

## CELLect™ CELL CULTURE MEDIA

ICN  
BIOMED

CELLect™ Cell Culture Media

### Production

Chemically defined CELLect™ Liquid and Powdered Media from ICN are produced with minimal risk of contamination in a modern, environmentally-controlled facility designed to properly maintain air pressure, humidity, temperature and particulate matter. All chemicals used in the production of all media must meet the highest quality and purity standards conforming to USP, ACS or NF specifications. All components are free of detectable endotoxin. Additionally, all media are manufactured and tested in accordance with current GMP guidelines. CELLect™ Media are supplied in high quality NALGE plastic bottles ensuring product stability and providing added convenience.

### Quality Assurance

CELLect™ Media are subjected to a series of tests ensuring lot integrity. An LAL chromogenic assay is used to test for endotoxin and it must yield less than 25 pg/ml for approval. Growth assays using several different cell lines test for functionality and performance over multiple passages. Up to 20 bottles of each lot of liquid media are tested for sterility and purity. For powdered media, the level of insoluble material is quantitatively determined by measuring the weight gain of 0.2 µm membrane filters after drying. Up to 10% of each batch is sampled and assayed.

The deterioration of liquid media may be recognized by a change in pH, formation of precipitate or presence of particulate matter throughout the solution, typically resulting in a cloudy appearance. It is NOT recommended to store liquid media at freezer temperatures as insoluble complexes may form during the thawing and freezing processes. Expiration dates are indicated on the product label. Certificates of Analysis are available on request.

### Filtration and Sterilization

CELLect™ Liquid Media are "ultra-filtered" with a 10 kDa cut-off filter prior to terminal sterilization. This allows passage of media components but excludes bacterial endotoxins. After this filtration, CELLect™ media contains less than 25 picograms of endotoxin per ml. Terminal sterilization is performed through a series of passages through 0.1 µm "Pharmaceutical Grade" filters which are integrity tested before and after use.

### Liquid Media Characteristics

- Manufactured with "Ultra Pure", apyrogenic water
- Endotoxin Level - <25 pg/ml
- Sterility - Class 100 sterility assurance
- FDA Registered for *In Vitro* Diagnostic\* (IVD) use
- Certificate of Analysis available
- Appearance - clear solution
- Amino Acid Levels - consistent with the formulation
- Functionality Tested
- pH - specific to each product

\*Most media are registered for IVD use, however, we do recommend that you inquire with Technical Service before purchasing.

### Powdered Media Characteristics

- Fine, free-flowing powder which dissolves easily
- Bioburden Levels - <1 cfu/ml, results in a low endotoxin final 1X medium
- Supplied in air-tight, re-sealable plastic containers
- Manufactured under **Class 100** conditions
- Large lot sizes available
- Produced under environmentally controlled conditions
- Auto-Pow™ - autoclavable powder forms available
- HEPES buffered or unbuffered media available
- pH - specific to each formulation
- Osmolality - specific to each formulation

ICN powdered media offer a convenient and economical means for preparing liquid cell culture media. Preparation is easily accomplished by simply mixing with purified water followed by sterile filtration. All media are prepared under environmentally controlled conditions at a relative humidity of less than 25% (Sahara Desert conditions) which results in a fine dry powder which thoroughly and quickly dissolves. All dust particles are removed from the surrounding air by an extensive air conditioning and filtration system. All media are manufactured in accordance with current Good Manufacturing Practices (GMP).

### Media Formulations

All formulations are submitted to Quality Assurance examination before use in production. ICN media are produced according to original published formulations and/or accepted modifications. Any difference between an ICN formulation and that of the TCA standard or original author are due to product improvement or customer request.

### Custom Preparations and Lot Reservations

ICN prides itself on its record of service in producing custom media. Orders and inquiries are invited for any special formulation. Simply supply full details including the exact formula, preparation method, form, pH requirements, storage conditions, packaging and quality control procedures and ICN will gladly review your request, make any recommendations, and provide a quotation and delivery time.

Additionally, ICN welcomes the testing and reserving of specific lots of CELLect™ liquid and powdered media. To test and reserve media lots on the premise of establishing a standing or blanket order, please contact your local ICN office or distributor or e-mail ICN at [sales@icnbiomed.com](mailto:sales@icnbiomed.com).



## Basal Medium Eagle (BME)

ICN's BME preparations are excellent for diploid or primary mammalian cell cultures. It is the simplest of the basal media with all the essential components for growth. BME ideally supports cell lines such as HeLa, L-cells and primary mammalian fibroblasts. However, it is not recommended for meticulous cell types. All BME from ICN contain phenol red. For custom BME preparations without phenol red, please contact your local ICN office or distributor.

Ref.: 1. Eagle, H., Proc. Soc. Exp. Biol. Med., 89:362 (1955).

### Liquid

	Catalog No.	Quantity
1X BME with Earle's salts; w/o L-glutamine	1200254	500 ml
1X BME with Earle's salts and L-glutamine	1200354	500 ml
1X BME with Earle's salts and 20 mM HEPES; w/o L-glutamine and sodium bicarbonate	1200454	500 ml
1X BME with Earle's salts and 0.85 g/L sodium bicarbonate; w/o L-glutamine	1200654	500 ml
1X BME with Hanks' salts and 0.35 g/L sodium bicarbonate; w/o L-glutamine	1203254	500 ml
1X BME with Hanks' salts, 0.35 g/L sodium bicarbonate and L-glutamine	1203354	500 ml
10X BME with Earle's salts; w/o L-glutamine and sodium bicarbonate	1400049	100 ml

### Powder

	Catalog No.	Quantity
BME with Earle's salts and L-glutamine; w/o sodium bicarbonate	1000120 1000122	10x1 liter 1x10 liter
BME with Hanks' salts and L-glutamine; w/o sodium bicarbonate	1003120 1003122	10x1 liter 1x10 liter
BME Diploid Powder with Hanks' salts and L-glutamine; w/o sodium bicarbonate	1094120 1094122	10x1 liter 1x10 liter
BME Autoclavable Powder with Earle's salts; w/o L-glutamine and sodium bicarbonate	1100022	1x10 liter

NOTE: The amino acid concentrations in ICN's BME media differ by minute amounts from those recommended by the TCA. The phenol red concentration has been modified and 50 mg/L of penicillin and 50 mg/L of streptomycin, per the original reference<sup>1</sup>, have been omitted.

## BGJb Medium (Bigger's)

BGJb medium was originally prepared for the culture of fetal rat long bones in a chemically defined environment. This formulation is recommended for culturing both adult and embryonic mammalian skeletal tissue.

Ref.: 1. Biggers, J.D., et al., Exp. Cell Res., 25:41 (1961).

### Liquid

	Catalog No.	Quantity
1X BGJb w/o L-glutamine	1297949 1297954	100 ml 500 ml

NOTE: This formulation differs from the original as follows:

- Nicotinamide is replaced by nicotinic acid.
- It has no phenol red or antibiotics.
- Sodium acetate and NaHPO<sub>4</sub> have been added.
- The concentrations of L-inositol, D-calcium pantothenate, thiamine HCl, KCl, KH<sub>2</sub>PO<sub>4</sub>, NaCl and NaHCO<sub>3</sub> have been modified for optimal performance.

## CMRL 1066 Medium

CMRL media were originally developed to support the growth of Earle's "L" cells. However, this protein-free formulation has proven successful for cloning monkey kidney cells and growing other mammalian cell types in cultures enriched with horse serum (catalog no. 2921154) or calf serum (2913154).

Ref.: 1. Parker, R.C., Methods of Tissue Culture, 3rd Ed., Harper and Row, NY (1961).

### Liquid

	Catalog No.	Quantity
10X CMRL 1066 w/o L-glutamine and sodium bicarbonate	1466054	500 ml

### Powder

	Catalog No.	Quantity
CMRL 1066 with L-glutamine; w/o sodium bicarbonate	1066120 1066122	10x1 liter 1x10 liter

## Dulbecco's Modified Eagle Medium (DMEM)

DMEM media are ideally suited for supporting and maintaining a vast range of mammalian cell types. It was originally developed for the growth of mouse embryo cells as a modification of BME media, but with four times the amount of amino acids and vitamins. The low glucose formulations, 1.0 g/L, are recommended for the maintenance of high density cultures and the growth of cells in agar. The high glucose formulations, 4.5 g/L, are widely used for anchorage-dependent cell types.

Ref.: 1. Dulbecco, R. and Freeman, G., Virology, 8:396 (1959).  
2. Smith, J.D., et al., Virology, 12:185 (1960).  
3. Moton, H.J., In Vitro, 6:89 (1970).

### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine	1233249 1233254 1233226	100 ml 500 ml 1 liter
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate and L-glutamine	1233354	500 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate and 20 mM HEPES; w/o L-glutamine and sodium bicarbonate	1233449 1233454	100 ml 500 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate and 25 mM HEPES; w/o L-glutamine	1233154	500 ml
1X DMEM with 4.5 g/L D-glucose, L-glutamine and pyridoxine HCl; w/o sodium pyruvate	1233654	500 ml
1X DMEM with 4.5 g/L D-glucose and pyridoxine HCl; w/o L-glutamine and sodium pyruvate	1233854	500 ml
1X DMEM with 1.0 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine	1234254	500 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and L-methionine	1642249 1642254	100 ml 500 ml

Excellent for use with Tran<sup>35</sup>S-label™ metabolic labeling reagent only from ICN!

1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine, L-methionine, L-cystine and L-cysteine	1642449 1642454	100 ml 500 ml
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Excellent for use with Tran<sup>35</sup>S-label™ metabolic labeling reagent only from ICN!

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1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and L-leucine	1642149	100 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and phosphate	1642349 1642354	100 ml 500 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and i-inositol	1642954	500 ml
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and phenol red	1642754	500 ml
10X DMEM with high glucose; w/o sodium bicarbonate and L-glutamine	1433054	500 ml

## Powder

	Catalog No.	Quantity
DMEM with 4.5 g/L glucose, L-glutamine and pyridoxine HCl; w/o sodium pyruvate and sodium bicarbonate	1033220 1033222	10x1 liter 1x10 liter
DMEM with 4.5 g/L glucose, L-glutamine, 110 mg/L sodium pyruvate and pyridoxine HCl; w/o sodium bicarbonate	1033120 1033122	10x1 liter 1x10 liter
DMEM with 4.5 g/L glucose, 20 mM HEPES, L-glutamine, pyridoxine HCl and 100 mg/L sodium pyruvate; w/o sodium bicarbonate	1033520 1033522	10x1 liter 1x10 liter

## DMEM/F-12 Nutrient Medium

This 1:1 blend of DMEM and F-12 Nutrient Mixture (Ham's F-12) was originally formulated for rat neuroblastoma cells and MDCK cells. However, it does offer excellent performance for certain epithelial, endothelial and granulosa cell types. With proper supplementation, it is a highly successful basal media for serum-free cell culture.

BioRich 1™ is a DMEM/F-12 powdered media blend enriched with trace elements. It is designed to ease the transition to "serum-free" conditions by reducing or even eliminating serum supplementation. When supplemented with ITS™ Premix, a completely serum-independent medium is formed. BioRich 1™ will increase yields from 8-114% over traditional serum-supplemented systems.

- Ref.:
1. Ham, R.G., Proc. Natl. Acad. Sci., 53:288 (1965).
  2. Dulbecco, R. and Freeman, G., Virology, 8:396 (1959).
  3. Morton, H.J., In Vitro, 6:89 (1970).
  4. Rutzky, L.P. and Pumper, R.W., In Vitro, 9:468 (1974).

## Liquid

	Catalog No.	Quantity
1X DMEM/F-12 with sodium pyruvate, phenol red and pyridoxine HCl; w/o HEPES buffer and L-glutamine	1246754	500 ml

## Powder

	Catalog No.	Quantity
DMEM/F-12 with phenol red and pyridoxine HCl; w/o L-glutamine, sodium pyruvate and sodium bicarbonate	1046920 1046922	10x1 liter 1x10 liter
DMEM/F-12 with phenol red, pyridoxine HCl and sodium pyruvate; w/o L-glutamine and sodium bicarbonate	1046820 1046822	10x1 liter 1x10 liter
BioRich 1™ with L-glutamine	1047120 1047122	10x1 liter 1x10 liter

## F-10 Nutrient Medium (Ham's F-10)

Ham's F-10 medium, a modification of F-7 medium, was originally developed to support the growth of CHO (Chinese Hamster Ovary) cells under serum-free conditions and other mammalian cell types with serum supplementation. ICN's formulation is optimized for clonal isolation and growth of CHO cells. When supplemented with albumin and fetuin, it is excellent for diploid cells and human melanocytes. F-10 also is a popular medium for the growth of fastidious cell lines.

- Ref.:
1. Ham, R.G., Exp. Cell Res., 39:515 (1963).
  2. Morton, H.J., In Vitro, 6:89 (1970).
  3. Rutzky, L.P. and Pumper, R.W., In Vitro, 9:468 (1974).
  4. Soloman, J.J., TCA Manual, 1:7 (1975).

## Liquid

	Catalog No.	Quantity
1X F-10 w/o L-glutamine	1240249 1240254	100 ml 500 ml
1X F-10 with L-glutamine	1240349 1240354	100 ml 500 ml
1X F-10 with 20 mM HEPES; w/o L-glutamine and sodium bicarbonate	1240449 1240454	100 ml 500 ml
10X F-10 w/o L-glutamine and sodium bicarbonate	1440049 1440054	100 ml 500 ml

## Powder

	Catalog No.	Quantity
F-10 with L-glutamine; w/o sodium bicarbonate	1040120 1040122 1040124	10x1 liter 1x10 liter 1x50 liter
F-10 with L-glutamine; w/o sodium bicarbonate and hypoxanthine	1040220 1040222	10x1 liter 1x10 liter

## F-12 Nutrient Medium (Ham's F-12)

Ham's F-12 medium was originally developed for single-cell plating of near diploid CHO cells. It is a rich modification of F-10 medium designed for the cloning and serial propagation of CHD-3 and CHL-1 cell lines in the absence of serum. It is also offers enhanced performance for cells growing at low density. F-12 features increased levels of choline, i-inositol, putrescine and several amino acids. It is excellent for cultivating carcinoma cells, rat skeletal myoblasts, lung cells and rat, rabbit or chicken embryos.

Kaighn's modification is a complex formulation of F-12 with double the amount of amino acids, increased pyruvates and various salts. It favors the support of clonal isolation and growth, as well as, differentiated rat and chicken cell types and primary human liver cells.

- Ref.:
1. Ham, R.G., Proc. Natl. Acad. Sci., 53:288 (1965).
  2. Morton, H.J., In Vitro, 6:89 (1970).
  3. Rutzky, L.P. and Pumper, R.W., In Vitro, 9:468 (1974).
  4. Soloman, J.J., TCA Manual, 1:7 (1975).

## Liquid

	Catalog No.	Quantity
1X F-12 with L-glutamine	1242354	500 ml
1X F-12 w/o L-glutamine	1242249 1242254	100 ml 500 ml
1X F-12 Kaighn's Modification with L-glutamine	1242454	500 ml

## Powder

	Catalog No.	Quantity
F-12 with L-glutamine; w/o sodium bicarbonate	1042120 1042122	10x1 liter 1x10 liter

NOTE: MgCl<sub>2</sub> has been replaced with MgSO<sub>4</sub> at the equivalent Mg<sup>2+</sup> concentration.

To place an order: (800) 854-0530, fax (800) 334-6999  
Outside the U.S.: (714) 545-0100, fax (714) 557-4872



### Fischer's Medium

Fischer's medium was originally developed to support the growth and maintenance of murine leukemic cells.

- Ref.: 1. Fischer, G.A. and Sartorelli, A.S., *Methods in Med. Res.*, 10:247 (1964)  
 2. Fischer, G.A., *Ann. N.Y. Acad. Sci.*, 10:673 (1958).  
 3. Rutzky, L.P. and Pumper, R.W., *In Vitro*, 9:468 (1974).  
 4. Soloman, J.J., *TCA Manual*, 1:7 (1975).

#### Liquid

	Catalog No.	Quantity
1X Fischer's w/o L-glutamine	1282254	500 ml
1X Fischer's with L-glutamine	1282354	500 ml

#### Powder

	Catalog No.	Quantity
Fischer's with L-glutamine; w/o sodium bicarbonate	1042120	10x1 liter
	1042122	1x10 liter

NOTE: MgCl<sub>2</sub> has been replaced by MgSO<sub>4</sub> • 7H<sub>2</sub>O at the equivalent Mg<sup>2+</sup> concentration.

### Gamborg's B5 Medium

Gamborg's medium supports the growth of plant cells and callus.

- Ref.: 1. Gamborg, O.L., *Plant Physiol.*, 45:372 (1970).

#### Powder

	Catalog No.	Quantity
B5 w/o sucrose, kinetin, agar and 2,4-D	2613022	1x10 liter

NOTE: Iron is added as FeNa EDTA rather than the salt form specified in the original formulation to ensure that iron is available in solution over a greater pH range.

### Glasgow Modification of Eagle's Medium (GMEM BHK-21 Medium)

Glasgow's modification of BME was developed to support the growth of BHK-21, clone 13 cells. The original formulation included the addition of 10% serum, 10% tryptose phosphate broth and twice the concentration of amino acids and vitamins to BME. However, ICN's formulation contains no tryptose phosphate broth.

- Ref.: 1. Gamborg, O.L., *Plant Physiol.*, 45:372 (1970).

#### Liquid

	Catalog No.	Quantity
1X GMEM with sodium bicarbonate; w/o L-glutamine and tryptose phosphate broth	1230254	500 ml
1X GMEM with sodium bicarbonate and L-glutamine; w/o tryptose phosphate broth	1230354	500 ml
10X GMEM w/o L-glutamine and sodium bicarbonate	1430054	500 ml

#### Powder

	Catalog No.	Quantity
GMEM with L-glutamine and sodium bicarbonate	1030120	10x1 liter
	1030122	1x10 liter
	1030124	1x50 liter

### Grace's Insect Medium

A popular medium formulated for Baculovirus Protein Expression systems involving insect cell types. Grace's medium was originally prepared to resemble the chemical composition of hemolymph from *Bombyx mori*. Prior to culturing, the media is normally supplemented with FBS, yeast extract, lactalbumin hydrolysate and BSA in varying combinations and concentrations. Grace's medium is often used to support the growth of dipteran and lepidopteran cell lines. Additionally, it can be used as a basal medium for serum-free insect cell culture. See also Hink's TNM-FH Medium.

- Ref.: 1. Grace, T.D.C., *Nature (London)*, 195:788 (1962).  
 2. Smith, G.E., et al., *Mol. and Cell. Biol.*, 3:2156 (1983).  
 3. Hink, W.F., "Cell Lines from Invertebrates in Cell Culture", Cell Culture, Jakoby and Pastan, Eds, Academic Press (San Diego), pp. 457-460 (1979).

#### Liquid

	Catalog No.	Quantity
1X Grace's with L-glutamine; w/o insect hemolymph	2700054	500 ml

### Hank's Lactalbumin 0.5% (HLAC)

The addition of 2% serum forms Melnick's Monkey Kidney Medium A.

- Ref.: 1. Melnick, J.L., *Ann. N.Y. Acad. Sci.*, 61:754 (1955).

#### Liquid

	Catalog No.	Quantity
1X HLAC w/o L-glutamine	1226254	500 ml

NOTE: The addition of 2% Newborn Bovine Serum to Hanks' or Earle's lactalbumin produces Melnick's Monkey Kidney Medium A and B, respectively. The phenol red concentrations in the above media differ from the TCA recommendations.

### High Growth Enhancement Medium (HGEM)

HGEM is a modification of DMEM in which 3.6 g/L of fructose is substituted for 4.5 g/L glucose yielding improved pH control and increased cell counts. ICN recommends this medium for the growth and support of cells on microcarrier matrices.

#### Liquid

	Catalog No.	Quantity
1X HGEM w/o L-glutamine	1233754	500 ml

#### Powder

	Catalog No.	Quantity
HGEM with L-glutamine; w/o sodium bicarbonate	1033820	10x1 liter
	1033822	1x10 liter

# CELLect™ Cell Culture Media

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## Hink's TNM-FH Medium

Also known as Supplemental Grace's Medium, Hink's medium supports the growth of various insect cell types.

Ref.: 1. Hink, W.F., "Cell Lines from Invertebrates in Cell Culture", Cell Culture, Jakoby and Pastan, Eds, Academic Press (San Diego), pp. 457-460 (1979).

### Liquid

	Catalog No.	Quantity
1X Hink's with L-glutamine, lactalbumin hydrolysate and yeastolate; w/o insect hemolymph	2710154	500 ml

### Powder

	Catalog No.	Quantity
Hink's with L-glutamine, lactalbumin hydrolysate and yeastolate; w/o insect hemolymph	1127120	10x1 liter
	1127122	1x10 liter

## Iscove's Modification of Dulbecco's Medium (IMDM)

Iscove's media are enriched modifications of DMEM containing sodium selenite. They are excellent for rapidly proliferating, high density cell cultures. The addition of BSA, purified human transferrin and soybean lecithin creates serum-free conditions ideal for supporting B and T lymphocytes. IMDM was the first media utilizing HEPES buffer. Other cell types can be cultured using this medium under serum-free or reduced serum conditions.

Ref.: 1. Iscove, N. and Melchers, F., J. Exp. Med., 147:923 (1978).

### Liquid

	Catalog No.	Quantity
1X IMDM with L-glutamine, BSA, transferrin and lecithin (soybean)	1235854	500 ml
1X IMDM with L-glutamine, 25 mM HEPES and 2.52 g/L sodium bicarbonate; w/o BSA, transferrin, and lecithin (soybean)	1235954	500 ml

### Powder

	Catalog No.	Quantity
IMDM with L-glutamine; w/o BSA, transferrin, lecithin and sodium bicarbonate	1035720	10x1 liter
	1035722	1x10 liter
IMDM with L-glutamine; BSA, transferrin and lecithin; w/o sodium bicarbonate	1035520	10x1 liter
	1035522	1x10 liter

## Joklik's Modification of Minimum Essential Medium Eagle (JMEM)

JMEM is specially formulated for suspension cultures and requires only the addition of serum.

### Liquid

	Catalog No.	Quantity
1X JMEM w/o L-glutamine; with penicillin and streptomycin	1232354	500 ml

### Powder

	Catalog No.	Quantity
JMEM with penicillin, streptomycin, L-glutamine and sodium bicarbonate	1032320	10x1 liter
	1032322	1x10 liter
	1032324	1x50 liter

NOTE: The NaCl concentration is slightly reduced and NaCHO<sub>3</sub>, penicillin, streptomycin are added. Like MEM for suspension cultures, MgSO<sub>4</sub> • 7H<sub>2</sub>O replaces MgCl<sub>2</sub> at the equivalent Mg<sup>2+</sup> concentration.

## Leibovitz L-15 Medium

For L-15 medium, galactose replaces glucose, sodium bicarbonate is removed, and buffering is provided by amino acid free bases. L-15 media support the growth of cells in non-CO<sub>2</sub> environments allowing free atmospheric air exchange and reducing pH fluctuations. Also, the use of L-15 eliminates the need for frequent media replacement. Human tumor cells, embryonic cells and some viruses have been successfully cultured with L-15. This medium should not be used for cells intolerant of pH shifts.

Ref.: 1. Leibovitz, A., Amer. J. Hyg., 78:173 (1963).

### Liquid

	Catalog No.	Quantity
1X L-15 w/o L-glutamine	1251054	500 ml
1X L-15 with L-glutamine	1251154	500 ml

### Powder

	Catalog No.	Quantity
L-15 with L-glutamine	1051120	10x1 liter
	1051122	1x10 liter

NOTE: The phenol red concentration differs from that recommended by the TCA. All "DL" amino acids, as cited in the original formulation, have been replaced with the "L" form at one-half the concentration.

## McCoy's 5A Medium

McCoy's media were originally formulated for the growth and support of human lymphocytes. The 5A modification originated as a reformulation of McCoy's by Hsu and Kellogg. It was then further modified by Iwakata and Grace featuring increased levels of i-inositol and glucose. This final modification produced a media identical to RPMI 1629. McCoy's 5A media support the indefinite proliferation of Walker 256 carcinoma cells. In addition, it is excellent for the propagation of leukocytes, biopsy tissues, a broad range of human and rat normal and transformed cell types, and the most demanding primary and continuous cell lines.

Ref.: 1. McCoy, T.A., et al., Proc. Soc. Exp. Biol. Med., 100:115 (1959).  
 2. Park, M.S. and Terasaki, P.L., Transplantation, 18:520 (1974).  
 3. Neuman, R.E. and McCoy, T.A., Proc. Soc. Exp. Biol. Med., 98:303 (1958).  
 4. Hsu, T.C. and Kellogg, D.S., J. Natl. Cancer Inst., 25:221 (1960).  
 5. Iwakata, S. and Grace, J.T.H., N.Y. State J. Med., 64:2279 (1964).

### Liquid

	Catalog No.	Quantity
1X 5A Iwakata and Grace Modification with L-glutamine	1255349	100 ml
	1255354	500 ml
1X 5A Iwakata and Grace Modification w/o L-glutamine	1255249	100 ml
	1255254	500 ml
1X Park and Terasaki Modification	1692149	100 ml

### Powder

	Catalog No.	Quantity
5A Iwakata and Grace Modification with L-glutamine; w/o sodium bicarbonate	1055120	10x1 liter
	1055122	1x10 liter

NOTE: The TCA recommendations for the Iwakata and Grace modification of 5A medium includes D-alanine whereas, ICN's formulation includes L-alanine. Park and Terasaki further added 25 mg/L of phenol red, to allow researchers to observe pH changes more readily. ICN's formulation omits the additional phenol red. ICN's formulation of McCoy's 5A medium, as modified by Iwakata and Grace, is identical to RPMI 1629.

To place an order: (800) 854-0530, fax (800) 334-6999  
 Outside the U.S.: (714) 545-0100, fax (714) 557-4872



## Medium 199

This complex medium was originally developed specifically for nutritional research of chick embryo fibroblasts. Today, 199 media are widely used for the maintenance of non-transformed cells, vaccine and virus production, and primary explants of epithelial cells. It is available with either Earle's salts (E199) or Hanks' salts (H199).

Ref.: 1. Morgan, J.F., et al., Proc. Soc. Exp. Biol. Med., 51:1 (1950).  
2. Morgan, J.F., et al., J. Natl. Cancer Inst., 16:557 (1955).  
3. Parker, R.C., Methods of Tissue Culture, 3rd Ed., Harper and Row, N.Y. (1961).

### Liquid

	Catalog No.	Quantity
1X E199 with Earle's salts and L-glutamine	1220354	500 ml
1X E199 with Earle's salts; w/o L-glutamine	1220249 1220254	100 ml 500 ml
1X E199 with Earle's salts and 20 mM HEPES; w/o L-glutamine and sodium bicarbonate	1220449 1220454	100 ml 500 ml
1X H199 with Hanks' salts and L-glutamine	1223354	500 ml
1X H199 with Hanks' salts; w/o L-glutamine	1223249 1223254	100 ml 500 ml
10X E199 with Earle's salts; w/o L-glutamine and sodium bicarbonate	1420049 1420054	100 ml 500 ml
10X H199 with Hanks' salts; w/o L-glutamine and sodium bicarbonate	1423054	500 ml

### Powder

	Catalog No.	Quantity
E199 with Earle's salts and L-glutamine; w/o sodium bicarbonate	1020120 1020122 1020124	10x1 liter 1x10 liter 1x50 liter
H199 with Hanks' salts and L-glutamine; w/o sodium bicarbonate	1023120 1023122 1023124	10x1 liter 1x10 liter 1x50 liter

NOTE: ICN's formulation replaces "DL" amino acids with "L" amino acids at one-half the concentration.

## Minimum Essential Medium Eagle (MEM)

A modification of BME featuring increased amino acids levels to more closely resemble the protein content of human cells, MEM serves as a general use medium ideal for the growth and maintenance of a wide range of mammalian cell types. Often used to support anchorage-dependent cells, modified formulations can be used to support other cell types including calcium-free MEM for suspension cultures and MEM with Hanks' salts for diploid cells.

Ref.: 1. Eagle, H., Science, 130:342 (1959).  
2. Parker, R.C., Methods of Tissue Culture, 3rd Ed., Harper and Row, N.Y. (1961).

### Liquid

	Catalog No.	Quantity
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine	1210249 1210254	100 ml 500 ml
1X MEM with Earle's salts and 0.85 g/L sodium bicarbonate; w/o L-glutamine	1210654	500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate and L-glutamine	1210349 1210354	100 ml 500 ml
1X MEM with Earle's salts and 20 mM HEPES; w/o L-glutamine and sodium bicarbonate	1210449 1210454	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and L-methionine	1622249 1622254	100 ml 500 ml

1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine, L-methionine, L-cystine and L-cysteine	1641449 1641454	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and L-arginine	1622049 1622054	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and L-leucine	1622154	500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and phosphate	1622749 1622754	100 ml 500 ml
1X MEM with Earle's salts, 0.85 g/L sodium bicarbonate, non-essential amino acids, 200 IU/ml penicillin and 100 µg/ml streptomycin; w/o L-glutamine	1212754	500 ml
1X MEM with Hanks' salts and 0.35 g/L sodium bicarbonate; w/o L-glutamine	1213249 1213254	100 ml 500 ml
1X MEM with Hanks' salts and 20 mM HEPES; w/o L-glutamine	1213454	500 ml
1X MEM Alpha Modification with sodium bicarbonate; w/o L-glutamine, ribosides and deoxyribosides	1231249 1231254	100 ml 500 ml
1X MEM Richter's Modification with L-glutamine, proline and gentamicin; w/o phenol red	1610554	500 ml
1X MEM for Suspension cultures with Earle's salts, MgCl <sub>2</sub> and 2.0 g/L sodium bicarbonate; w/o L-glutamine and MgSO <sub>4</sub>	1216254	500 ml
1X MEM for Suspension cultures with Earle's salts and 0.85 sodium bicarbonate; w/o L-glutamine	1217654	500 ml
10X MEM with Earle's salts w/o L-glutamine and sodium bicarbonate	1410049 1410054	100 ml 500 ml
10X MEM for Suspension cultures with Earle's salts; w/o L-glutamine and sodium bicarbonate	1417054	500 ml

### Powder

	Catalog No.	Quantity
MEM with Hanks' salts and L-glutamine; w/o sodium bicarbonate	1013120 1013122 1013124	10x1 liter 1x10 liter 1x50 liter
MEM with Hanks' salts, L-glutamine and 20 mM HEPES; w/o sodium bicarbonate	1013520 1013522	10x1 liter 1x10 liter
MEM with Earle's salts and L-glutamine; w/o sodium bicarbonate	1010120 1010122 1010124	10x1 liter 1x10 liter 1x50 liter
MEM with Earle's salts, L-glutamine and 20 mM HEPES; w/o sodium bicarbonate	1010520 1010522	10x1 liter 1x10 liter
MEM with Earle's salts, L-glutamine and non-essential amino acids; w/o sodium bicarbonate	1012120 1012122 1012124	10x1 liter 1x10 liter 1x50 liter
MEM Alpha Modification with L-glutamine; w/o sodium bicarbonate, ribosides and deoxy-ribosides	1031120 1031122	10x1 liter 1x10 liter
MEM for Suspension cultures with Earle's salts and L-glutamine	1017120 1017122	10x1 liter 1x10 liter
MEM Auto-Pow™ autoclavable powder with Earle's salts; w/o L-glutamine and sodium bicarbonate	1110020 1110022 1110024	10x1 liter 1x10 liter 1x50 liter
MEM Auto-Pow™ autoclavable powder with Earle's salts; w/o L-glutamine, phenol red and sodium bicarbonate	1111020 1111022	10x1 liter 1x10 liter
MEM Auto-Pow™ autoclavable powder for Suspension cultures with Earle's salts; w/o L-glutamine and sodium bicarbonate	1117020 1117022	10x1 liter 1x10 liter

NOTE: The concentration of some vitamins have been slightly increased from the original Eagle formulation. The MgSO<sub>4</sub> concentration differs from Eagle's original formulation, but matches that suggested by Parker.

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# CELLect™ Cell Culture Media



CELLect™ Cell Culture Media

## Mitsuhashi and Maramorosch Basal Medium (MMBM)

This medium was originally developed to culture leafhopper cells. However, it is well suited for supporting dipteran, homopteran and lepidopteran cells, particularly mosquito cell cultures.

Ref.: 1. Mitsuhashi, J. and Maramorosch, K., *Contrib. Boyce Thompson Inst.*, 22:435 (1964).  
2. Singh, K.R.P., *Cun. Sci. (India)*, 36:506 (1967).

### Liquid

	Catalog No.	Quantity
1X MMBM w/o L-glutamine	2700354	500 ml

NOTE: The complete medium is prepared by adding 200 ml FBS to 800 ml basal medium, then adjusting the pH to 6.5 with 1N NaOH.

## Murashige and Skoog Plant Medium (M & S)

This complete medium contains both macro- and micronutrients for plant tissue culture. It requires only the addition of sterile water followed by autoclaving. For semi-solid cultures, agar is added prior to autoclaving.

Ref.: 1. Murashige, T. and Skoog, P., *Physiol. Plant.*, 15:473-497 (1962).

### Powder

	Catalog No.	Quantity
M & S Plant Medium w/o sucrose, IAA, kinetin and agar	2610020	10x1 liter
	2610022	1x10 liter
	2610024	1x50 liter

NOTE: Iron is added as FeNa EDTA rather than the salt form specified in the original formulation to ensure that iron is available in solution over a greater pH range.

## Murashige and Skoog Plant Salt Mixture (M & S)

This mixture contains basal salts for most Murashige plant-specific formulations.

Ref.: 1. Murashige, T. and Skoog, P., *Physiol. Plant.*, 15:473-497 (1962).

### Powder

	Catalog No.	Quantity
M & S Plant Salt Mixture w/o agar	2633020	10x1 liter
	2633022	1x10 liter
	2633024	1x50 liter

NOTE: Iron is added as FeNa EDTA rather than the salt form specified in the original formulation to ensure that iron is available in solution over a greater pH range.

## Murashige Minimal Organic Medium

This medium contains no agar and can be used as a starting medium or pretransplanting medium for carrots, citrus and ferns.

Ref.: 1. Murashige, T. and Skoog, P., *Physiol. Plant.*, 15:473-497 (1962).

### Powder

	Catalog No.	Quantity
Minimal Organic Medium w/o agar	2600020	10x1 liter
	2600022	1x10 liter

NOTE: Iron is added as FeNa EDTA rather than the salt form specified in the original formulation to ensure that iron is available in solution over a greater pH range.

## NCTC 135 Medium

NCTC 135 media are identical to NCTC 109 media with one exception. NCTC 135 does not contain L-cysteine. NCTC was originally formulated to cultivate L-929 cells without serum supplementation. However, adding serum permits the rapid proliferation of many cell lines. It may also be used to support hybridoma cell lines. For serum-free conditions, NCTC often requires the addition of growth factors.

Ref.: 1. Evans, V.J., et al., *Exp. Cell Res.*, 36:439 (1964).

### Liquid

	Catalog No.	Quantity
1X NCTC 135 with L-glutamine	1291354	500 ml

## Ovum Culture Medium (OCM)

This medium was specifically developed for the growth and development of cow morulae *in vitro*.

Ref.: 1. Whittingham, D.G., *Nature*, 223:125 (1971).  
2. Trounson, A.O., et al., *J. Reprod. Fert.*, 47:367 (1976).

### Liquid

	Catalog No.	Quantity
1X OCM	1634749	100 ml
	1634754	500 ml

## RPMI 1640 Medium

RPMI are general purpose enriched media with extensive applications for a vast range of mammalian cells including human myeloma, mouse hybridoma, human leukocytes, and B and T lymphocytes. It was originally formulated for suspension cultures and monolayer culture of human leukemic cells. ICN's formulation contains increased levels of *i*-inositol.

Ref.: 1. Moore, G.E., et al., *JAMA*, 199:519 (1967).

### Liquid

	Catalog No.	Quantity
1X RPMI 1640 w/o L-glutamine	1260249	100 ml
pH 6.9-7.2	1260254	500 ml
1X RPMI 1640 w/o L-glutamine	1265249	100 ml
pH 7.2-7.4	1265254	500 ml
1X RPMI 1640 with L-glutamine	1260349	100 ml
	1260354	500 ml
1X RPMI 1640 with 20 mM HEPES; w/o sodium bicarbonate and L-glutamine	1260449	100 ml
	1260454	500 ml
1X RPMI 1640 with 25 mM HEPES and 4.75 g/L NaCl; w/o L-glutamine	1260554	500 ml
1X RPMI 1640 with 25 mM HEPES, 4.75 g/L NaCl and L-glutamine	1260649	100 ml
	1260654	500 ml
1X RPMI 1640 w/o L-glutamine and <i>i</i> -inositol	1265349	100 ml
	1265354	500 ml
1X RPMI 1640 w/o L-glutamine and <i>L</i> -leucine	1629149	100 ml
1X RPMI 1640 w/o L-glutamine and <i>L</i> -methionine	1646449	100 ml
	1646454	500 ml
1X RPMI 1640 w/o L-glutamine, <i>L</i> -methionine <i>L</i> -cystine and <i>L</i> -cysteine	1629249	100 ml
	1629254	500 ml
1X RPMI 1640 w/o L-glutamine and <i>phenol red</i>	1646749	100 ml
	1646754	500 ml



1X RPMI 1640 w/o L-glutamine and <b>glucose</b>	1646854	500 ml
1X RPMI 1640 w/o L-glutamine and <b>phosphate</b> ; with 0.85 g/L sodium bicarbonate	1629749 1629754	100 ml 500 ml
1X RPMI Dutch Modification w/o L-glutamine	1260954	500 ml
10X RPMI 1640 w/o L-glutamine and sodium bicarbonate	1460049 1460054	100 ml 500 ml

**Powder**

	Catalog No.	Quantity
RPMI 1640 with L-glutamine; w/o sodium bicarbonate	1060120 1060122 1060124	10x1 liter 1x10 liter 1x50 liter
RPMI 1640 with L-glutamine and 25 mM HEPES; w/o sodium bicarbonate	1060520 1060522	10x1 liter 1x10 liter

**Serum-free Insect Medium (SFIM)**

This completely serum-free, very low protein medium is specially formulated for insect cell cultures requiring little to no protein. It supports the growth of Sf-9, Hi-5 and other insect cell types.

**Liquid**

	Catalog No.	Quantity
1X SFIM with L-glutamine	2720154	500 ml

**Powder**

	Catalog No.	Quantity
SFIM with L-glutamine	1127220 1127222	10x1 liter 1x10 liter

**Serum-free Mammalian Medium (SFMM)**

A complete, ready-to-use, serum-free medium specially formulated for mammalian cell types.

**Liquid**

	Catalog No.	Quantity
1X SFMM with L-glutamine	2011054	500 ml
1X SFMM with L-glutamine; w/o phenol red	2012054	500 ml

**Serum-free Virus Production Medium (SFVM)**

This completely serum-free medium is specially formulated for the production of viruses expressed in insect cells.

**Liquid**

	Catalog No.	Quantity
1X SFVM with L-glutamine	2730154	500 ml

**Powder**

	Catalog No.	Quantity
SFVM with L-glutamine	1127320 1127322	10x1 liter 1x10 liter

**TC 100 Medium**

Although originally developed to support the growth and development of *Spodoptera frugiperda*, TC 100 medium is ideal for a culturing a variety of other lepidopteran cell types.

Ref.: 1. Knudson and Buckley, Methods in Virology, Vol. 6 (1977).  
2. Gardiner and Stockdale, J. Invertebrate Path., 25 (1975).

**Powder**

	Catalog No.	Quantity
1X TC 100 with L-glutamine; w/o sodium bicarbonate	2710122	1x10 liter

NOTE: The complete medium is prepared by adding 100 ml of FBS (cat. no. 2916749) to 900 ml of medium.

**Waymouth's MB 752/1 Medium**

Waymouth's MB 752/1 medium was originally developed to study the nutritional, metabolic and growth attributes of L-929 cells in a serum-free environment. Today, it is a popular general purpose media for fastidious cell lines.

Ref.: 1. Waymouth, C., J. Natl. Cancer Inst., 22:1003 (1959).

**Liquid**

	Catalog No.	Quantity
1X MB 752/1 w/o L-glutamine	1252254	500 ml

**Powder**

	Catalog No.	Quantity
MB 752/1 with L-glutamine; w/o sodium bicarbonate	1052120 1052122	10x1 liter 1x10 liter

NOTE: The original formulation did not contain phenol red. Also, MgCl<sub>2</sub> has been replaced with MgSO<sub>4</sub> • 7H<sub>2</sub>O at the equivalent Mg<sup>2+</sup> concentration.

**Williams' Medium E**

Williams' media were originally developed for the isolation and long-term maintenance of adult rat liver epithelial cells.

Ref.: 1. Williams, G.M., et al., J. Exp. Cell Res., 69:106 (1971).

**Liquid**

	Catalog No.	Quantity
1X WME w/o L-glutamine	1250254	500 ml

**Powder**

	Catalog No.	Quantity
WME with L-glutamine; w/o sodium bicarbonate	1050120 1050122	10x1 liter 1x10 liter



## CELLect™ DEFICIENT MEDIA

ICN offers several media formulations with selected deficiencies ideal for metabolic cell labeling and various other applications. The components removed include:

- L-Methionine
- L-Leucine
- i-Inositol
- L-Methionine, L-Cysteine and L-Cystine
- L-Arginine
- Phenol Red
- Phosphate

### without L-Methionine

L-Methionine deficient media are among the most frequently used for metabolic labeling procedures. All formulations are optimized for use with S-35 labeling reagents, including Tran<sup>35</sup>S-label™.

*Excellent for use with Tran<sup>35</sup>S-label™ metabolic labeling reagent only from ICN!*

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and <b>L-methionine</b>	1642249 1642254	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and <b>L-methionine</b>	1622249 1622254	100 ml 500 ml
1X RPMI 1640 w/o L-glutamine and <b>L-methionine</b>	1646449 1646454	100 ml 500 ml

### without L-Methionine, L-Cysteine and L-Cystine

Commonly used deficient media for metabolic labeling procedures. All formulations are optimized for use with S-35 labeling reagents, including ICN's Tran<sup>35</sup>S-label™.

*Excellent for use with Tran<sup>35</sup>S-label™ metabolic labeling reagent only from ICN!*

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine, <b>L-methionine, L-cystine and L-cysteine</b>	1642249 1642254	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine, <b>L-methionine, L-cystine and L-cysteine</b>	1641449 1641454	100 ml 500 ml
1X RPMI 1640 w/o L-glutamine, <b>L-methionine L-cystine and L-cysteine</b>	1629249 1629254	100 ml 500 ml

### without L-Arginine

A uniquely deficient medium ideal for various metabolic investigations.

#### Liquid

	Catalog No.	Quantity
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and <b>L-arginine</b>	1622049 1622054	100 ml 500 ml

### without Phenol Red

Phenol red (phenolsulfonphthalein) serves as a pH indicator in cell culture media, red at neutral pH, yellow at acidic pH, and purple at alkaline pH. However, studies reveal that phenol red mimics steroid hormones *in vitro*. To avoid the associated estrogenic effects, particularly for mammary tissue cultures, ICN recommends using media without phenol red.

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and <b>phenol red</b>	1642754	500 ml
1X MEM Richter's Modification with L-glutamine, proline and gentamicin; <b>w/o phenol red</b>	1610554	500 ml
1X RPMI 1640 w/o L-glutamine and <b>phenol red</b>	1646749 1646754	100 ml 500 ml

### without L-Leucine

A uniquely deficient medium for investigation of L-leucine metabolic pathways.

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and <b>L-leucine</b>	1642149	100 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and <b>L-leucine</b>	1622154	500 ml
1X RPMI 1640 w/o L-glutamine and <b>L-leucine</b>	1629149	100 ml

### without i-Inositol

A uniquely deficient medium for investigation of i-inositol metabolic processes.

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and <b>i-inositol</b>	1642954	500 ml
1X RPMI 1640 w/o L-glutamine and <b>i-inositol</b>	1265349 1265354	100 ml 500 ml

### without Phosphate or Glucose

Versatile media for investigation into a variety of metabolic and other cell processes.

#### Liquid

	Catalog No.	Quantity
1X DMEM with 4.5 g/L D-glucose, pyridoxine HCl, 110 mg/L sodium pyruvate; w/o L-glutamine and <b>phosphate</b>	1642349 1642354	100 ml 500 ml
1X MEM with Earle's salts and 2.0 g/L sodium bicarbonate; w/o L-glutamine and <b>phosphate</b>	1622749 1622754	100 ml 500 ml
1X RPMI 1640 with 0.85 g/L sodium bicarbonate; w/o L-glutamine and <b>phosphate</b>	1629749 1629754	100 ml 500 ml
1X RPMI 1640 w/o L-glutamine and <b>glucose</b>	1646854	500 ml



## MICROBIOLOGICAL MEDIA

ICN now offers a broad selection of media and supplements for the growth, maintenance and isolation of various microorganisms. ICN encourages inquiries for media which may not appear here and requests for quantity discounts. If additional information is needed, please contact your local ICN office or distributor.

1000817 RT	<b>AC BROTH</b> Used for cultivating a broad range of microorganisms and for sterility testing of turbid or viscous solutions and other materials which do not have preservatives that contain mercury.	500 g
1000917 RT	<b>ACTINOMYCETE ISOLATION AGAR</b> Used for the cultivation and maintenance of <i>Actinomyces</i> species from soil and water. Use with glycerol (cat. no. 10-044-17).	500 g
1001117 RT	<b>ANAEROBIC AGAR</b> A general purpose medium for the cultivation of anaerobic bacteria.	500 g
10012J6 0-5°C	<b>ANTIMICROBIC VIAL CNV</b> A Colistin Sulfate-Nystatin-Vancomycin culture supplement. It is well suited for use with GC Medium Base (cat. no. 10-043-17).	6x10 ml
10013J6 0-5°C	<b>ANTIMICROBIC VIAL CNVT</b> A Colistin Sulfate-Nystatin-Vancomycin-Trimethoprim lactate culture supplement. It is well suited for use with GC Medium Base (cat. no. 10-043-17).	6x10 ml
1001349 RT	<b>ANTIMICROBIC VIAL CNVT</b> A Colistin Sulfate-Nystatin-Vancomycin-Trimethoprim lactate culture supplement. It is well suited for use with GC Medium Base (cat. no. 10-043-17).	100 ml
1001417 RT	<b>AZIDE BLOOD AGAR BASE</b> For the isolation and cultivation of streptococci and staphylococci bacteria. Also, it may be used with blood in the determination of hemolytic reactions.	500 g
1001517 RT	<b>BAIRD PARKER AGAR BASE</b> For use with EY Tellurite Enrichment for the detection and enumeration of coagulase positive staphylococci in foods and other materials.	500 g
1001617 RT	<b>BEEF HEART FOR INFUSION</b> Dessicated beef heart powder.	500 g
1001817 RT	<b>BILE ESCULIN AGAR</b> Suited for the differentiation and presumptive identification of group D streptococci bacteria. It is also useful for the differentiation of enterobacteriaceae group organisms.	500 g
1001917 RT	<b>BILE SALTS</b> This preparation functions as a selective agent by inhibiting gram-positive organisms.	500 g
1002017 RT	<b>BILE SALTS NO. 3</b> Acts as a selective agent by inhibiting gram-positive organisms.	500 g

1002117 RT	<b>BISMUTH SULFITE AGAR</b> Prepared for the selective isolation and cultivation of <i>Salmonella</i> species, particularly <i>Salmonella typhi</i> from food and clinical samples.	500 g
1002217 RT	<b>BLOOD AGAR BASE</b> This infusion medium is for the isolation and cultivation of fastidious microorganisms, pH 7.3 ±0.2.	500 g
1002317 RT	<b>BRAIN HEART INFUSION AGAR</b> Developed for the cultivation of fastidious microorganisms highly suited for fungi and yeasts. With added antibiotics, it may be used in isolating fungi.	500 g
1002417 RT	<b>BRAIN HEART INFUSION BROTH</b> Developed for the cultivation of a large variety of fastidious and non-fastidious, aerobic and anaerobic microorganisms including bacteria, yeast and fungi (molds).	500 g
1002517 RT	<b>BRILLIANT GREEN BILE 2%</b> A standard methods medium for the confirmed and complete detection of coliform bacteria in food and water.	500 g
1002617 RT	<b>BRILLIANT GREEN BILE AGAR</b> Prepared for the selective detection and cultivation of coliform bacteria found in food and water.	500 g
1002717 RT	<b>BUSHNELL-HAAS BROTH</b> Suited for the isolation and cultivation of bacteria capable of utilizing hydrocarbons.	500 g
1002817 RT	<b>CANDIDA BCG AGAR BASE</b> Used with Neomycin for the primary isolation and identification of <i>Candida</i> species.	500 g
1002917 RT	<b>CANDIDA ISOLATION AGAR</b> Prepared for the primary detection and cultivation of <i>Candida albicans</i> and other members of this species group.	500 g
1003017 RT	<b>CLED AGAR</b> (Cystine Lactose, Electrolyte-Deficient Agar) Typically, this medium is used for the growth of <i>Klebsiella pneumoniae</i> . However, it also serves well for the cultivation of bacteria which are isolated from urine.	500 g
1003117 RT	<b>COLUMBIA AGAR BASE</b> Suited for the isolation and cultivation of non-fastidious and fastidious microorganisms from a variety of clinical and non-clinical specimens.	500 g
1003217 RT	<b>CORN MEAL AGAR</b> Developed for the cultivation and maintenance of Chlamydo spores by <i>Candida albicans</i> , as well as, for the cultivation of phytopathological fungi.	500 g
1003317 RT	<b>CZAPEK DOX BROTH</b> Prepared for use in cultivating and maintaining a variety of fungal and bacterial species which utilize nitrate (inorganic nitrogen) as their sole nitrogen source.	500 g

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# CELlect™ Cell Culture Media



CELlect™ Cell Culture Media

1003417 RT	<b>DNase TEST AGAR</b> Suited for the differentiation of microorganisms on the basis of deoxyribonuclease activity.	500 g
1003517 RT	<b>DNase TEST AGAR With Methyl Green</b> This preparation selectively differentiates <i>S. aureus</i> and <i>S. marcescens</i> from other organisms with similar characteristics.	500 g
1003617 RT	<b>EC MEDIUM</b> Used for the isolation and enumeration of coliform in water, waste-water, shellfish, foods and fecal matter.	500 g
1003749 0-5°C	<b>EGG YOLK ENRICHMENT 50%</b> Enrichment supplement for microbiological media.	100 ml
1003817 RT	<b>EMB AGAR</b> Developed for the identification and maintenance of gram-negative bacteria.	500 g
1003917 RT	<b>EUGON AGAR</b> Prepared for the cultivation of a broad range of microorganisms, as well as, for large scale vaccine production.	500 g
1004017 RT	<b>EUGON BROTH</b> Well suited for large scale vaccine production and the cultivation of a broad range of organisms.	500 g
1004149 0-5°C	<b>EY TELLURITE ENRICHMENT</b> To be used with Baird-Parker Agar Base (10-015-17) for isolating <i>S. aureus</i> . It consists of egg yolk (30%) suspended with potassium tellurite (0.15%).	100 ml
1004217 RT	<b>FLUID THIOGLYCOLLATE MEDIUM (FTM; Thioglycollate Fluid Medium)</b> Developed for the cultivation of anaerobic microaerophilic and aerobic microorganisms. It is also well suited for sterility testing of a variety of specimens.	500 g
1004317 RT	<b>GC AGAR BASE (GC Medium Base)</b> Suited for the isolation and cultivation of fastidious bacteria, particularly <i>Neisseria</i> and <i>Haemophilus</i> species. It is recommended to be used with hemoglobin (cat. no. 10-048-17) or hemoglobin 2% (cat. no. 10-049-J7), Antimicrobial Vial CNV (cat. no. 10-012-J6) or CNVT (cat. no. 10-013-J6), Supplement A (cat. no. 10-099-J5), Supplement B (cat. no. 10-100-49), Supplement C (cat. no. 10-101-J5) or Supplement VX (cat. no. 10-102-49).	500 g
1004417 RT	<b>GLYCEROL Microbiological Grade</b> Highly purified for use as a fixative, a component in bacterial preservation media and for the isolation and maintenance of a variety of microorganisms.	500 g
1004517 RT	<b>HEART INFUSION AGAR</b> To be used with or without blood for the isolation, cultivation and maintenance of a broad range of microorganisms.	500 g
1004617 RT	<b>HEART INFUSION BROTH</b> To be used with or without blood for the isolation, cultivation and maintenance of a broad range of microorganisms.	500 g
1004717 RT	<b>HEKTOEN ENTER AGAR</b> Prepared for the selective differential isolation of salmonella and shigella bacteria from other gram-negative enteric bacilli.	500 g
1004817 RT	<b>HEMOGLOBIN From Beef Blood</b> Autoclavable preparation To be used with GC Agar Base.	500 g
10049J7 RT	<b>HEMOGLOBIN 2% Solution</b> To be used with GC Agar Base.	6x100 ml
1005017 RT	<b>KLIGLER IRON AGAR</b> Well suited for the identification of gram-negative enteric bacilli based on dextrose and lactose fermentation and hydrogen sulfide generation.	500 g
1005117 RT	<b>LAURYL TRYPTOSE BROTH (Lauryl Sulfate Broth)</b> A preparation for the differential isolation of coliform bacteria.	500 g
1005217 RT	<b>LB AGAR, MILLER (Luria-Bertoni)</b> For the cultivation, propagation and maintenance of <i>E. coli</i> for molecular biology applications.	500 g
1005317 RT	<b>LB BROTH, MILLER (Luria-Bertoni)</b> For the cultivation, propagation and maintenance of <i>E. coli</i> , <i>B. subtilis</i> , <i>S. choleraesuis</i> , <i>C. glutamicum</i> and others for molecular biology applications. Contains 10 g/liter sodium chloride.	500 g
1005417 RT	<b>LEVINE EMB AGAR (Levine Eosin Methylene Blue Agar; Eosin Methylene Blue Agar, Levine)</b> Standard methods medium for the isolation, differentiation and cultivation of gram-negative enteric bacteria (bacilli) based on lactose fermentation.	500 g
1005517 RT	<b>LIVER INFUSION AGAR</b> Suited for the cultivation and maintenance of anaerobes, <i>Brucella</i> species and other pathogenic microorganisms.	500 g
1005617 RT	<b>LIVER INFUSION BROTH</b> Suited for the cultivation and maintenance of pathogenic microorganisms including <i>Brucella</i> species.	500 g
1005717 RT	<b>LOWENSTEIN MEDIUM BASE</b> To be used with glycerol (cat. no. 10-044-17) to prepare various coagulated egg media for the isolation, detection and maintenance of mycoplasma.	500 g
1005817 RT	<b>M17 AGAR</b> Developed for the selective differentiation of mesophilic lactic streptococci organisms.	500 g
1005917 RT	<b>M17 BROTH</b> Suited for the selective differentiation and enumeration of streptococci organisms.	500 g
1006017 RT	<b>MacCONKEY AGAR</b> A preparation for the isolation of enteric bacilli based on the fermentation of lactose.	500 g

# CELlect™ Cell Culture Media



CELlect™ Cell Culture Media

1006117 RT	<b>MacCONKEY AGAR Without Crystal Violet</b> A less selective preparation than MacConkey Agar permitting the growth of staphylococci and enterococci.	500 g
1006217 RT	<b>MacCONKEY AGAR Without Salt</b> This medium restricts the swarming of <i>Proteus</i> species which facilitates the isolation of gram-negative bacilli.	500 g
1006317 RT	<b>MacCONKEY AGAR BASE</b> Prepared without carbohydrates for coliform fermentation studies.	500 g
1006417 RT	<b>MacCONKEY AGAR CS For Controlled Swarming</b> Particularly suited for the isolation of gram-negative enteric bacilli from specimen samples which may have swarming strains of <i>Proteus</i> species.	500 g
1006517 RT	<b>MacCONKEY BROTH</b> Suited for the selective detection of gram-negative lactose-fermenting coliforms in food and water.	500 g
1006617 RT	<b>MacCONKEY SORBITOL AGAR</b> A preparation for the isolation and differentiation of enteropathogenic <i>E. coli</i> serotypes.	500 g
1006717 RT	<b>MALT EXTRACT</b> A media supplement for yeast and fungi (mold) isolation.	500 g
1006817 RT	<b>MALT EXTRACT AGAR</b> Suited for the cultivation and enumeration of yeasts and filamentous fungi (mold) from cosmetics and other samples.	500 g
1006917 RT	<b>MALT EXTRACT BROTH</b> Suited for the cultivation and enumeration of yeasts and filamentous fungi (mold).	500 g
1007017 RT	<b>MANNITOL SALT AGAR</b> Prepared for the isolation of pathogenic staphylococci bacteria.	500 g
1007117 RT	<b>MARINE AGAR 2216</b> Suited for the cultivation and enumeration of heterotrophic marine bacteria.	500 g
1007217 RT	<b>MARINE BROTH 2216</b> Suited for the cultivation and enumeration of heterotrophic marine bacteria.	500 g
1007317 RT	<b>MUELLER HINTON AGAR (Mueller Hinton Medium)</b> Suited for antimicrobial susceptibility testing of microorganisms by agar diffusion methods. It is also useful for isolating and cultivating <i>Neisseria meningitidis</i> and <i>Moraxella osloensis</i> .	500 g
1007417 RT	<b>MUELLER HINTON BROTH</b> Suited for antimicrobial susceptibility testing of a variety of microorganisms.	500 g

1007517 RT	<b>NIH THIOGLYCOLLATE BROTH (Thioglycollate Broth NIH)</b> A U.S.P. alternative for sterility testing of biological specimens which are turbid or cannot be cultivated on Fluid Thioglycollate Medium (cat. no. 10-042-17) due to its viscosity.	500 g
1007617 RT	<b>NUTRIENT AGAR</b> A general purpose medium used for cultivating a broad variety of microorganisms.	500 g
1007717 RT	<b>NUTRIENT AGAR 1.5%</b> For use with blood or supplements for cultivating fastidious microorganisms.	500 g
1007817 RT	<b>NUTRIENT AGAR pH 6.0</b> A general purpose medium well suited for the cultivation and maintenance of microorganisms with slight pH requirements.	500 g
1007917 RT	<b>NUTRIENT BROTH</b> A general purpose medium used for cultivating a broad variety of fastidious and non-fastidious microorganisms with non-exacting nutritional requirements.	500 g
1008017 RT	<b>OATMEAL AGAR</b> Suited for the cultivation of fungi and <i>actinomycetes</i> species, as well as, for macrospore formation.	500 g
1008117 RT	<b>PEPTONE IRON AGAR</b> Developed for use as an indicator of hydrogen sulfide formation.	500 g
1008217 RT	<b>PEPTONE WATER</b> This acts as a minimal medium for cultivating non-fastidious microorganisms to study carbohydrate fermentation and performing the indole test.	500 g
1008317 RT	<b>PLATE COUNT AGAR (Standard Methods Agar)</b> Developed for the preparation of bacteria in water, wastewater, food and dairy products.	500 g
1008417 RT	<b>PLATE COUNT BROTH, m (m TGY Broth)</b> For the non-selective determination of bacterial enumeration by membrane filter techniques.	500 g
1008517 RT	<b>POTATO DEXTROSE AGAR (PDA Agar)</b> Suited for the cultivation of yeasts and molds from dairy products and other foods. It may also be used to induce sporulation in many fungi.	500 g
1008617 RT	<b>POTATO DEXTROSE BROTH</b> Suited for the cultivation of a variety yeasts and molds from dairy products and other foods.	500 g
1008717 RT	<b>PRESENCE-ABSENCE BROTH</b> A "one-step" method for the presumptive identification of coliforms present in water.	500 g
1008817 RT	<b>PSEUDOMONAS AGAR F</b> Used with glycerol (cat. no. 10-044-17) for the isolation, cultivation and differentiation of <i>Pseudomonas aeruginosa</i> on the basis of phycocyanin (pigment) production.	500 g

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1008917 RT	<b>ROSE BENGAL AGAR BASE</b> Used with Rose Bengal Antimicrobial Supplement C (cat. no. 10-101-J5) for the isolation and enumeration of yeast and mold found in food dairy products and environment.	500 g
1009017 RT	<b>SABOURAUD DEXTROSE AGAR</b> Suited for the cultivation of yeasts, molds and aciduric microorganisms.	500 g
1009117 RT	<b>SABOURAUD DEXTROSE AGAR With Chloramphenicol</b> Suited for the cultivation of yeasts and fungi.	500 g
1009217 RT	<b>SALMONELLA SHIGELLA AGAR (SS Agar)</b> Suited for the isolation and cultivation of <i>Samonella</i> and some <i>Shigella</i> species.	500 g
1009317 RT	<b>SCHAEDLER AGAR</b> Developed for the cultivation of both aerobic and anaerobic microorganisms.	500 g
1009417 RT	<b>SCHAEDLER BROTH</b> Suited for the cultivation of both aerobic and anaerobic microorganisms.	500 g
1009517 RT	<b>SELENITE CYSTINE BROTH</b> Suited for the isolation and cultivation of <i>Salmonella</i> species from food, water, dairy products and other specimens.	500 g
1009617 RT	<b>SOB MEDIUM</b> Suited for the cultivation and maintenance of molecular genetic strains of <i>E. coli</i> .	500 g
1009717 RT	<b>STAPHYLOCOCCUS BROTH, m</b> Suited for the isolation and cultivation of pathogenic enterotoxigenic staphylococci.	500 g
1009817 RT	<b>STAPHYLOCOCCUS MEDIUM 110 (Staphylococcus Agar Number 110)</b> Suited for the selective isolation, cultivation and maintenance of <i>Staphylococcus</i> species on the basis of mannitol fermentation, pigment production and gelatinase activity.	500 g
10099J5 RT	<b>SUPPLEMENT A</b> A sterile yeast concentrate with crystal violet for use with GC Agar Base (cat. no. 10-043-17) and as a selective enrichment for <i>N. gonorrhoeae</i> isolation.	6x5 ml
1010049 RT	<b>SUPPLEMENT B</b> With Reconstituting Fluid For use with GC Agar Base (cat. no. 10-043-17).	100 ml
10101J5 RT	<b>SUPPLEMENT C</b> A sterile yeast concentrate similar to Supplement A for the isolation of fastidious microorganisms. To be used with GC Agar Base (10-043-17).	6x5 ml
1010249 RT	<b>SUPPLEMENT VX</b> With Reconstituting Fluid Supplements GC Agar Base (cat. no. 10-043-17). A sterile concentrate containing essential growth factors, V and X.	100 ml
1010317 RT	<b>TCBS AGAR (Thiosulfate-Citrate-Bile-Sucrose Agar)</b> Suited for the isolation, cultivation and maintenance of <i>Vibrio cholerae</i> and other enteropathic species.	500 g
1010417 RT	<b>TERRIFIC BROTH</b> Suited for the cultivation of molecular genetic strains of <i>E. coli</i> and increased plasmid yield.	500 g
1010517 RT	<b>TRIPLE SUGAR IRON AGAR</b> Designed for the differentiation of gram-negative bacteria ( <i>Enterobacteriaceae</i> ) on the basis of the fermentation of lactose, sucrose, glucose and hydrogen sulfide production.	500 g
1010617 RT	<b>TRYPTIC SOY AGAR (Soybean Casein Digest Agar; Trypticasein Soy Agar)</b> Used for the isolation and cultivation of a broad range of fastidious and non-fastidious microorganisms. Also, it may be used for sterility testing. It can be used with or without blood supplement.	500 g
1010717 RT	<b>TRYPTIC SOY BROTH (Soybean Casein Digest Medium)</b> Suited for the cultivation of a broad range of fastidious and non-fastidious microorganisms. It may also be used for the rapid determination of the bacteriological quality of water.	500 g
1010817 RT	<b>TRYPTONE</b> This preparation supplements media for the cultivation and maintenance of fastidious aerobic and facultative microorganisms such as <i>E. coli</i> and <i>Pseudomonas</i> species. Pancreatic digest of casein.	500 g
1010917 RT	<b>VIOLET RED BILE AGAR (VRB Agar)</b> Suited for the selective isolation and detection of coliform bacteria in water, food and dairy products.	500 g
1011017 RT	<b>VIOLET RED BILE AGAR (VRB Agar) With Glucose</b> Suited for the selective detection and enumeration of <i>Enterobacteriaceae</i> species from food and dairy products.	500 g
1011117 RT	<b>VIOLET RED BILE AGAR (VRB Agar) With Lactose</b> Suited for the selective detection and enumeration of <i>Enterobacteriaceae</i> species from food and dairy products.	500 g
1011217 RT	<b>XLD AGAR (Xylose Lysine Deoxycholate Agar)</b> Suited for the isolation and differentiation of enteric pathogens, especially <i>Shigella</i> and <i>Providencia</i> species present in stool specimens.	500 g
1011317 RT	<b>YPD AGAR</b> A preparation for the cultivation and propagation of yeasts for molecular biology applications.	500 g
1011417 RT	<b>YPD BROTH</b> A preparation for the cultivation and propagation of yeasts for molecular biology applications.	500 g
1011517 RT	<b>2xYT BACTERIOLOGICAL MEDIUM</b> A special formulation for the cultivation and propagation of <i>E. coli</i> infected with single strand filamentous bacteriophage M13.	500 g