Микробиологические питательные среды
Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Киргизия +996(312)-96-26-47
Казахстан +7(7172)727-132

cbc@nt-rt.ru || https://condalab.nt-rt.ru/

2xYT Agar

Cat. 1167

Medium for fibrous bacteriophages

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

2xYT Agar is a nutritionally rich growth medium recommended for the optimal growth of recombinant strains of E. coli on agar plates. This medium is also used for propagation of M13 bacteriophage or other fibrous bacteriophages for sequencing and phage display.

Bacteriophages are viruses that can only infect and replicate within bacteria. In many cases, these are very specific relationships. Somatic coliphages specifically infect Escherichia coli and in water indicate contamination by human or animal faeces or by wastewater containing such material.

Tryptone and yeast extract are the sources for carbon, nitrogen, vitamins, minerals, and amino acids essential for growth, as well as growth factors that allow phages to reproduce without weakening the host cells. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Many supplements, including antibiotics, are heat-sensitive and cannot be autoclaved. These should be filter-sterilized and added to the medium after it has cooled down and prior to solidification. Escherichia coli growth faster on the enrichment medium as provide aminoacid, nucleotide precursors, vitamins and other metabolite which in another way it should be synthesized by the cell.

Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Tryptone	16	Yeast extract	10

Preparation

Suspend 46 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth

Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

2xYT Medium

Cat. 1507

For the cultivation of recombinant strains of E.coli and for growth of filamentous bacteriophages.

Practical information

Aplications	Categories
Selective enrichment	Escherichia coli
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

2xYT Medium is a nutritive medium optimized for the growth and maintenance of M13 phages and other filamentous bacteriophages. It is also suitable for growth of recombinant strain of E.coli.

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. The components of the 2xYT Medium include nitrogen and other growth factors that allow bacteriophages to reproduce in large quantities without weakening the host. E. coli grows faster in this enriched medium, as it contains amino acids, precursors of nucleotides, vitamins and other metabolisms which otherwise the cell itself would have to synthesize.

Formula in g/L

Sodium chloride	5	Tryptone	16
Yeast extract	10		

Preparation

Suspend 31 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

2YT Autoinducible Growth Medium w/o Trace Elements

Cat. 2093

To grow IPTG inducible expression in bacterial strains.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Auto induction media was first formulated and developed by W. Studier to grow IPTG-inducible expression strains. The principle of auto induction media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters.

Auto induction media contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase.

With Auto induction media, a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth.

Formula in g/L

Glucose	0,5	Ammonium sulfate	3,3
Disodium phosphate	7,1	Magnesium sulfate	0,15
Monopotassium phosphate	6,8	Tryptone	16
Yeast extract	10	Alpha lactose	2

Preparation

Suspend 45,85 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 115 ºC for 20 minutes. Mix well and dispense into appropriate containers.

Instructions for use

- Consult appropriate references for recommended test procedures.
- Incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Beige	Amber	7,0±0,1

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

2YT Autoinducible Growth Medium with Trace Elements

Cat. 2113

To grow IPTG inducible expression in bacterial strains.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

Auto induction media was first formulated and developed by W. Studier to grow IPTG-inducible expression strains. The principle of auto induction media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters.

Auto induction media contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase.

With Auto induction media, a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth.

Formula in g/L

Glucose	0,5	Ammonium sulfate	3,3
Disodium phosphate	7,1	Magnesium sulfate	0,15
Monopotassium phosphate	6,8	Tryptone	16
Yeast extract	10	Trace elements	0,015
Alpha lactose	2		

Preparation

Suspend 45,86 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 115 ºC for 20 minutes. Mix well and dispense into appropriate containers.

Instructions for use

- Consult appropriate references for recommended test procedures.
- Incubate at a temperature of 35±2 ºC for 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

AIM -Super Growth w/o Trace Element

Cat. 2095

To grow IPTG inducible expression in bacterial strains

Practical information

Aplications	Categories
Protein expression	General use

Industry: Culture media for Molecular biology

Principles and uses

Auto Induction Media (AIM) was first formulated and developed by W. studier (1) to grow IPTG-inducible expression strains.

The principle of AIM is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters. AIM contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase. With AIM media a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG.

The principle of AIM media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth. For higher saturation density than AIM-LB Broth (2094).

Formula in g/L

Glucose	0,5	Alpha-lactose	2
Ammonium sulfate	3,3	Disodium phosphate	7,1
Magnesium sulfate	0,15	Monopotassium phosphate	6,8
Tryptone	35	Yeast extract	20

Preparation

Suspend 74.85 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for 1 minute or until complete dissolution. Sterilize in autoclave at 115ºC for 20 minutes. Mix well and dispense as wished.

Instructions for use

- Inoculate and incubate at a temperature of 35±2 ºC and observed after 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Beige	Amber	7,0 ± 0,1

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Induction Base Medium

Cat. 1540

Medium for maintenance and propagation of the PL promoter in E. coli strains GI724, GI826 and GI698.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

Induction Base Medium is used for the maintenance and propagation of the PL promoter in E. coli strains GI724, GI826 and GI698 and to increase plasmid yield during sequencing of positive clones. These strains contain the Lambda cI repressor gene under the control of the tryptophan-inducible trp promoter. This medium has low levels of tryptophan.

Casaminoacids provide the necessary nutrients and cofactors for a good growth of recombinant E. coli strains. Due to their greater degree of digestion, casaminoacids are an excellent source of free amino acids. Phosphates act as a buffer system. Ammonium chloride and magnesium sulfate provide essential ions for transport and osmotic balance.

Formula in g/L

Ammonium chloride	1	Casaminoacids	2
Disodium phosphate	6	Monopotassium phosphate	3
Sodium chloride	0,5	Magnesium chloride	0,095

Preparation

Suspend 12,6 grams of medium in one liter of distilled water. Dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to room temperature, add 25 ml of a 20% glucose solution and 1 ml of ampicillin (100 g/ml) under sterile conditions. Mix well.

Instructions for use

Consult an appropriate reference for recommended test procedures.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC GI724	Good growth

Storage

Temp. Min.:2 ºC

Temp. Max.:25 ºC

LB Agar (Lennox)

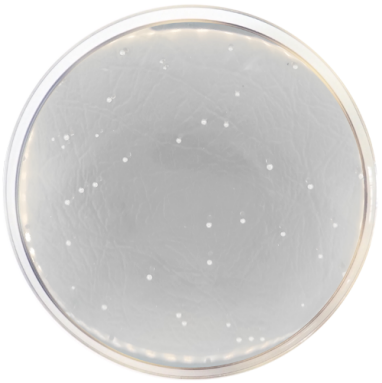
Cat. 1083

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology



Principles and uses

LB Agar (Lennox) is a nutritionally rich medium developed by Lennox for the growth and maintenance of pure cultures of recombinant strains of E. coli used inused in molecular microbiology procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent. If desired, antibiotics can also be added.

LB Agar (Lennox) has a different sodium chloride level than other media such as Luria Agar (Miller LB Agar) (Cat. 1552) or Luria Agar (Miller Modification) (Cat. 1308). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Tryptone	10	Yeast extract	5

Preparation

Suspend 35 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

LB Agar (Lennox) with Ampicilin 100 µg/ml

Cat. 2084

For the cultivation of E. coli in molecular genetics studies.

Practical information

Aplications	Categories
Selection of transformants	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

The LB Agar (Lennox) with Ampicilin 100 µg/ml medium is used for the selective growth of ampicillin resistant E. coli recombinant strains in molecular genetic studies. This medium is recommended for strains that require less salt concentration.

The transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. To select the bacteria with the plasmid, it is necessary to subcultivate an inoculum from LB agar to a LB broth with the antibiotic added.

Formula in g/L

Ampicillin	0,1	Bacteriological agar	15
Sodium chloride	5	Tryptone	10
Yeast extract	5		

Preparation

Suspend 35 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli DH5 alpha + pUC19	Good growth
Escherichia coli ATCC 25922	Total inhibition
Escherichia coli ATCC 8739	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

LB Agar with Kanamycin 50 µg/ml (Lennox)

Cat. 2090

To select colonies of Escherichia coli in molecular genetic studies.

Practical information

Aplications	Categories
Selection of transformants	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

LB Agar with Kanamycin 50 µg/ml (Lennox) is used for the selective growth of Kanamycin resistant E. coli recombinant strains in molecular genetic studies. This medium is recommended for strains that require less salt concentration.

The transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), where fewer transformed colonies will appear per ml plated. To select the bacteria with the plasmid, it is necessary to subcultivate an inoculum from LB agar to a LB broth with the antibiotic added.

Formula in g/L

Bacteriological agar	15	Kanamycin	0,05
Sodium chloride	5	Tryptone	10
Yeast extract	5		

Preparation

Suspend 35 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 118 ºC for 10 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli DH5 alpha + PH SG 298	Good growth
Escherichia coli ATCC 25922	Total inhibition
Escherichia coli ATCC 8739	Total inhibition

Storage

Temp. Min.:2 ºC

Temp. Max.:25 ºC

LB Broth (Lennox)

Cat. 1231

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Microbiological Culture Media

Principles and uses

LB Broth (Lennox) is a nutritionally rich medium developed by Lennox for the growth and maintenance of pure cultures of recombinant strains of E. coli used in molecular and microbiological procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media. Cultivation in LB Broth allows cells with an insert plasmid to start expressing the genes on the transformed plasmid, including the antibiotic resistance gene. If transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. Growing the transformed cells in LB broth will increase the number of transformed cells per ml.

LB Broth (Lennox) contains ten times the sodium chloride level of Luria Broth (Miller's Modification) (Cat. 1266) and a half of the level found in Luria Broth (Miller's LB Broth) (Cat. 1551). This allows selecting the optimal salt concentration medium for a specific strain.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. This medium consist of the same ingredients as LB Agar (Lennox) without bacteriological agar. If desired, antibiotics can also be added.

Formula in g/L

Sodium chloride	5	Tryptone	10
Yeast extract	5		

Preparation

Suspend 20 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Beige	Clear amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

LB Broth Autoinducible w/o Trace Element

Cat. 2094

For autoinducible expression of IPTG-inducible bacterial strains

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

LB Broth Autoinducible w/o Trace Element is a medium which supports a high cell density and, in this case, it is formulated for the optimum growth of E.coli during the logarithmic phase for a long time. As a result, it yields a greater number of recombinant proteins and plasmic DNA.

Auto induction media was first formulated and developed by W. studier to grow IPTG-inducible expression strains. The principle of auto induction media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters. Auto induction media contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase. With Auto induction media, a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG.

Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth.

Formula in g/L

Glucose	0,5	Alpha-lactose	2
Ammonium sulfate	3,3	Disodium phosphate	7,1
Magnesium sulfate	0,15	Monopotassium phosphate	6,8
Tryptone	10	Yeast extract	5

Preparation

Suspend 34,85 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for 1 minute or until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Mix well and dispense as wished.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

LB Broth Autoinducible with Trace Element

Cat. 2114

For expression of IPTG-inducible bacterial strains.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

LB Broth Autoinducible with Trace Element is a medium which supports a high cell density and, in the case is formulated for the optimum growth of E.coli, maintains growth in the logarithmic phase for a long time. As a result, it yields a greater number of recombinant proteins and plasmic DNA.

Autoinduction Media (AIM) was first formulated and developed by W. studier to grow IPTG-inducible expression strains. The principle of AIM is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters. AIM contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase. With AIM media, a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth.

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Potassium phosphates act as a buffer system to prevent cell death. Its formulation is characterized by the presence of trace elements which supply all of the specific requirements for the bacteria.

Formula in g/L

Glucose	0,5	Ammonium sulfate	3,3
Disodium phosphate	7,1	Magnesium sulfate	0,15
Monopotassium phosphate	6,8	Tryptone	10
Yeast extract	5	Trace elements	0,015
Alpha lactose	2		

Preparation

Suspend 34,9 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Mix well and dispense as wished.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Luria Agar LB Agar)

Cat. 1552

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Luria Agar (Miller's LB Agar) is based on LB Medium as described by Miller for the growth and maintenance of E. coli strains used in molecular microbiology procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent.

If desired aseptically add 10 ml of sterile 20% glucose solution and mix thoroughly for a better growth. Bacteria that contain plasmids tend to grow best in broth that has between 5 and 10 g of salt. Various cofactors may also need to be added to the broth if working with certain types of bacteriophages. For example, bacteriophage labmda requires an excess of magnesium in the broth to properly infect bacteria.

Luria Agar (Miller LB Agar) has a different sodium chloride level than other media such as LB Agar (Lennox) (Cat. 1083) or Luria Agar (Miller Modification) (Cat. 1308). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	10
Tryptone	10	Yeast extract	5

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 40 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)
Inoculation conditions: Productivity quantitative (100±20. Min.50 cfu)

Reference medium: TSA

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth >70%
Escherichia coli ATCC 33694	Good growth >70%
Escherichia coli ATCC 33849	Good growth >70%
Escherichia coli ATCC 39403	Good growth >70%
Escherichia coli ATCC 47014	Good growth >70%

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Luria Agar Modification)

Cat. 1308

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Microbiological Culture Media

Principles and uses

Luria Agar (Miller’s Modification) is based on LB Medium according to Miller's descrption. Its modification consists of a minimal concentration of sodium chloride. This medium is used for the growth and maintenance of E. coli strains used in molecular microbiology procedures. It is used for strains in which the optimal concentration of salt is 0,5 g/l.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media. Some plasmid vectors replicate to high copy numbers and do not require selective amplification. Some vectors do not replicate so freely and need to be selectively amplified. Antibiotics may be added to inhibit host synthesis and, as a result, prevent replication of the bacterial chromosomome.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent.

Luria Agar (Miller's Modification) has a different sodium chloride level than other media such as LB Agar (Lennox) (Cat. 1083) or Luria Agar (Miller's LB Agar) (Cat. 1552). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	0,5
Tryptone	10	Yeast extract	5

Preparation

Suspend 30,5 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification

Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Luria Agar with Ampicillin 100 µg/ml (Miller´s LB Agar)

Cat. 2085

For molecular studies of E. coli.

Practical information

Aplications	Categories
Selection of transformants	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Luria Agar with Ampicillin 100 µg/ml (Miller's LB Agar) medium is used for the selective growth of ampicillin resistant E. coli recombinant strains in molecular genetic studies.

The transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. To select the bacteria with the plasmid, it is necessary to subcultivate an inoculum from LB Agar to a LB Broth with the antibiotic added.

Formula in g/L

Ampicillin	0,1	Bacteriological agar	15
Sodium chloride	10	Tryptone	10
Yeast extract	5		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 40 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. DO NOT OVERHEAT. DO NOT AUTOCLAVE. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to apprpriate use or purpose.
- Inoculate and incubate at 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)
Inoculation conditions: Productivity quantitative (100±20. Min.50 cfu) / Selectivity (10^4-10^6 cfu)
Reference medium: TSA

Microorganisms	Specification
Escherichia coli DH5 alpha + pUC19	Good growth >50%
Escherichia coli ATCC 25922	Total inhibition
Escherichia coli ATCC 8739	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Luria Agar with Ampicillin 50 µg/ml (Miller´s LB Agar)

Cat. 2086

For E.coli in molecular genetics studies.

Practical information

Aplications	Categories
Selection of transformants	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Luria Agar with Ampicillin 50 µg/ml (Miller's LB Agar) is used for the selective growth of ampicillin resistant E. coli recombinant strains in molecular genetic studies.

The transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. To select the bacteria with the plasmid, it is necessary to subcultivate an inoculum from LB Agar to a LB Broth with the antibiotic added.

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride provides osmotic balance. Bacteriological agar is the solidifying agent.

Formula in g/L

Ampicillin	0,05	Bacteriological agar	15
Sodium chloride	10	Tryptone	10
Yeast extract	5		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 40 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Do not overheat. Do not sterilize in autoclave. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to apprpriate use or purpose.
- Inoculate and incubate at 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Ambre, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)
Inoculation conditions: Productivity quantitative (100±20. Min.50 cfu) / Selectivity (10^4-10^6 cfu)
Reference medium: TSA

Microorganisms	Specification
Escherichia coli DH5 alpha + pUC19	Good growth >50%
Escherichia coli ATCC 25922	Total inhibition

Escherichia coli ATCC 8739	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Luria Agar with Kanamycin 50 µg/ml (Miller's LB Agar)

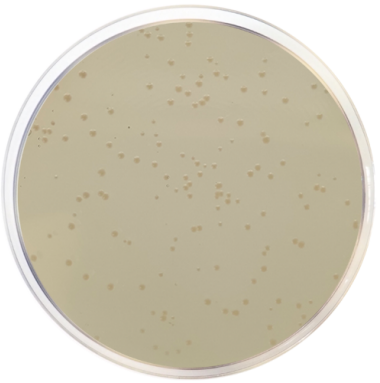
Cat. 2091

To select colonies of Escherichia coli in molecular genetics.

Practical information

Aplications	Categories
Selection of transformants	Escherichia coli

Industry: Culture media for Molecular biology



Principles and uses

Luria Agar with Kanamycin 50 µg/ml (Miller's LB Agar) is used for the selective growth of Kanamycin resistant E. coli recombinant strains in molecular genetic studies. This medium is recommended for strains that require less salt concentration.

The transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), where fewer transformed colonies will appear per ml plated. To select the bacteria with the plasmid, it is necesary to subcultivate an inoculum from LB Agar to LB Broth with the antibiotic added.

Formula in g/L

Bacteriological agar	15	Kanamycin	0,05
Sodium chloride	10	Tryptone	10
Yeast extract	5		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 40 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. DO NOT OVERHEAT. DO NOT AUTOCLAVE. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to apprpriate use or purpose.
- Inoculate and incubate at 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)
Inoculation conditions: Productivity quantitative (100±20. Min.50 cfu) / Selectivity (10^4-10^6 cfu)

Reference medium: TSA

Microorganisms	Specification
Escherichia coli DH5 alpha + PH SG 298	Good growth >50%
Escherichia coli ATCC 25922	Total inhibition
Escherichia coli ATCC 8739	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Luria Broth (Miller´s LB Broth)

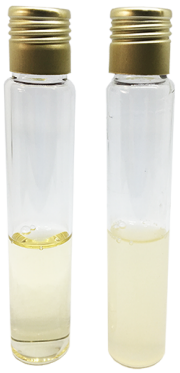
Cat. 1551

For molecular genetics studies in E.coli

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology



Principles and uses

Luria Broth (Miller's LB Broth) is based on LB Medium as described by Miller for the growth and maintenance of E. coli strains used in molecular microbiology procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

If desired aseptically add 10 ml of sterile 20% glucose solution and mix thoroughly for a better growth. Bacteria that contain plasmids tend to grow best in broth that has between 5 and 10 g of salt. Various cofactors may also need to be added to the broth if working with certain types of bacteriophages. For example, bacteriophage labmda requires an excess of magnesium in the broth to properly infect bacteria.

Luria Broth (Miller's LB Broth) has a different sodium chloride level than other media such as LB Broth (Lennox) (Cat. 1231) or Luria Broth (Miller's Modification) (Cat. 1266). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Sodium chloride	10	Tryptone	10
Yeast extract	5		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 25 grams of the medium in one liter of distilled water.Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 °C for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h)
Inoculation conditions: Productivity qualitative (<100 cfu)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth /Turbidity (2)
Escherichia coli ATCC 33694	Good growth / Turbidity (2)
Escherichia coli ATCC 33849	Good growth / Turbidity (2)
Escherichia coli ATCC 39403	Good growth / Turbidity (2)
Escherichia coli ATCC 47014	Good growth / Turbidity (2)

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Luria Broth Modification)

Cat. 1266

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Luria Broth (Miller's Modification) is based on LB Medium according to Miller's descrption. Its modification consists of a minimal concentration of sodium chloride. This medium is used for the growth and maintenance of E. coli strains used in molecular microbiology procedures. It is used for strains in which the optimal concentration of salt is 0,5 g/l.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media. Some plasmid vectors replicate to high copy numbers and do not require selective amplification. Some vectors do not replicate so freely and need to be selectively amplified. Antibiotics may be added to inhibit host synthesis and, as a result, prevent replication of the bacterial chromosomome.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

Luria Broth (Miller's Modification) has a different sodium chloride level than other media such as LB Broth (Lennox) (Cat. 1231) or Luria Broth (Miller's LB Broth) (Cat. 1551). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Sodium chloride	0,5	Tryptone	10
Yeast extract	5		

Preparation

Suspend 15,5 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Modified Terrific Broth

Cat. 1548

Medium for use with glycerol in the culture of recombinant E.coli strains.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Modified Terrific Broth is a medium that supports a high cell density and, when formulated for optimum growth of E.coli, maintains growth in the logarithmic phase for a long time. As a result, it yields a greater number of recombinant proteins and plasmic DNA. In some circumstances it substitutes LB Broth (Lennox) (Cat. 1231) used in genetic studies.

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth Yeast extract is source of vitamins, particularly the B-group. Potassium phosphates act as a buffer system to prevent cell death.

Glycerol is the source of carbohydrates and carbon since it is not fermented to acetic acid as glucose and does not lead to confusing results.

The formulation of this medium was modified from the Terrific Broth (Cat. 1246) with a different concentration of biological buffer.

Formula in g/L

Dipotassium phosphate	9,4	Monopotassium phosphate	2,2
Tryptone	12	Yeast extract	24

Preparation

Suspend 47.6 grams of the medium in 900 ml of distilled water .Mix well. Add 4 ml of glycerol, adjust to a final volume of 1000 ml, and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,2 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

NZCYM Broth

Cat. 1549

For the cultivation of recombinant E.coli strains.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

NZCYM Broth is used as an enrichment medium for the cultivation of recombinant strains of E.coli and propagating lambda bacteriophages developed by Blattner and colleagues.

E.coli grows fast in this enrichment medium, which supplies the amino acids, vitamins and other metabolites as nucleotide precursors and other factors that otherwise would be synthesized by the cell. Casein digest, Yeast extract and Casamino acids provide the necessary nutrients and cofactors required for excellent growth of recombinant strains of E.coli. Magnesium sulfate is the magnesium ions font required in a big variation of enzymatic reactions, including DNA replication.

Formula in g/L

Casaminoacids	1	Magnesium sulfate	0,98
Pancreatic digest of casein	10	Sodium chloride	5
Yeast extract	5		

Preparation

Suspend 22 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

RM Base Medium

Cat. 1538

Solid medium for the maintenance and propagation of the promoter PL in the E. coli strains GI724, GI826 and GI698

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Microbiological Culture Media

Principles and uses

RM Base Medium is used for the maintenance and propagation of the promoter PL in E. coli strains GI724, GI826 and GI698 and to increase the yield of plasmid for sequencing positive clones. These strains have the gene Lambda cI repressor, under the control of the promoter tryptophane inducible, trp. This medium has low tryptophane levels.

Casaminoacids provides the necessary nutrients and cofactors required for excellent growth of recombinant strains of E. coli. Due to its higher degree of digestion, casaminoacids are an excellent source of free aminoacids. Phosphates act as a buffer system. Ammonium chloride and magnesium sulfate provide essential ions. Sodium chloride supplies essential electrolytes for transport and osmotic balance. To promote growth it may require the addition of glucose.

Formula in g/L

Ammonium chloride	1	Casaminoacids	20
Disodium phosphate	6	Magnesium citrate	0,095
Sodium chloride	0,5	Monosodium Phosphate	3

Preparation

Suspend 30.6 grams of the dehydrated medium in 900 ml of distilled water, add 20 ml of 50% glycerol and adjust to a final volume of 1000 ml. Mix well. Heat with frequent agitation until complete dissolution. Distribute in appropriate containers and sterilize in the autoclave at 121 °C for 15 minutes. Add 1 ml/liter of 100 µg/ml of ampicillin under sterile conditions and mix well.

Instructions for use

- Inoculate and incubate at a temperature of 35±2 °C for 18 -24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC GI724	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

sLB Agar

Cat. 1432

Medium designed to increase bacterial growth and leads to high yield of low copy plasmids and extra high yields of high copy plasmids.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

sLB Agar has been formulated to significantly increase cellular density when compared to the traditional LB Agar.
In the standard LB Agar, E. coli cells reach an abrupt stationary phase upon consumption of nutrients contained in the medium. Cell multiplication is stopped, some cell die and plasmid are lost.

Based on the findings of extensive research, our laboratories have developed a new formulation using a proprietary peptone mixture, yeast extract and salts which allow recombinant E. coli cells to have a higher growth. At the end of the log phase replication continues, thus obtaining higher DNA plasmid yields.

sLB Agar cultures have shown cell stability up to 3 days without cell death, being this one a more convenient medium that eliminates the need of constant attention. E.coli's growth is higher in sLB mediums than in standard LB after 3 days at 37 ºC.

The special peptone mixture, yeast extract, agar and salts supply essential growth factors such as nitrogen, carbon,
sulfurs, minerals and vitamins, particularly the B group. Sodium chloride supplies essential electrolytes like sodium ions for transport and osmotic balance. Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	15	Yeast extract	15
Special Peptone Mixture	20	Salts	5

Preparation

Suspend 55 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil
for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Inoculate a 15 ml tube of sLB Broth (Cat. 1163) with E. coli sample.
- Incubate at 37 ºC for 24 hours in anaerobic conditions.
- Take 10 µl of an aliquot 10^4 cells/ml and inoculate plates of sLB Agar using a Digralsky spreader.
- Incubate at 37 ºC overnight.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (37 ºC / overnight).

Microorganisms	Specification

Escherichia coli DH5 alpha + pUC19	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

sLB Broth

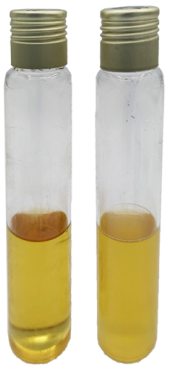
Cat. 1163

Medium designed to increase bacterial growth and leads to high yields of low copy plasmids and extra high yields of high copy plasmids.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology



Principles and uses

sLB Broth has been formulated to significantly increase cellular density when compared to the traditional LB Broth.
In the standard LB Broth, E. coli cells reach an abrupt stationary phase upon consumption of nutrients contained in the medium. Cell multiplication is stopped, some cell die and plasmid are lost.

Based on the findings of extensive research, our laboratories have developed a new formulation using a proprietary peptone mixture, yeast extract and salts which allow recombinant E. coli cells to have a higher growth. At the end of the log phase replication continues, thus obtaining higher DNA plasmid yields.

sLB Broth cultures have shown cell stability up to 3 days without cell death, being this one a more convenient medium that eliminates the need of constant attention. E.coli's growth is higher in sLB and buffered sLB Broths than in standard LB after 3 days at 37 ºC.

The special peptone mixture, yeast extract and salts supply essential growth factors such as nitrogen, carbon,
sulfurs, minerals and vitamins, particularly the B group. Sodium chloride supplies essential electrolytes: Sodium ions for transport and osmotic balance.

Formula in g/L

Yeast Extract, Special peptone Mixture, Salts	40

Preparation

Suspend 40 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in tubes and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 24-72 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 24, 48, 72 h).

Microorganisms	Specification
Escherichia coli DH5 alpha + pUC19	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

sLB Broth (Buffered)

Cat. 1199

Medium designed to increase bacterial growth and leads to high yields of low copy plasmids and extra high yields of high copy plasmids.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

sLB Broth (Buffered) has been formulated to significantly increase cellular density when compared to the traditional LB Broth. In the standard LB Broth, E. coli cells reach an abrupt stationary phase upon consumption of nutrients contained in the medium. Cell multiplication is stopped, some cell die and plasmid are lost.

Based on the findings of extensive research, our laboratories have developed a new formulation using a proprietary peptone mixture, yeast extract and salts which allow recombinant E. coli cells to have a higher growth. At the end of the log phase replication continues, thus obtaining higher DNA plasmid yields.

sLB Broth cultures have shown cell stability up to 3 days without cell death, being this one a more convenient medium that eliminates the need of constant attention. E.coli's growth is higher in sLB and buffered sLB Broths than in standard LB after 3 days at 37 ºC.

The special peptone mixture, yeast extract, agar and salts supply essential growth factors such as nitrogen, carbon, sulfurs, minerals and vitamins, particularly the B group. Sodium chloride supplies essential electrolytes: Sodium ions for transport and osmotic balance.

Formula in g/L

Yeast Extract, Special peptone Mixture, Salts	54,48

Preparation

Suspend 54,48 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in tubes and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 24, 48 and 72 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 24, 48, 72 h).

Microorganisms	Specification
Escherichia coli DH5 alpha + pUC19	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

SOB Medium

Cat. 1541

For the cultivation of recombinant strains of E.coli

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

SOB Medium is a nutrient rich medium for the preparation and transformation of competent cells. The transformation requires perforation of the bacteria to allow the introduction of alien DNA inside the cell. In order to survive this process the competent cells need an isotonic rich medium.

Peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride and Potassium chloride supplies essential electrolytes for transport and osmotic balance. Magnesium sulfate is a source of magnesium ions.

Formula in g/L

Magnesium chloride anhydrous	0,96	Potassium chloride	0,186
Sodium chloride	0,5	Tryptone	20
Yeast extract	5		

Preparation

Suspend 26,6 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

Inoculate with the transformed cells and incubate at 35 ± 2°C for 18 - 24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth

Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

SOC Medium

Cat. 2019

For the cultivation of recombinant strains of E.coli

Practical information

Aplications	Categories
Preparation and recovery of competent cells	General use

Industry: Culture media for Molecular biology

Principles and uses

SOC Medium is a nutrient rich medium for the preparation and transformation of competent cells. The transformation requires perforation of the bacteria to allow the introduction of alien DNA inside the cell. In order to survive this process the competent cells need an isotonic rich medium.

Peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride and Potassium chloride supplies essential electrolytes for transport and osmotic balance. Magnesium sulfate is a source of magnesium ions. Glucose is used as a carbon and energy source that E. coli uses to repair the perforation as well as for replication.

Formula in g/L

Glucose	3,6	Magnesium chloride anhydrous	0,96
Potassium chloride	0,186	Sodium chloride	0,5
Tryptone	20	Yeast extract	5

Preparation

Suspend 30,2 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

Instructions for use

- Inoculate and incubate at 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification

Escherichia coli ATCC 33694	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Super Growth Autoinducible with Trace Elements

Cat. 2112

To grow IPTG inducible expression in bacterial strains.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

Auto induction media was first formulated and developed by W. Studier to grow IPTG-inducible expression strains. The principle of auto induction media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters.

Auto induction media contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase.

With Auto induction media, a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth.

Formula in g/L

Glucose	0,5	Ammonium sulfate	3,3
Disodium phosphate	7,1	Magnesium sulfate	0,15
Monopotassium phosphate	6,8	Tryptone	35
Yeast extract	20	Trace elements	0,015
Alpha lactose	2		

Preparation

Suspend 74,86 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 115 ºC for 20 minutes. Mix well and dispense into appropriate containers.

Instructions for use

- Consult appropriate references for recommended test procedures.
- Incubate at a temperature of 35±2 ºC for 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Terrific Broth

Cat. 1246

Medium used with glycerol for the cultivation of recombinant strains of E.coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Terrific Broth is a medium which supports a high cell density and, in the case is formulated for optimum growth of E.coli, maintains growth in the logarithmic phase for a long time. As a result, it yields a greater number of recombinant proteins and plasmic DNA. In some circumstances it substitutes LB Broth (Lennox) (Cat. 1231) used in genetic studies.

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth Yeast extract is source of vitamins, particularly the B-group. Potassium phosphates act as a buffer system to prevent cell death.

The source of carbohydrates and carbon is glycerol that is not fermented to acetic acid as glucose and does not lead to confusing results.

Formula in g/L

Dipotassium phosphate	12,54	Monopotassium phosphate	2,31
Tryptone	12	Yeast extract	24

Preparation

Suspend 50.8 grams of the medium in 900 ml of distilled water. Mix well and add 4 ml of glycerol. Adjust to a final volume of 1000 ml and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,2±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Terrific Broth (Non animal origin)

Cat. 1499

Medium used with glycerol for the cultivation of recombinant strains of E.coli.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Terrific Broth (Non animal origin) is as Terrific Broth (Cat. 1246) but changing the animal origin raw materials to vegetal origin ones. It is a medium which supports a high cell density and, in the case is formulated for optimum growth of E.coli, maintains growth in the logarithmic phase for a long time. As a result it yields a greater number of recombinant proteins and plasmic DNA. In some circumstances it substitutes LB Broth (Lennox) (Cat. 1231) used in genetic studies.

Vegetable origin peptone provide nitrogen, vitamins, minerals and aminoacids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Potassium phosphates act as a buffer system to prevent cell death.

Formula in g/L

Dipotassium phosphate	12,5	Monopotassium phosphate	2,3
Yeast extract	24	Vegetable peptone	12

Preparation

Suspend 50,8 grams of the medium in 1 liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

Inoculate and incubate at 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,2±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification

Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Terrific Broth Base Autoinducible w/o Metals

Cat. 2072

For the expression of inducible IPTG bacterial strains.

Practical information

Aplications	Categories
Protein expression	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Terrific Broth Base Autoinducible w/o Metalsis a medium which supports a high cell density and, in the case is formulated for optimum growth of E.coli, maintains growth in the logarithmic phase for a long time. As a result, it yields a greater number of recombinant proteins and plasmic DNA. In some circumstances, it substitutes LB Broth (Lennox) (Cat. 1231) used in genetic studies.

Auto Induction Media was firstly formulated and developed by W. studier to grow IPTG-inducible expression strains. The principle of Auto Induction Media is based on carbon sources in the medium that are metabolized differentially to promote high density cell growth and automatically induce protein expression from lac promoters. Auto Induction Media contains glucose as well as lactose as the carbon source. A limited concentration of glucose is metabolized preferentially during growth, which prevents uptake of lactose until the glucose is depleted, usually in mid to late log phase. As the glucose is depleted, lactose can be taken up and converted by the enzyme ß-galactosidase to the inducer allolactose. Allolactose causes the release of lac repressor from its specific binding sites in the DNA and thereby induces expression of T7 RNA polymerase from the lacUV5 promoter and unblocks T7lac promoters, allowing expression of target proteins by T7 RNA polymerase. With Auto Induction Media a high density cell growth is followed by a spontaneous induction of protein expression. There is no need to monitor the cell density and there is no conventional induction with IPTG. Parallel growth of many non-induced or auto-induced cultures is feasible because cultures are simply inoculated and grown to saturation. This is a great convenience and simplifies manual or automated induction and analysis of multiple clones compared to conventional IPTG induction, which requires monitoring growth of each culture and adding inducer at the proper stage of growth. For higher saturation density use the Super Growth Autoinducible Medium w/o Trace Element (Cat. 2095).

Tryptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Potassium phosphates act as a buffer system to prevent cell death. If desired, add a concentration of 0.015 g/l of Trace Elements (Cat. 2109) to supply all of the specific requirements for the bacteria.

Formula in g/L

Glucose	0,5	Alpha-lactose	2
Ammonium sulfate	3,3	Disodium phosphate	7,1
Magnesium sulfate	0,15	Monopotassium phosphate	6,5
Tryptone	12	Yeast extract	24

Preparation

Suspend 55,55 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for 1 minute or until complete dissolution. Sterilize in autoclave at 115 ºC for 20 minutes. Mix well and dispense as wished.

Instructions for use

Inoculate and incubate at a temperature of 35±2 ºC for 18-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber	7,0±0,2

Microbiological test

Incubation conditions: (35±2 º / 18-48 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Vegetable LB Agar (Lennox)

Cat. 2039

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

Vegetable LB Agar (Lennox) is a nutritionally rich medium based on the LB Agar (Lennox) (Cat. 1083) designed as an alternative to classical animal-based media for the growth and maintenance of pure cultures of recombinant strains of E. coli used in molecular microbiology procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media.

In this case, the ingredients are animal-free in order to minimize the risk of bovine spongiform encephalopathy in culture media containing bovine materials. Vegetable origin peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group essential for bacterial growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent.

Vegetable LB Agar (Lennox) has a different sodium chloride level than other media such as Luria Agar (Miller LB Agar) (Cat. 1552) or Luria Agar (Miller's Modification) (Cat. 1308). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Yeast extract	5	Vegetable peptone	10

Preparation

Suspend 35 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth

Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Vegetable LB Broth (Lennox)

Cat. 2038

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Culture media for Molecular biology

Principles and uses

Vegetable LB Broth (Lennox) is a nutritionally rich medium based on the LB Broth (Lennox) (Cat. 1163) designed as an alternative to classical animal-based media for the growth and maintenance of pure cultures of recombinant strains of E. coli used in molecular microbiology procedures.

These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media.

In this case, the ingredients are animal-free in order to minimize the risk of bovine spongiform encephalopathy in culture media containing bovine materials. Vegetable origin peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group essential for bacterial growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

Vegetable LB Broth (Lennox) has a different sodium chloride level than other media such as Luria Broth (Miller LB Broth) (Cat. 1551) or Luria Broth (Miller's Modification) (Cat. 1266). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Sodium chloride	5	Yeast extract	5
Vegetable peptone	10		

Preparation

Suspend 20 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution and dispense into tubes. Sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Clear beige	7,0±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good growth
Escherichia coli ATCC 33694	Good growth
Escherichia coli ATCC 33849	Good growth
Escherichia coli ATCC 39403	Good growth
Escherichia coli ATCC 47014	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Yeast Nitrogen Base w/o Added Aminoacids and w/o Ammonium Sulfate

Cat. 1553

For yeast classification based on carbon and nitrogen requirements.

Practical information

Aplications	Categories
Differentiation	Yeasts

Industry: Culture media for Molecular biology

Principles and uses

Yeast Nitrogen Base w/o Added Aminoacids and w/o Ammonium Sulfate is used for classifying yeasts based on carbon and nitrogen requirements and is prepared according to the formulas of Wickerharm and Burkholder. The medium contains all the essential vitamins and inorganic salts needed to cultivate yeasts, except for the aminoacids and carbohydrate sources.

This medium is used in many applications for the study of yeast in molecular biology as is useful for the determination of aminoacids and carbohydrate utilization.

Formula in g/L

Biotin	0,000002	Boric acid	0,0005
Calcium chloride	0,1	Calcium patothenate	0,0004
Ferric chloride	0,0002	Folic Acid	0,000002
Inositol	0,002	Magnesium sulfate	0,5
Manganase sulfate	0,0004	Monopotassium phosphate	1
Niacin	0,0004	P-Aminobenzoic acid	0,0002
Potassium iodide	0,0001	Riboflavin	0,0002
Sodium chloride	0,1	Sodium molybdate	0,0002
Thiamine hydrochloride	0,0004	Zinc sulfate	0,0004
Cupric Sulphate	0,00004		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Prepare a 10X solution by dissolving 1,7 grams of the medium in 100 ml of distilled water with 5 grams of dextrose, or the equivalent amount of another carbohydrate, and 5-10 mg of the desired amino acid. Mix well. Heat with frequent agitation until complete dissolution. DO NOT BOIL. DO NOT AUTOCLAVE. Sterilize the solution by filtration. Prepare the final medium by aseptically pipetting 0,5 ml of the 10X solution to 4,5 ml of distilled water. Swirl to mix solution before inoculation.

Instructions for use

Inoculate and incubate at a temperature of 25-30 ºC for 2-5 days.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Off-white	Colorless	4,5±0,2

Microbiological test

Incubation conditions: (25-30 ºC / 2-5 days).

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Sacharomyces cerevisiae ATCC 9080	Good growth
Saccharomyces cerevisiae ATCC 9763	Good growth
Kloeckera apiculata ATCC 9774	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Yeast Nitrogen Base w/o Amino Acids

Cat. 1545

For yeast classification based on amino acids and carbohydrates requirements

Practical information

Aplications	Categories
Differentiation	Yeasts

Industry: Food / Culture media for Molecular biology

Principles and uses

Yeast Nitrogen Base w/o Amino Acids is used for classifying yeasts based on carbon and nitrogen requirements and is prepared according to the formulas of Wickerharm and Burkholder. The medium contains all the essential vitamins and inorganic salts needed to cultivate yeasts, except for the amino acids and carbohydrate sources. Ammonium sulphate is included as a readily available nitrogen source for nitrogen assimilation.

This medium is used in many applications for the study of yeast in molecular biology as is useful for the determination of aminoacids and carbohydrate utilization.

Formula in g/L

Ammonium sulfate	5	Boric acid	0,0005
Calcium chloride	0,1	Calcium patothenate	0,0004
Ferric chloride	0,0002	Inositol	0,002
Magnesium sulfate	0,5	Manganase sulfate	0,0004
Monopotassium phosphate	1	Niacin	0,0004
P-Aminobenzoic acid	0,0002	Potassium iodide	0,0001
Pyridoxine hydrochloride	0,0004	Riboflavin	0,0002
Sodium chloride	0,1	Sodium molybdate	0,0002
Thiamine hydrochloride	0,0004	Zinc sulfate	0,0004
Copper sulfate (mg)	0,04	Folic acid (mg)	0,002
Biotin (mg)	0,002		

Preparation

Prepare a 10X solution by dissolving 6,7 grams of the medium in 100 ml of distilled water with 5 grams of dextrose, or the equivalent amount of another carbohydrate, and 5-10 mg of the desired amino acid. Mix well. Heat with frequent agitation until complete dissolution. DO NOT BOIL. DO NOT AUTOCLAVE. Sterilize the solution by filtration. Prepare the final medium by aseptically pipetting 0,5 ml of the 10X solution to 4,5 ml of distilled water. Swirl to mix solution before inoculation.

Instructions for use

- Inoculate de prepared tubed medium very lightly with the test organism.
- Incubate at 25-30 ºC for 2-5 days.
- After incubation, shake the tubes to suspend growth.
- Read for growth.
- Carry out the carbon and nitrogen assimilation tests described in reference manuals.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Off-white	Ambar	5,4±0,2

Microbiological test

Incubation conditions: (25-30 ºC / 2-5 days).

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Hanseniaspora uvarum ATCC 32856	Good growth
Sacharomyces cerevisiae ATCC 9080	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

YP Agar Base Medium

Cat. 1513

For maintaining and developing yeast in molecular biology procedures.

Practical information

Aplications	Categories
Growth	Yeasts

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

YP Agar Base Medium is used for the maintenance and the development of yeast in molecular biology procedures.

YP Agar Base Medium is also used to cultivate Saccharomyces cerevisiae and other yeasts. Yeasts grow well on a medium containing only a minimal amount of glucose and salts. This medium contains glucose (with the addition of dextrose after autoclaving), salts and proteins, which favours the growth of Saccharomyces cerevisiae and reduces growing times. Yeast extract is the source of vitamins, particularly the B-group, essential for bacterial growth. Peptone provides nitrogen, vitamins, minerals and amino acids. Bacteriological agar is the solidifying agent.

Saccharomyces cerevisiae has a genome of 14 Mb containing 6.000 genes arranged in 16 chromosomes, which have been completely sequenced, and thus, is a species type in microbiology and genetics studies.

Formula in g/L

Bacteriological agar	20	Peptone	20
Yeast extract	10		

Preparation

Suspend 50 grams of the dehydrated medium in 900 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to room temperature and aseptically add 100 ml of sterile dextrose at 20%. Mix well and dispense into appropriate containers.

Instructions for use

Poured plate method:
- Deposit 1 ml of the initial suspension and/or diluted sample in an empty Petri dish.
- Add 12-15 ml of agar cooled to 44-47 ºC in each Petri dish and mix gently moving the plate.
- Allow the plates to solidify and incubate in an inverted position at a temperature of 25±2 ºC for 42-48 hours.

Streak plate method:
- In a Petri dish, add 12-15 ml of molten agar and let it solidify.
- Inoculate 10 µl of the initial suspension and/or diluted sample.
- Extend the inoculum with a sterile loop on the agar surface.
- Incubate the plates in an inverted position at a temperature of 25±2 ºC for 42-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Clear amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (25±2 ºC / 42-48 h).

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Saccharomyces cerevisiae ATCC 9763	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

YP Base Medium

Cat. 1511

For maintaining and developing yeast in molecular biology procedures.

Practical information

Aplications	Categories
Growth	Yeasts

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

YP Base Medium is used for the maintenance and the development of yeast in molecular biology procedures.

YP Base Medium is also used to cultivate Saccharomyces cerevisiae and other yeasts. Yeasts grow well on a medium containing only a minimal amount of glucose and salts. This medium contains glucose (with the addition of dextrose after autoclaving), salts and proteins, which favors the growth of Saccharomyces cerevisiae and reduces growing times. Yeast extract is the source of vitamins, particularly the B-group essential for bacterial growth. Peptone provides nitrogen, vitamins, minerals and amino acids.

Saccharomyces cerevisiae has a genome of 14 Mb containing 6.000 genes arranged in 16 chromosomes, which have been completely sequenced, and thus, is a species type in microbiology and genetics studies.

Formula in g/L

Peptone	20	Yeast extract	10

Preparation

Suspend 30 grams of the medium in 900 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to room temperature and aseptically add 100 ml of sterile dextrose at 20 %. Mix well and dispense intro appropriate containers.

Instructions for use

Inoculate and incubate at a temperature of 25±2 ºC for 42-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	6,5±0,2

Microbiological test

Incubation conditions: (25±2 ºC / 42-48 h).

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Saccharomyces cerevisiae ATCC 9763	Good growth

Storage

Temp. Min.:2 ºC

Temp. Max.:25 ºC

YPD Agar

Cat. 1546

For maintaining and developing yeast in molecular biology procedures

Practical information

Aplications	Categories
Enrichment	Yeasts

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

YPD Agar is used for maintaining and developing yeast in molecular microbiology procedures. The formula is the same as in YP Agar Base Medium (Cat. 1513) but with the dextrose added.

YPD Agar is also used to cultivate Saccharomyces cerevisiae and other yeasts. Yeasts grow well on a medium containing only a minimal amount of glucose and salts. This medium contains dextrose (with the addition of dextrose after autoclaving), salts and proteins, which favors the growth of Saccharomyces cerevisiae and reduces growing times. Yeast extract is the source of vitamins, particularly the B-group. Peptone provides nitrogen, vitamins, minerals and amino acids. Bacteriological agar is the solidifying agent.

Saccharomyces cerevisiae has a genome of 14 Mb containing 6000 genes arranged in 16 chromosomes, which have been completely sequenced, and thus, is a species type in microbiology and genetics studies.

Formula in g/L

Bacteriological agar	15	Dextrose	20
Peptone	20	Yeast extract	10

Preparation

Suspend 65 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121ºC for 15 minutes. Cool to 45-50ºC, mix well and dispense into plates.

Instructions for use

- This medium can be inoculated directly or after enrichment broth YPD Broth (Cat. 1547).
- Spread the plates of YPD Agar and incubate at 25±2°C for 42-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	6,5 ± 0,2

Microbiological test

Incubation conditions: (25±2 °C / 42-48 h)

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Sacharomyces cerevisiae ATCC 9080	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

YPD Broth

Cat. 1547

For maintaining and developing yeasts in molecular biology procedures.

Practical information

Aplications	Categories
Enrichment	Yeasts
Protein expression	Yeasts

Industry: Culture media for Molecular biology

Principles and uses

YPD Broth is used for the maintenance and the development of yeast in molecular biology procedures. The formula is the same as in YP Base Medium (Cat. 1511) but with the dextrose added.

YPD Broth is also used to cultivate Saccharomyces cerevisiae and other yeasts. Yeasts grow well on a medium containing only a minimal amount of glucose and salts. This medium contains dextrose, salts and proteins, which favors the growth of Saccharomyces cerevisiae and reduces growing times. Yeast extract is the source of vitamins, particularly the B-group essential for bacterial growth. Peptone provides nitrogen, vitamins, minerals and amino acids.

Saccharomyces cerevisiae has a genome of 14 Mb containing 6000 genes arranged in 16 chromosomes, which have been completely sequenced, and thus, is a species type in microbiology and genetics studies.

Formula in g/L

Dextrose	20	Peptone	20
Yeast extract	10		

Preparation

Suspend 50 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 118°C for 15 minutes. Avoid overheating.

Instructions for use

- Carry out the experimental procedure according to appropriate use or purpose.
- Inoculate and incubate at a temperature of 25±2 ºC for 42-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	6,5 ± 0,2

Microbiological test

Incubation conditions: (25±2 ºC / 42-48 h)

Microorganisms	Specification
Candida albicans ATCC 10231	Good growth
Sacharomyces cerevisiae ATCC 9080	Good growth
Saccharomyces cerevisiae ATCC 9763	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Киргизия +996(312)-96-26-47
Казахстан +7(7172)727-132

cbc@nt-rt.ru || https://condalab.nt-rt.ru/