

61746 LB Agar (Luria Bertani Agar)

For the culture of *E. coli* K12 strains for the preparation of phage and plasmid DNA acc. to Miller (1987). Medium favours lysogeny. It is also a general medium for *E. coli* in fermentation, molecular genetic studies and may be used for routine cultivation of not particularly fastidious microorganisms.

Composition:

Ingredients	Grams/Litre
Tryptone	10.0
Yeast extract	5.0
Sodium chloride	5.0
Agar	10.0
Final pH 7.2 at 37°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Dissolve 30 g in 1 litre distilled water and adjust the pH to 7.2. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:

The media are nutritionally rich suitable for the growth of pure cultures like recombinant strains. *Escherichia coli* K12 and derived strains are deficient in Vitamin B synthesis and modified by specific mutation to create auxotrophic organisms, that means they are not able to grow on nutritionally poor media. Tryptone and Yeast extract serve as a source of nitrogen, sulfur and carbon while Yeast extract also contains Vitamin B complex. Sodium chloride provides sodium ions for the membrane transport and maintains osmotic equilibrium of the medium.

For molecular genetic studies the LB medium is often supplemented with kanamycin (Fluka 60615), zeocin (Fluka 80041), ampicillin (Fluka 10044), IPTG(Fluka 59740) and X-gal (Fluka 16664). This products help to determine the transformation rate from *E. coli* with the blue/white screening method. Ask for further Information at Flukatec@eurnotes.sial.com.

Cultural characteristics after 24 hours at 35-37°C.

Organisms (ATCC)	Growth
<i>Escherichia coli</i> (25922)	++
<i>Escherichia coli</i> (11775)	++

References:

1. H. Miller, Meths. Enzymol., 152, 145 (1987)
2. S. Heber, B.E. Tropp, Biochim. Biophys., Acta 1129, 1 (1991)
3. E.S. Lennox, Transduction of Linked Genetic Characters of the host by bacteriophages P1, Virology, 1, 190 (1955)
4. R.M. Atlas, Handbook of Microbiological Media, Ed. by Parks L., CRC Press, Inc. (1993)

61748 LB Broth (Luria Bertani Broth)

For the culture of *E. coli* K12 strains for the preparation of phage and plasmid DNA acc. to Miller (1987). Medium favours lysogeny. It is also a general medium for *E. coli* in fermentation, molecular genetic studies and may be used for routine cultivation of not particularly fastidious microorganisms.

Composition:

Ingredients	Grams/Litre
Tryptone	10.0
Yeast extract	5.0
Sodium chloride	5.0
Final pH 7.2 at 37°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Dissolve 20 g in 1 litre distilled water and adjust the pH to 7.2. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:

The media are nutritionally rich suitable for the growth of pure cultures like recombinant strains. *Escherichia coli* K12 and derived strains are deficient in Vitamin B synthesis and modified by specific mutation to create auxotrophic organisms, that means they are not able to grow on nutritionally poor media. Tryptone and Yeast extract serve as a source of nitrogen, sulfur and carbon while Yeast extract also contains Vitamin B complex. Sodium chloride provides sodium ions for the membrane transport and maintains osmotic equilibrium of the medium.

For molecular genetic studies the LB medium is often supplemented with kanamycin (Fluka 60615), zeocin (Fluka 80041) and ampicillin (Fluka 10044). This products make the medium more selective to recombinant *E. coli*. Ask for further Information at Flukatec@eurnotes.sial.com.

Cultural characteristics after 24 hours at 35-37°C.

Organisms (ATCC)	Growth
<i>Escherichia coli</i> (25922)	++
<i>Escherichia coli</i> (11775)	++

References:

1. H. Miller, Meths. Enzymol., 152, 145 (1987)
2. S. Heber, B.E. Tropp, Biochim. Biophys., Acta 1129, 1 (1991)
3. E.S. Lennox, Transduction of Linked Genetic Characters of the host by bacteriophages P1, Virology, 1, 190 (1955)
4. R.M. Atlas, Handbook of Microbiological Media, Ed. by Parks L., CRC Press, Inc. (1993)

61731 LB-Top Agar (Luria Bertani Top Agar)

Used in molecular biology for the cultivation technology of *E. coli* strains for the preparation of phage and plasmid DNA.

Composition:

Ingredients	Grams/Litre
Tryptone	10.0
Yeast extract	5.0
Sodium chloride	10.0
Agar	7.0
Final pH 7.2 at 37°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Dissolve 32 g in 1 litre distilled water, adjust pH to 7.0. Sterilize by autoclaving at 120°C for 15 minutes. Cool to 48-55°C, then add the bacteria suspension. Immediately mix and pour the suspension on LB-Agar (Fluka 61746) plates.

Principle and Interpretation:

The media are nutritionally rich suitable for the growth of pure cultures like recombinant strains. *Escherichia coli* K12 and derived strains are deficient in Vitamin B synthesis and modified by specific mutation to create auxotrophic organisms, that means they are not able to grow on nutritionally poor media. Tryptone and Yeast extract serve as a source of nitrogen, sulfur and carbon while Yeast extract also contains Vitamin B complex. Sodium chloride provides sodium ions for the membrane transport and maintains osmotic equilibrium of the medium.

For molecular genetic studies the LB medium is often supplemented with kanamycin (Fluka 60615), zeocin (Fluka 80041), ampicillin (Fluka 10044), IPTG (Fluka 59740) and X-gal (Fluka 16664). This products help to determine the transformation rate from *E. coli* with the blue/white screening method. Ask for further Information at Flukatec@eurnotes.sial.com.

Cultural characteristics after 24 hours at 35-37°C.

Organisms (ATCC)	Growth
<i>Escherichia coli</i> (25922)	++
<i>Escherichia coli</i> (11775)	++

References:

1. H. Miller, Meths. Enzymol., 152, 145 (1987)
2. S. Heber, B.E. Tropp, Biochim. Biophys., Acta 1129, 1 (1991)
3. E.S. Lennox, Transduction of Linked Genetic Characters of the host by bacteriophages P1, Virology, 1, 190 (1955)
4. R.M. Atlas, Handbook of Microbiological Media, Ed. by Parks L., CRC Press, Inc. (1993)