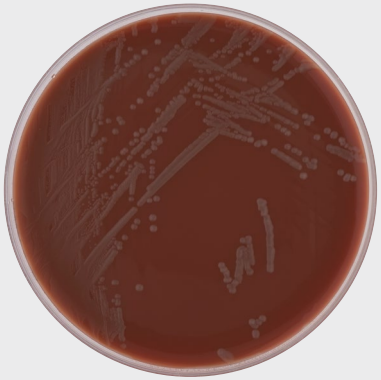
R4606500
Staphylococcus epidermidis ATCC®12228™ Good growth, white colonies.

R4607043
Neisseria gonorrhoeae ATCC® 43069™

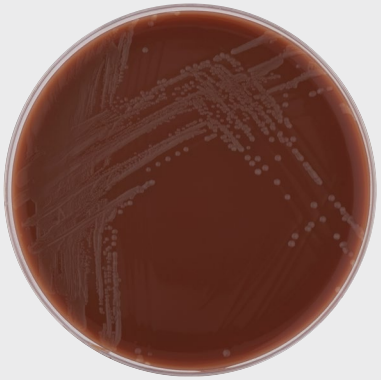
Haemophilus influenzae ATCC® 10211™



Medium Round Cream Shiny colonies (3-5mm)



Small moist pearly Colonies (1mm)



Small Circular Colonies (1-2mm), white colour with Beta hemolysis

Thermo Scientific™ Chocolate Agar with Vitox

Product code: PO5090A

HIghly nutritious medium for the isolation and cultivation of fastidious microorganisms with a mixture of meat and plant enzymatic digests. The presence of starch ensures that toxic metabolites produced by neisseria are absorbed. Phosphate buffers are included to prevent changes in pH due to amine production that would affect the survival of the organism.

Microbiological control and product code:

R4603810
Haemophilus influenzae ATCC ®10211™ 3 – 5 mm, cream shiny colonies.

R4609006
Neisseria gonorrhoeae ATCC®49226™ Good growth, cream shiny colonies

R4606500
Staphylococcus epidermidis ATCC®12228™ Good growth, white colonies.

Chocolate G.C. Selective agar (Product code: PB0963A)

Neisseria gonorrhoeae ATCC® 43069™

Small Grey-Brown colonies round shape (≤1mm)

Small Grayish-White Round shape Colonies (≤1mm)

Small Grayish-White Round shape Colonies (≤1mm)

Thermo Scientific™ Chocolate G.C. Selective agar

Product code: PB0963A

Oxoid GC Agar has been formulated to include Special Peptone which is a mixture of meat and plant enzymatic digests.

Principle:

The presence of starch ensures that toxic metabolites produced by Neisseria are absorbed. Phosphate buffers are included to prevent changes in pH due to amine production that would affect the survival of the organism.

Microbiological control and product code:

R4603810
Neisseria gonorrhoeae ATCC® 49226™ Grey / brown colonies

R4607041
Neisseria gonorrhoeae ATCC® 19424™ (NCTC 8375) Grey colonies

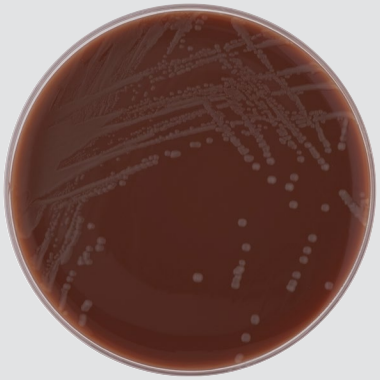
R4607057
Proteus hauseri ATCC® 13315™ No growth

R4601503
Candida albicans ATCC® 10231™ No growth

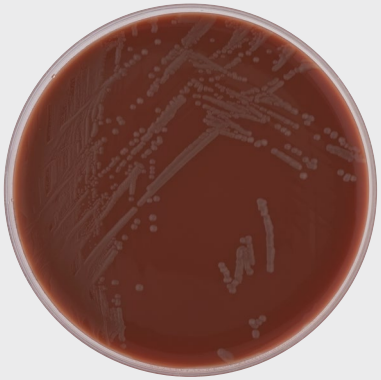
R4607010
Staphylococcus aureus ATCC® 25923™ No growth

R4607043
Neisseria gonorrhoeae ATCC® 43069™

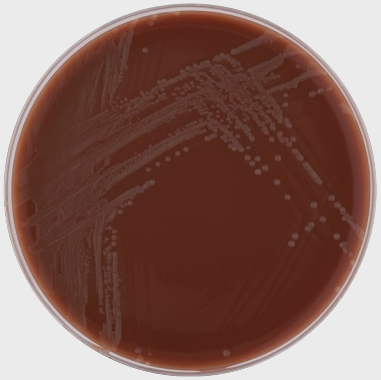
Haemophilus influenzae ATCC® 10211™



Medium Round Cream Shiny colonies (3-5mm)



Small Round moist transparent colonies with a characteristic “mousy” odor (2-3 mm)



Small Round Colonies (1-2 mm)

Thermo Scientific™ Chocolate G.C. Selective agar

Product code: PB0963A

Oxoid GC Agar has been formulated to include Special Peptone which is a mixture of meat and plant enzymatic digests.

Principle:

The presence of starch ensures that toxic metabolites produced by Neisseria are absorbed. Phosphate buffers are included to prevent changes in pH due to amine production that would affect the survival of the organism.

Microbiological control and product code:

R4603810
Neisseria gonorrhoeae ATCC® 49226™ Grey / brown colonies

R4607041
Neisseria gonorrhoeae ATCC® 19424™ (NCTC 8375) Grey colonies

R4607057
Proteus hauseri ATCC® 13315™ No growth

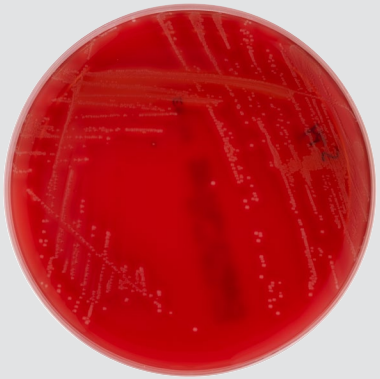
R4601503
Candida albicans ATCC® 10231™ No growth

R4607010
Staphylococcus aureus ATCC® 25923™ No growth

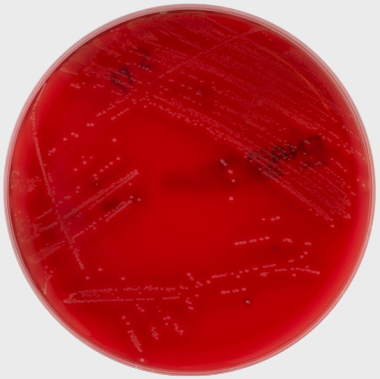
R4603810
Haemophilus influenzae ATCC® 10211™

Columbia CAP Selective Agar with Sheep Blood (Product code: PB5082A)

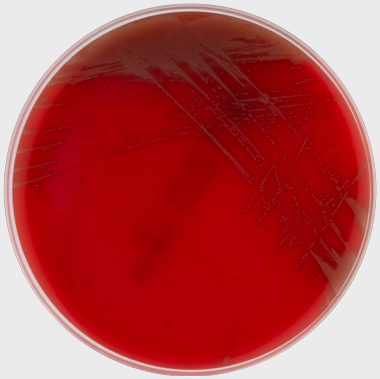
Streptococcus pyogenes ATCC®



Small Shiny Grey Circular Colonies with ß-hemolysis (1-2mm)



Small Circular Colonies light grey/white colour with ß-hemolysis (1mm) Clear zone around or under the colony.



Small Circular Colonies light grey colour with ß-hemolysis (1mm)

Thermo Scientific™ Columbia CAP Selective Agar with Sheep Blood Product code: PB5082A

A selective medium for the isolation of Gram-positive bacteria from clinical specimens. The addition of colistin does inhibit the growth of a large portion of the Gram-negative accompanying flora. Traditionally, nalidixic acid was used to suppress these species, but this is losing effectiveness with increasing resistance rates. In addition, nalidixic acid can influence the colony morphology and color of Staphylococcus aureus and make the reading more difficult.

Note: Columbia CAP agar represents a good alternative to Columbia CNA due to less resistance of Proteus spp.

Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC® 25923™ Good growth, white shiny colonies

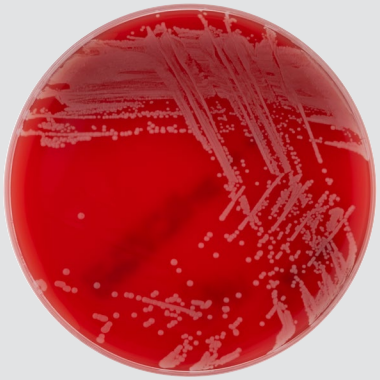
R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies withalpha -haemolysis

R4607058
Proteus vulgaris ATCC®8427™ / R4607060 - Pseudomonas aeruginosa ATCC® 27853™ Complete inhibition (= 10 cfu)

R4607000
Streptococcus pyogenes ATCC® 19615™

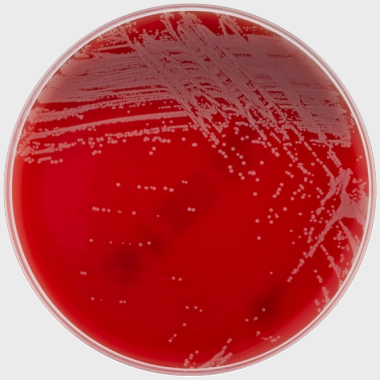
Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

Staphylococcus aureus ATCC® 25923™



Small (White Shiny Colonies 1-2mm)

White Creamy Colonies with or without β-hemolysis



Small Circular Colonies (1mm)
Gray white colour with Beta hemolysis

Thermo Scientific™ Columbia CAP Selective Agar with Sheep Blood Product code: PB5082A

A selective medium for the isolation of Gram-positive bacteria from clinical specimens. The addition of colistin does inhibit the growth of a large portion of the Gram-negative accompanying flora. Traditionally, nalidixic acid was used to suppress these species, but this is losing effectiveness with increasing resistance rates. In addition, nalidixic acid can influence the colony morphology and color of Staphylococcus aureus and make the reading more difficult.

Note: Columbia CAP agar represents a good alternative to Columbia CNA due to less resistance of Proteus spp.

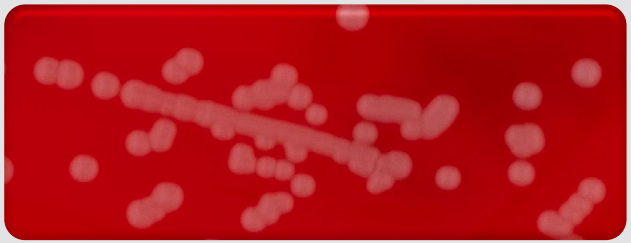
Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC® 25923™ Good growth, white shiny colonies

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies withalpha -haemolysis

R4607058
Proteus vulgaris ATCC®8427™™ / R4607060 - Pseudomonas aeruginosa ATCC® 27853™ Complete inhibition (= 10 cfu)

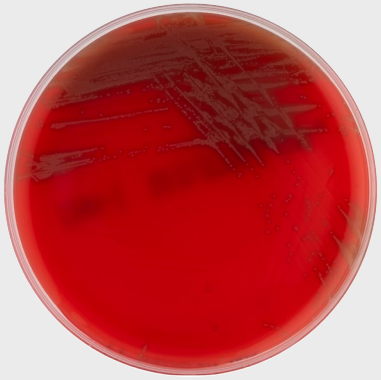
Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis



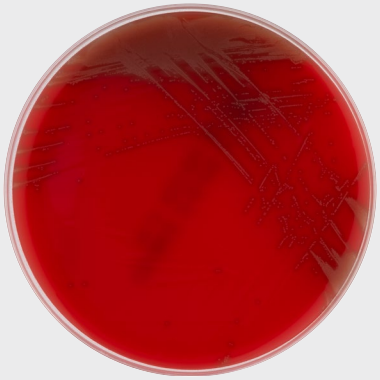
Columbia CNA (Product code: PB5049A)

Streptococcus pneumoniae ATCC® 49619™

Small (1-2mm), Grey Circular Colonies with α-hemolysis



Small (1-2mm), Grey Circular Colonies with α-hemolysis



Small (1-2mm), Grey Circular Colonies with α-hemolysis

Thermo Scientific™ Staph / Strep Selective (Columbia CNA) Product code: PB5049A

A selective medium for the isolation of staphylococci and streptococci with clear hemolysis and typical growth for *Streptococcus pneumoniae*. Includes colistin and nalidixic acid to inhibit gram-negative bacilli. The addition of sheep blood to the medium allows distinct identification of *S. pneumoniae* through the production of clear alpha-haemolysis (dent morphology)

Columbia CNA Agar with Sheep Blood contains antibiotics to inhibit *S. albus* and Micrococcus species as well as Gram-positive and Gram-negative rods. It suppresses growth of Proteus, Klebsiella and Pseudomonas species while permitting unrestricted growth of *S. aureus,* haemolytic streptococci and enterococci. This medium enables important Gram-positive cocci to be recognised more readily and isolated easily from the mixed bacterial populations contained in many clinical specimens and foods..

Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC® 25923™ Good growth, white shiny colonies

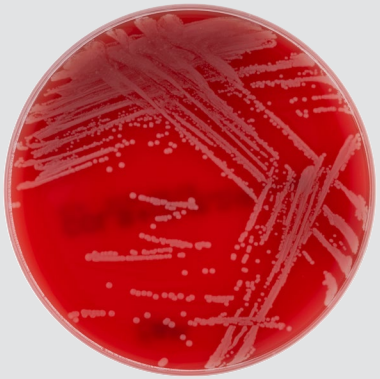
R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies withalpha -haemolysis

R4607058
Proteus vulgaris ATCC®8427™ / R4607060 - Pseudomonas aeruginosa ATCC® 27853™ Complete inhibition (= 10 cfu)

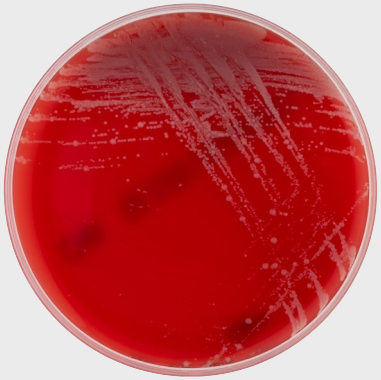
R4609015
Streptococcus pneumoniae ATCC® 49619™

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

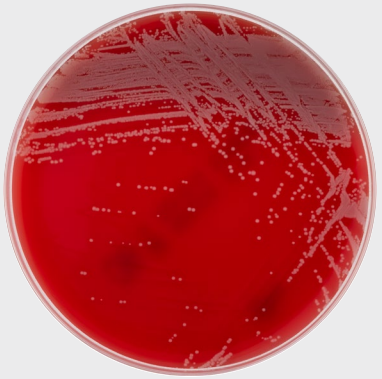
Staphylococcus aureus ATCC®



Small (1-2mm), White shiny colonies



Small (1-2mm), White shiny colonies



Small (1-2mm), White shiny colonies

Thermo Scientific™ Staph / Strep Selective (Columbia CNA) Product code: PB5049A

A selective medium for the isolation of staphylococci and streptococci with clear hemolysis and typical growth for *Streptococcus pneumoniae*. Includes colistin and nalidixic acid to inhibit gram-negative bacilli. The addition of sheep blood to the medium allows distinct identification of *S. pneumoniae* through the production of clear alpha-haemolysis (dent morphology)

Columbia CNA Agar with Sheep Blood contains antibiotics to inhibit *S. albus* and Micrococcus species as well as Gram-positive and Gram-negative rods. It suppresses growth of Proteus, Klebsiella and Pseudomonas species while permitting unrestricted growth of *S. aureus,* haemolytic streptococci and enterococci. This medium enables important Gram-positive cocci to be recognised more readily and isolated easily from the mixed bacterial populations contained in many clinical specimens and foods..

Microbiological control and product code:

R4607010
Staphylococcus aureus ATCC® 25923™ Good growth, white shiny colonies

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies withalpha -haemolysis

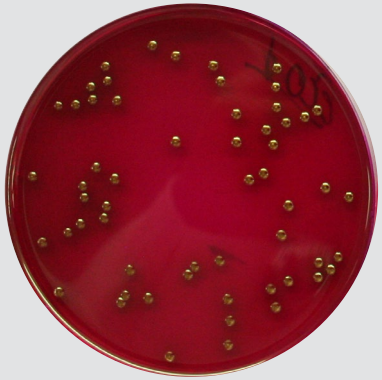
R4607058
Proteus vulgaris ATCC®8427™ / R4607060 - Pseudomonas aeruginosa ATCC® 27853™ Complete inhibition (= 10 cfu)

R4609015
Streptococcus pneumoniae ATCC® 49619™

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

Endo Agar (Product code: PO5005A)

Escherichia coli ATCC® 25922™



Medium Green metallic colonies (1-2mm) Marked reddening of the medium Vs pale pink where no growth

Colonies dark pink to rose-red with green metallic sheen. Marked reddening of the medium may occur

Thermo Scientific™ Endo Agar

Product code: PO5005A

A medium for the detection and isolation of Enterobacteriaceae from clinical samples, potable water, dairy products and foods. Endo Agar is now mostly used for the differentiation of lactose fermenting and lactose non-fermenting intestinal organisms. The formulation allows an easy identification of *Escherichia coli* and Klebsiella spp. due to the metallic shining of the colonies.

- Coliform organisms ferment the lactose in this medium, producing a green metallic sheen
- *Klebsiella oxytoca* NCIMB 12819
- Non-lactose-fermenting organisms produce clear, colourless colonies
- Salmonella spp

Microbiological control and product code:

R4607050
Escherichia coli ATCC® 25922™ 1 – 2 mm, green metallic colonies.

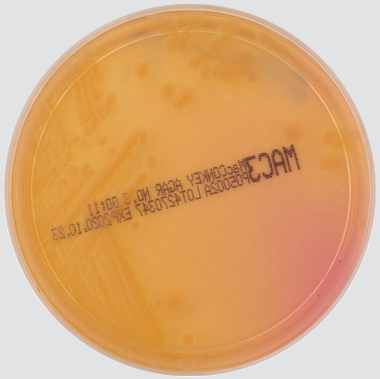
R4606000
Salmonella Typhimurium ATCC® 14028™ Good growth, light rose shiny colonies.

R4607080
Enterobacter aerogenes ATCC® 13048™ Good growth, pink shiny colonies.

R4608101
Shigella flexneri ATCC® 12022™ Good growth, light rose shiny colonies

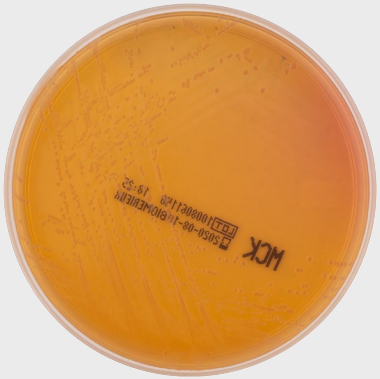
MacConkey Agar No. 3 (Product code: PO5002A)

S. typhimurium ATCC® 14028™



Medium Brownish-Straw shiny colonies (2-4 mm)

Medium Colorless colonies
(orange to amber colorless to beige colonies)



Small Colorless colonies

Thermo Scientific™ MacConkey Agar No. 3

Product code: PO5002A

A more selective modification of MacConkey medium suitable for the detection and enumeration of Enterobacteriaceae, including the detection and isolation of *Salmonella* and *Shigella* spp. occurring in pathological and food specimens. Due to the inclusion of a specially prepared fraction of bile salts in addition to crystal violet, the medium gives improved differentiation between coliforms and non-lactose fermenting organisms while Gram-positive cocci are completely inhibited.

Peptone supplies nutrients and agar is the agent solidifying. Bile salts are bacteria inhibitors non-intestinal and help prevent invasive growth of Proteus. Bile salts and crystal violet stain inhibit the growth of gram-positive cocci. Lactose is added as a carbon source. The differentiation of bacteria is achieved by combining lactose and neutral red indicator, which is red with an acidic pH and yellow with an alkaline one.

Colonial Characteristics:

Lactose Fermenting bacteria appear as pinkish-red colonies, which can be surrounded by areas of precipitated bile salts. The precipitation is caused by the action of acid produced by the fermentation of lactose on salts biliary.

Bacteria that do not ferment lactose, such as *Salmonella*, normally show up as colonies between colorless and straw-colored.

Microbiological control and product code:

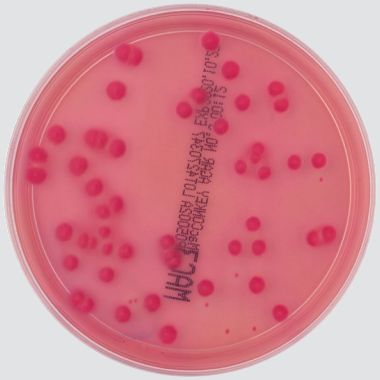
R4607050
Escherichia coli ATCC® 25922™ Red colonies and bile precipitation

R4608150
Shigella sonnei ATCC® 25931™ Straw colonies

R4607030
Enterococcus faecalis ATCC® 29212™ No growth

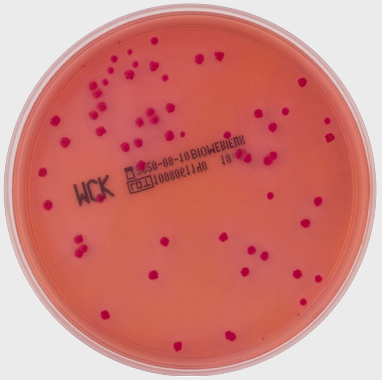
R4606000
S. typhimurium ATCC® 14028™

E. Coli ATCC® 25922™



Big pink Colonies (3-6 mm). Dry, round and “fried egg” shaped, darker surrounded area of precipitated bile salts.

Big Purple-pink Colonies (4-6 mm). Round and “fried egg” shaped, (may be surrounded by a zone of precipitated bile)



Medium pink Colonies (2-4 mm). Donut shaped, (Less intense darker surrounded area of precipitated bile salts).

Thermo Scientific™ MacConkey Agar No. 3

Product code: PO5002A

A more selective modification of MacConkey medium suitable for the detection and enumeration of Enterobacteriaceae, including the detection and isolation of *Salmonella* and *Shigella* spp. occurring in pathological and food specimens. Due to the inclusion of a specially prepared fraction of bile salts in addition to crystal violet, the medium gives improved differentiation between coliforms and non-lactose fermenting organisms while Gram-positive cocci are completely inhibited.

Peptone supplies nutrients and agar is the agent solidifying. Bile salts are bacteria inhibitors non-intestinal and help prevent invasive growth of Proteus. Bile salts and crystal violet stain inhibit the growth of gram-positive cocci. Lactose is added as a carbon source. The differentiation of bacteria is achieved by combining lactose and neutral red indicator, which is red with an acidic pH and yellow with an alkaline one.

Colonial Characteristics:

Lactose Fermenting Bacteria appear as pinkish-red colonies, which can be surrounded by areas of precipitated bile salts. The precipitation is caused by the action of acid produced by the fermentation of lactose on salts biliary.

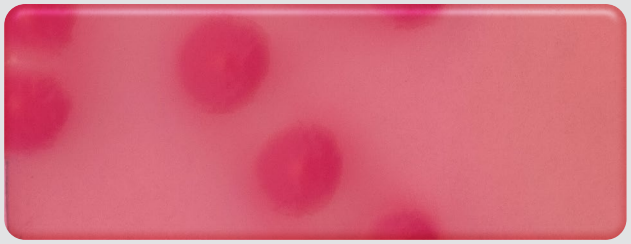
Bacteria that do not ferment lactose, such as *Salmonella*, normally show up as colonies between colorless and straw-colored.

Microbiological control and product code:

R4607085
Escherichia coli ATCC® 8739™ Red colonies and bile precipitation

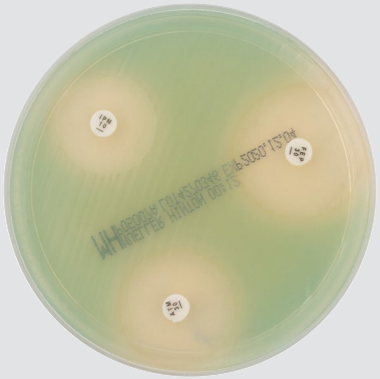
R4606000
Salmonella typhimurium ATCC® 14028™ Straw colonies

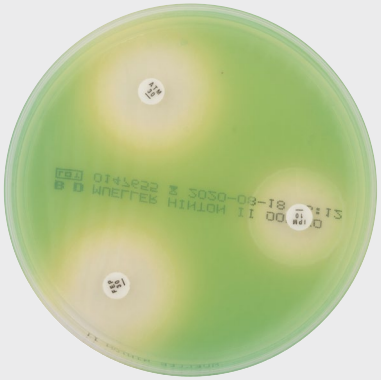
R4607016
Staphylococcus aureus ATCC® 6538™ No growth

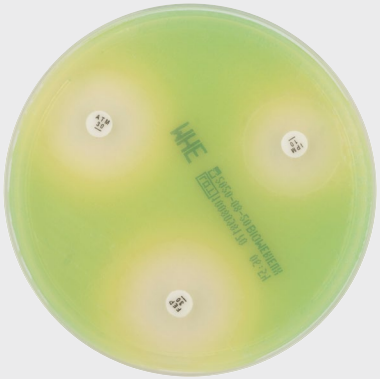


Mueller Hinton Agar (Product code: PO5007A)

Pseudomonas aeruginosa ATCC® 27853™







Thermo Scientific™ Mueller Hinton Agar

Product code: PO5007A

Mueller Hinton Agar is Recommended by the Committee European Council on Antimicrobial Sensitivity Testing (EUCAST or European Committee on Antimicrobial Susceptibility Testing) and the Standards Institute for laboratory and clinical (CLSI or Clinical and Laboratory Standards Institute) for the analysis of non-demanding strains when using the disk broadcast method.

Note: The user will be responsible for carrying out the analysis of quality control taking into account the intended use of the medium and in accordance with applicable local regulations

Microbiological control and product code:

R4607060
Pseudomonas aeruginosa ATCC® 27853™

R4607011
Staphylococcus aureus ATCC® 29213™

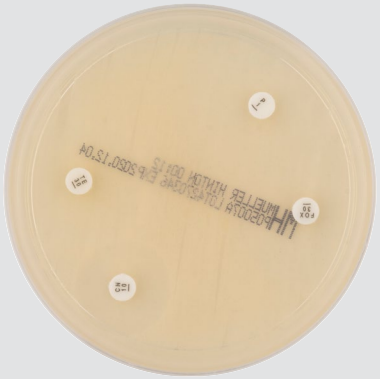
R4607030
Enterococcus faecalis ATCC®29212™

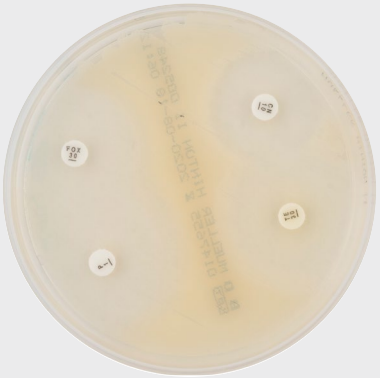
R4601971
Escherichia coli ATCC® 35218™

Microorganism *Staphylococcus aureus* ATCC® 29213™	Zone size (mm)
EUCAST/CLSI	
Gentamicin (CN 10)	19-25
Tetracycline (TE 30)	23-31
Penicillin G (P 1)	12-18
Cefoxitin (FOX 30)	24-30

Microorganism *Pseudomonas aeruginosa* ATCC® 27853™	Zone size (mm)
EUCAST/CLSI	
Aztreonam (ATM 30)	23-29
Impenem (IPM 30)	20-28
Cefepime (FEP 30)	24-30

Staphylococcus aureus ATCC® 29213™





Thermo Scientific™ Mueller Hinton Agar

Product code: PO5007A

Mueller Hinton Agar is Recommended by the Committee European Council on Antimicrobial Sensitivity Testing (EUCAST or European Committee on Antimicrobial Susceptibility Testing) and the Standards Institute for laboratory and clinical (CLSI or Clinical and Laboratory Standards Institute) for the analysis of non-demanding strains when using the disk broadcast method.

Note: The user will be responsible for carrying out the analysis of quality control taking into account the intended use of the medium and in accordance with applicable local regulations

Microbiological control and product code:

R4607060
Pseudomonas aeruginosa ATCC® 27853™

R4607011
Staphylococcus aureus ATCC® 29213™

R4607030
Enterococcus faecalis ATCC®29212™

R4601971
Escherichia coli ATCC® 35218™

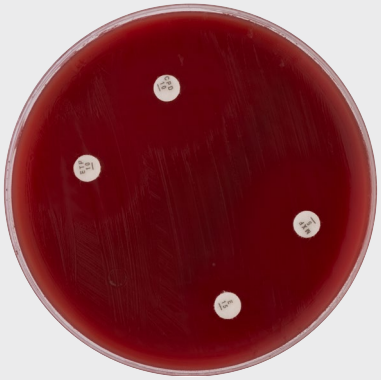
Microorganism *Staphylococcus aureus* ATCC® 29213™	Zone size (mm)
EUCAST/CLSI	
Gentamicin (CN 10)	19-25
Tetracycline (TE 30)	23-31
Penicillin G (P 1)	12-18
Cefoxitin (FOX 30)	24-30

Microorganism *Pseudomonas aeruginosa* ATCC® 27853™	Zone size (mm)
EUCAST/CLSI	
Aztreonam (ATM 30)	23-29
Impenem (IPM 30)	20-28
Cefepime (FEP 30)	24-30

Mueller Hinton Agar with Horse Blood (Product code: PB5303A)

Haemophilus influenzae ATCC® 49766™

Medium Brownish-Straw shiny colonies (2-4 mm)



Medium Colorless colonies
(orange to amber colorless to beige colonies)

Small Colorless colonies

Thermo Scientific™ Mueller Hinton Agar with Horse Blood Product code: PB5303A

Mueller Hinton Agar with Equine Blood and NAD (MH-F) is recommended by the European Committee on Testing Antimicrobial Sensitivity (EUCAST or European Committee on Antimicrobial Susceptibility Testing) for the fastidious microorganism analysis, such as streptococci, *Haemophilus influenzae*, and *Campylobacter* spp. when using the disk broadcast method.

Note: The user will be responsible for carrying out the analysis of quality control taking into account the intended use of the medium and in accordance with applicable local regulations

Microbiological control and product code:

R4609015
Streptococcus pneumoniae ATCC® 49619™

R4609391
Haemophilus influenzae NCTC 8468

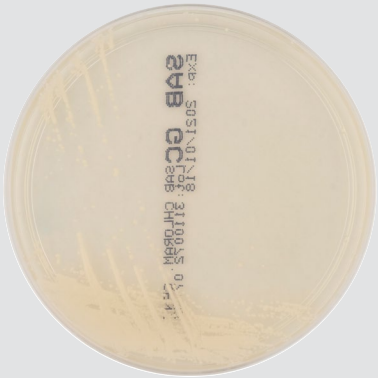
R4603806
Haemophilus influenzae ATCC® 49766™

Microorganism *Streptococcus pneumoniae* ATCC® 49619™	Zone size (mm)
EUCAST	
Erythromycin 15	26-32
Cefpodoxime 10	29-35
Ertapenem 10	28-34
Moxifloxacin 5	24-30

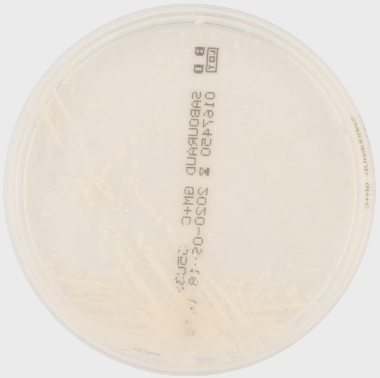
Microorganism *Haemophilus influenzae* NCTC 8468™	Zone size (mm)
EUCAST	
Erythromycin 15	12-18
Cefpodoxime 10	28-34
Moxifloxacin 5	29-35

Sabouraud Glucose Selective Agar with Gentamicin & Chloramphenicol (Product code: PO5096A)

Candida albicans ATCC® 10231™



Medium white colonies (2-3mm)



Medium transparent colonies

Small - Medium white creamy colonies

Thermo Scientific™ Sabouraud Glucose Selective Agar with Gentamicin and Chloramphenicol

Product code: PB5303A

An acid pH medium for the selective isolation of dermatophytes other fungi and yeasts. Especially suited for fungi with a high water activity optimum. The use of gentamicin and chloramphenicol leads to the following selective effects with only minimal compromising of the growth properties: Chloramphenicol is a broad spectrum antibiotic that suppresses Gram-positive and Gram-negative bacteria as well as acid-resistant bacilli. However, the growth of *Pseudomonas* spp. Is only slightly suppressed while gentamicin is particularly effective against *Pseudomonas aeruginosa*.

Colonial Characteristics:

T. rubrum forms 2 to 3cm large, cream-coloured colonies with white spores and pink-colored underside,

Aspergillus brasiliensis forms approx. 3 to 5cm large, white colonies with black spores

C . albicans forms 2 to 3mm large, yellowish and round colonies.

Microbiological control and product code:

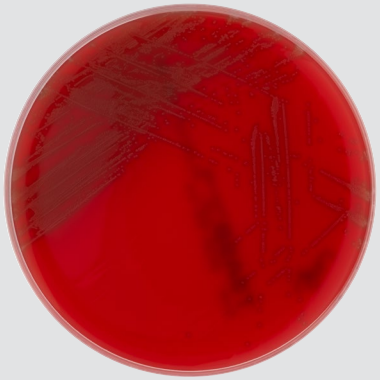
R4607050
Escherichia coli ATCC® 25922™ Complete inhibition (= 10 cfu).

R4601100
Aspergillus brasiliensis ATCC ® 16404™ Good growth, white mycelium, black spores.

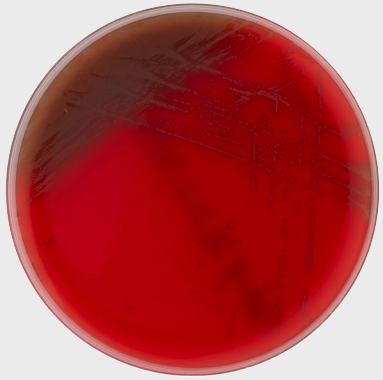
R4601503
Candida albicans ATCC®10231™ 2 – 3 mm, white colonies.

TSA with 5% Sheeps Blood (Product code: PB5012A)

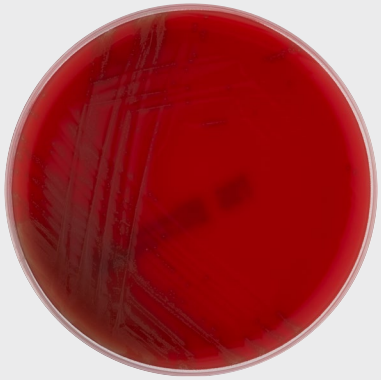
Streptococcus pneumoniae ATCC® 49619™



Small Round Grey Colonies with α-haemolysis (1mm)



Small Green Grey Colonies with α- hemolysis (1mm)



Small light Grey Circular Colonies with α- hemolysis (1mm)
*Greenish discoloration around the colony.

Thermo Scientific™ TSA with 5% sheep blood

Product code: PB5303A

General purpose non-selective medium, which will support the growth of a wide variety of organisms, with the addition of sheep blood in the formulation to promote the presence and visualization of haemolytic reactions as a diagnostic tool.

Principle:

The combination of casein digest and papaic digest of soybean meal leads to optimal growth due to synergy between the protein supply of casein and the carbohydrate supply of soybeans. Sterile defibrinated sheep blood used to enrich the medium produces the hemolysis characteristics of different bacteria, such as streptococci, listeria, hemolytic *Escherichia coli* and Pseudomonas.

Microbiological control and product code:

R4607016
Staphylococcus aureus ATCC® 6538™ 2-4 mm, yellow shiny colonies with haemolysis

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies with alpha -haemolysis

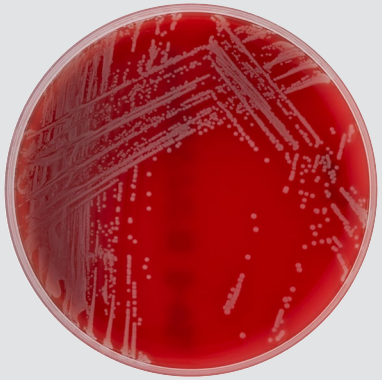
R4605210
Pseudomonas aeruginosa ATCC® 9027™ 3-8 mm, grey shiny colonies.

R4601220
Bacillus cereus ATCC® 11778™ 5-8 mm, rough colonies with doublehaemolysis

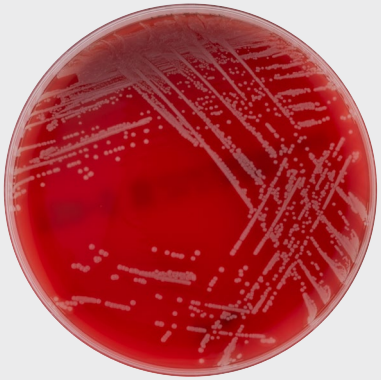
R4609015
Streptococcus pneumoniae ATCC® 49619™

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

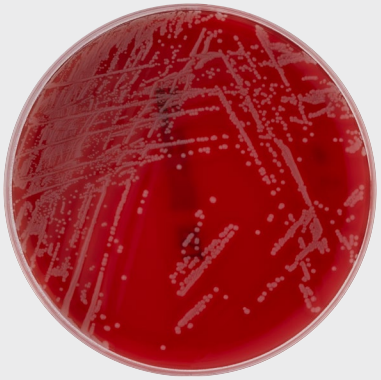
Staphylococcus aureus ATCC® 6538™



Small to Medium white shiny colonies with haemolysis (2-4 mm)



White shiny colonies with haemolysis (2-4 mm)



Small 2-4 mm, white shiny colonies with haemolysis (2-4 mm)

Thermo Scientific™ TSA with 5% sheep blood

Product code: PB5303A

General purpose non-selective medium, which will support the growth of a wide variety of organisms, with the addition of sheep blood in the formulation to promote the presence and visualization of haemolytic reactions as a diagnostic tool.

Principle:

The combination of casein digest and papaic digest of soybean meal leads to optimal growth due to synergy between the protein supply of casein and the carbohydrate supply of soybeans. Sterile defibrinated sheep blood used to enrich the medium produces the hemolysis characteristics of different bacteria, such as streptococci, listeria, hemolytic staphylococci, *Escherichia coli* and Pseudomonas.

Microbiological control and product code:

R4607016
Staphylococcus aureus ATCC® 6538™ 2-4 mm, yellow shiny colonies with haemolysis

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies with alpha -haemolysis

R4605210
Pseudomonas aeruginosa ATCC® 9027™ 3-8 mm, grey shiny colonies.

R4601220
Bacillus cereus ATCC® 11778™ 5-8 mm, rough colonies with doublehaemolysis

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

Streptococcus pyogenes ATCC® 12344™

Small light Grey/white Circular Colonies with Beta hemolysis. (1-2mm)

Small light Grey/white Circular Colonies with Beta hemolysis (1-2mm)

Small white Circular Colonies with Beta hemolysis (1-2mm)

Thermo Scientific™ TSA with 5% sheep blood

Product code: PB5303A

General purpose non-selective medium, which will support the growth of a wide variety of organisms, with the addition of sheep blood in the formulation to promote the presence and visualization of haemolytic reactions as a diagnostic tool.

Principle:

The combination of casein digest and papaic digest of soybean meal leads to optimal growth due to synergy between the protein supply of casein and the carbohydrate supply of soybeans. Sterile defibrinated sheep blood used to enrich the medium produces the hemolysis characteristics of different bacteria, such as streptococci, listeria, hemolytic staphylococci, *Escherichia coli* and Pseudomonas.

Microbiological control and product code:

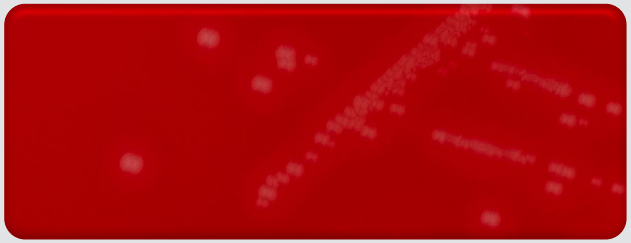
R4607016
Staphylococcus aureus ATCC® 6538™ 2-4 mm, yellow shiny colonies with haemolysis

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies with alpha -haemolysis

R4605210
Pseudomonas aeruginosa ATCC® 9027™ 3-8 mm, grey shiny colonies.

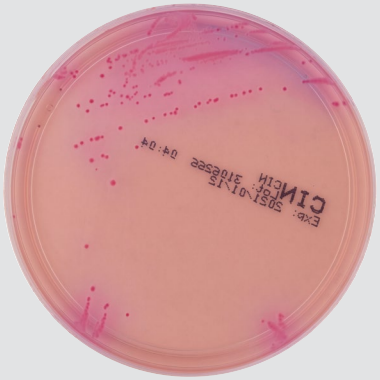
R4601220
Bacillus cereus ATCC® 11778™ 5-8 mm, rough colonies with doublehaemolysis

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis



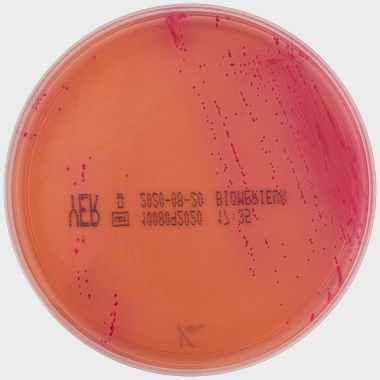
Yersinia Selective Medium (CIN) (Product code: PO5044A)

Yersinia enterocolitica ATCC® 9610™



Small transparent colonies with pink centre. (1- 2 mm)

Small pale-Rose colony with a dark red centre (1-3 mm)



Tiny Pink colonies (≤1mm)

Thermo Scientific™ Yersinia Selective Medium (CIN)

Product code: PB5303A

For isolation and enumeration of *Yersinia enterocolitica* from clinical specimens and food. Specifically developed for the optimum growth and recovery of *Yersinia enterocolitica* after 18 to 24 hours incubation at 32°C. The formulation includes cefsulodin, Irgasan™ and novobiocin

Principle:

Special peptone provides the nitrogen and amino acid source and yeast extract is the source of vitamins and other nutrients. Neutral red acts as the pH indicator. *Y. enterocolitica* ferments the mannitol present in the medium producing an acid pH giving the colonies a red colour and a bull's-eye appearance. Microorganisms that do not metabolize mannitol form colourless, translucent colonies. Sodium desoxycholate and crystal violet inhibit the growth of Gram-positive microorganisms. Cefsulodin is a bactericidal antimicrobial agent with activity against Pseudomonas aeruginosa but little against other Gram- negative microorganisms. Novobiocin is active against Gram-positive microorganisms (but not *enterococci*) and some strains of *Proteus* spp., although most other Enterobacteriaceae are resistant. Irgasan is a broad-spectrum antimicrobial agent.

Colonial Characteristics:

The typical colonies of *Y. enterocolitica* will develop as a red bull's-eye surrounded by a transparent border and will vary considerably among serotypes in size, smoothness and the ratio of the border to centre diameter. Most other microorganisms that are able to grow will produce larger colonies (>2 mm diameter) with diffuse pinkish centres and opaque outer zones. Serratia liquefaciens, Citrobacter freundii and Enterobacter agglomerans may give a colonial morphology resembling *Y. enterocolitica*. These organisms can be differentiated from *Y. enterocolitica* by biochemical tests such as growth on nutrient and MacConkey agars, indole and urease production and for acid reactions from sucrose, cellobiose, amygdalin, melibiose, rhamnose and raffinose.

Microbiological control and product code:

R4607076
Yersinia enterocolitica ATCC® 23715™ (WDCM 00160)
Good growth 1 – 3 mm Transparent colonies with pink centre

R4609018
Yersinia enterocolitica ATCC® 9610™ WDCM 00038
Good growth 1 – 3 mm Transparent colonies with pink centre

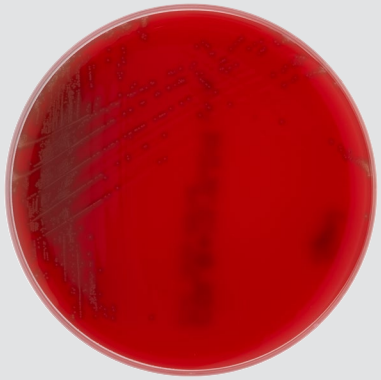
R4607058
Proteus vulgaris ATCC®8427™

R4607010
Staphylococcus aureus ATCC® 25923™

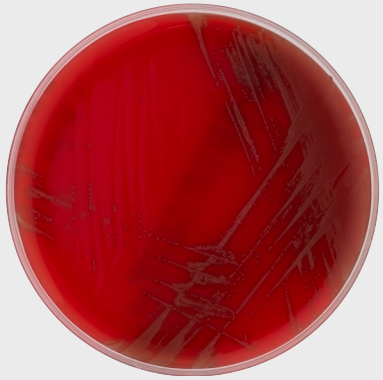
R4607085
Escherichia coli ATCC®8739™ Complete inhibition (≤ 10 cfu)

Columbia Agar with Sheep Blood PLUS (Product code: PB5039A)

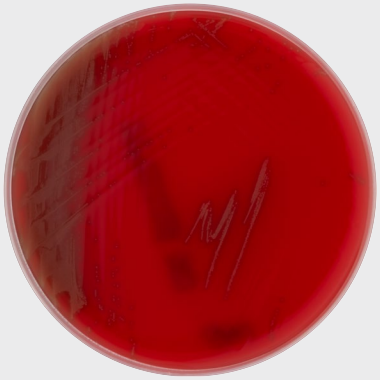
Streptococcus pneumoniae ATCC® 49619™



Small, dark grey Circular Colonies (1mm), with α- hemolysis



Small White to Grayish Colonies with α-hemolysis (1mm)



Small Grey Circular Colonies with α- hemolysis (1mm)*
Greenish coloration around the colony

Thermo Scientific™ Columbia Agar with Sheep Blood PLUS

Product code: PB5303A

Isolate and cultivate fastidious microorganisms with clearly visible haemolytic reactions (staphylococci and streptococci) with a media formulation that contains sheep blood. Sheep Blood promotes haemolysis typical of *Staphylococcus aureus*, and it gives typical growth for *Streptococcus pneumonia* (dent morphology).

Principle:

The special peptone provides nutrients for the growth. Starch is added to absorb the possible toxic metabolites. The addition of blood from sheep, as well as its performance as a nutrient, allows the determination of the hemolytic properties of isolated element.

Microbiological control and product code:

R4607016
Staphylococcus aureus ATCC® 6538™ 2-4 mm, yellow shiny colonies with haemolysis

R4607010
Staphylococcus aureus ATCC®25923™ Good growth, white colonies

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies with alpha -haemolysis

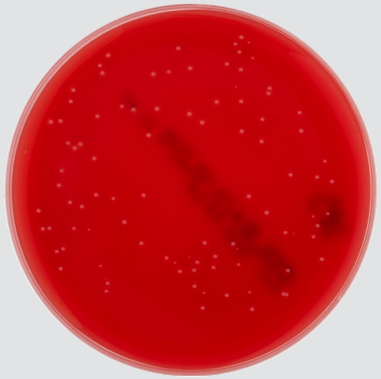
R4605210
Pseudomonas aeruginosa ATCC® 9027™ 3-8 mm, grey shiny colonies.

R4607085
Escherichia coli ATCC®8739™ Good growth, dark grey colonies.

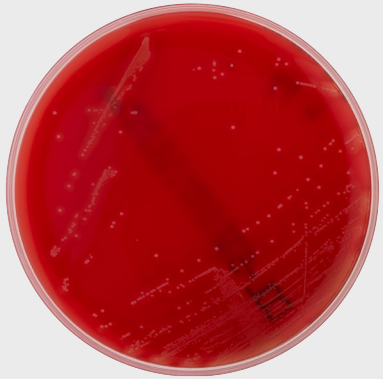
R4609015
Streptococcus pneumoniae ATCC® 49619

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

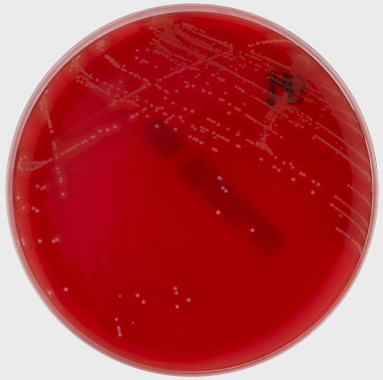
Streptococcus pyogenes ATCC® 19615™



Small light Grey/White Circular Colonies with β hemolysis. (1-2mm)



Small White to Grayish Colonies with β-hemolysis. (1-2mm)



Small White Circular Colonies with β-hemolysis (1-2mm)
*Clear zone around or under the colony

Thermo Scientific™ Columbia Agar with Sheep Blood PLUS

Product code: PB5303A

Isolate and cultivate fastidious microorganisms with clearly visible haemolytic reactions (Staphylococci and Streptococci) with a media formulation that contains sheep blood. Sheep Blood promotes haemolysis typical of *Staphylococcus aureus*, and it gives typical growth for *Streptococcus pneumonia* (dent morphology).

Principle:

The special peptone provides nutrients for the growth. Starch is added to absorb the possible toxic metabolites. The addition of blood from sheep, as well as its performance as a nutrient, allows the determination of the hemolytic properties of isolated element.

Microbiological control and product code:

R4607016
Staphylococcus aureus ATCC® 6538™ 2-4 mm, yellow shiny colonies with haemolysis

R4607010
Staphylococcus aureus ATCC®25923™ Good growth, white colonies

R4607024
Streptococcus pneumoniae ATCC® 6305™ Good growth, grey colonies with alpha -haemolysis

R4605210
Pseudomonas aeruginosa ATCC® 9027™ 3-8 mm, grey shiny colonies.

R4607085
Escherichia coli ATCC®8739™ Good growth, dark grey colonies.

R4607000
Streptococcus pyogenes ATCC® 19615™

Streptococcus pyogenes ATCC® 12344™ 1 – 2 mm, grey shiny colonies with beta-haemolysis

thermo scientific

Here at Thermo Scientific Culture Media, we are in a unique position.

We have forged a strong reputation for our quality, and stand as a truly global player whose reach spans right across the world.

But what makes us unique is what happens behind the scenes; we are relentless in our pursuit of the next advancement.

Our experts continually pioneer innovative solutions, to ensure we provide flexibility like never before. And we collaborate closely with our customers to deliver tailored, flexible service.

To be Thermo Scientific means to never stop innovating, to discover the game-changing environmental and service solutions of tomorrow.

Why?
Because we have never lost sight of our purpose: partnering with our customers to make their lives infinitely easier.

Thermo Scientific Culture Media:
Our Culture is Innovation.

ATCC Licensed Derivative™

The ATCC Licensed Derivative® Emblem, the ATCC Licensed Derivative® word mark, and the ATCC catalog marks are trademarks of ATCC. Thermo Fisher Scientific Inc. is licensed to use these trademarks and to sell products derived from ATCC® cultures.

Find out more at **thermofisher.com/clinical-ppm-switch**

ThermoFisher SCIENTIFIC