

## MEDIA SUPPLEMENTS and REAGENTS

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### Amino Acid and Vitamin Concentrates

#### Basal Medium Eagle (BME)

	Catalog No.	Quantity
100X Liquid BME Amino Acids w/o L-glutamine	1600149	100 ml
	1600154	500 ml
100X Liquid BME Vitamins w/o L-glutamine	1600449	100 ml
	1600454	500 ml

#### Minimum Essential Medium Eagle (MEM)

	Catalog No.	Quantity
50X Liquid MEM Amino Acids w/o L-glutamine	1601149	100 ml
100X Liquid MEM Non-essential Amino Acids; w/o L-glutamine	1681049	100 ml
100X Liquid MEM Vitamins	1601449	100 ml

#### Chee and Pool

	Catalog No.	Quantity
1000X Powdered Vitamin Mix	1000949	100 ml
	1000936	250 ml
Powdered C2d Vitis Basal Salt for plant cell culture	1000826	1 liter
	1000822	1x10 liter

### Antibiotics

In his article "Faulty aseptic techniques and overconfidence in antibiotics are the main causes of contamination in tissue cultures", House addresses concerns of antibiotic dependency in culture work. Too often, dependency on antibiotics hides poor or faulty technique. Moreover, many antibiotics are quite toxic to cells. Toxicity is relative to the given cell type or line, and in some instances, can approach detrimental levels.

Despite these factors, antibiotics continue to be widely used in routine cell or tissue cultures. Not only must care be exercised in choosing the appropriate antibiotic but also in determining the proper concentration. ICN manufactures media without the use of antibiotics unless specifically indicated. The following antibiotics available from ICN serve a variety of purposes including selection, eliminating mycoplasma and microbial contamination, and prophylaxis. Although, ICN offers a limited number of antibiotics sterilized by  $\gamma$ -irradiation, any antibiotic may be sterilized in this manner by request and for an additional charge.

*All antibiotics are intended for research use only. They are not for therapeutic use in humans or animals.*

### Amphotericin B

Amphotericin B, often called Fungizone<sup>®</sup>, is an anti-fungal effective against yeast and other fungi. It interferes with the permeability of cell membranes causing the loss of low molecular weight components from the cell. The suggested working concentration is 2.5 mg/L. Amphotericin B may be toxic to certain insect cells. ICN's preparation includes sodium desoxycholate as a solubilizer in distilled water. Storage: -5 to -20°C.

C<sub>47</sub>H<sub>73</sub>NO<sub>17</sub> MW 924.1

Product	Catalog No.	Quantity
Sterile solution, 250 µg/ml	1672346	20 ml
	1672348	50 ml
Powder, non-sterile	195043	100 mg
		250 mg
		500 mg

Fungizone is a registered trademark of E.R. Squibb & Sons.

### Ampicillin, Sodium Salt

Ampicillin is a selection antibiotic effective against most gram negative and gram positive bacteria. It interferes by disrupting the late stages of cell wall synthesis. The recommended working concentration is 2.5 mg/L. Storage: 0 to -5°C.

C<sub>16</sub>H<sub>18</sub>N<sub>3</sub>O<sub>4</sub>Na MW 371.4

Product	Catalog No.	Quantity
Powder, non-sterile	194526	5 g
		25 g
		100 g

Media Supplements and Reagents

## Media Supplements and Reagents

### Antibiotic-Antimycotic Solution

This triple antibiotic solution contains penicillin (10,000 IU/ml), streptomycin (10 mg/ml), and amphotericin B (25 µg/ml). It is effective against the most common contaminants including yeast, fungi, and bacteria (gram positive and gram negative). The recommended working concentration is 10 ml/L.

Product	Catalog No.	Quantity
100X Sterile solution	1674049	100 ml

### Blasticin S Hydrochloride

This nucleotide antibiotic derived from *Streptomyces griseochromogenes* serves as a general antimicrobial by inhibiting protein synthesis in both prokaryotic and eukaryotic cells. When used with Blastidicin S resistant plasmids, it becomes the dominant selectable marker. Resistance is normally conferred by a Blastidicin S deaminase gene (bcr) which converts Blastidicin S to a non-toxic deaminohydroxy derivative. Storage: 2-8°C.

MW 422.5

ICN maintains a large inventory for immediate delivery!

Product	Catalog No.	Quantity
Powder, non-sterile	150477	25 mg
		50 mg
		100 mg

### Chloramphenicol

Chloramphenicol may be used as a selection antibiotic since it interferes with RNA translation by blocking the peptidyltransferase reaction on the 50S ribosomal subunit. The recommended effective working concentration is 5 µg/ml. Stable for 3 days at room temperature.

C<sub>11</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>5</sub> MW 323.1

Product	Catalog No.	Quantity
Molecular Biology Reagent γ-Irradiated	194787	10 mg
		20 mg

### Ciprofloxacin HCl

Ciprofloxacin, a fluoroquinolone antibiotic, is highly effective against a broad spectrum of bacteria and mycoplasma with few known resistant strains. Typically, as little as 10 µg/ml can effectively eradicate mycoplasma in a minimum of 12 days. The powder should be prepared in water or buffered media.

C<sub>17</sub>H<sub>18</sub>FN<sub>3</sub>O<sub>3</sub> • HCl MW 367.9

Product	Catalog No.	Quantity
Crystalline powder, non-sterile	199020	25 g
		50 g

### G418 Selection Antibiotic

This aminoglycoside antibiotic (also known as Geneticin<sup>®</sup>) is widely used as a selective agent in gene transfer and other molecular genetic experiments. It is highly efficient for selecting eukaryotic cells transfected with neomycin-resistant genes. Furthermore, it is toxic to bacteria, yeast, higher plant cells, mammalian cells, protozoans, helminths and other prokaryotic cells. The dominant resistant genes are located on transposon Tn601(903) and Tn5. Transfection of either gene into cultured cells imparts G418 sulfate resistance, enabling the growth of cells in media containing the antibiotic, hence, eliminating any untransfected cells.

The effective killing concentration varies by the type of cell, the culture media, growing conditions, the cell metabolic rate and cell cycle stage. It ranges from 100 µg/ml to as much as 1000 µg/ml. It should be noted that some cells may have variable resistance and may take up to 7 days to die. Adherent-type and other sensitive cells may require lower doses. The following table offers recommended concentrations. However, ICN recommends researchers determine the proper concentration for their specific cell line.

Cell Type	Recommended Concentration	Application
Mammalian	400-1000 mg/L	Selection Maintenance
	200 mg/L	
Bacteria	8-16 mg/L	Selection
Yeast	500 mg/L	Selection Maintenance
	125-200 mg/L	
Dictyostelium	10 mg/L	Cells grown in media Cells plated on lyoph. bacteria
	30 mg/L	
Plant	24-50 mg/L	Selection Maintenance
	10 mg/L	

### G418 Sulfate

A popular selection antibiotic (also known as Geneticin<sup>®</sup>) available from ICN as a convenient ready-to-use sterile solution or as a Cell Culture grade powder. Storage: 15-30°C before reconstitution; 2-8°C after reconstitution.

C<sub>20</sub>H<sub>40</sub>N<sub>4</sub>O<sub>10</sub> • 2H<sub>2</sub>SO<sub>4</sub> MW 692.7

Product	Catalog No.	Quantity
Crystalline powder, non-sterile potency: >450 µg/mg, purity: 98%	158782	100 mg
		250 mg
		1 g
		5 g
Sterile solution, 50 mg/ml	1672546 1672548	20 ml
		50 ml

## Gentamicin Sulfate

Gentamicin sulfate is a general antimicrobial effective against gram positive bacteria, gram negative bacteria, and mycoplasma. It interferes with bacterial protein synthesis by binding to the 30S subunit of ribosomes. Because gentamicin is usually not toxic to viruses and mammalian cells, it is an excellent alternative to penicillin and streptomycin. It is ideal for treating persistent infections and for extended virus and tissue culture studies since bacterial resistance develops slowly. Likewise, it is well suited for protein studies since it lacks the ability to bind protein. Gentamicin is generally more stable at room temperature than other antibiotics. Storage: 15 -30°C for solutions; 2-5°C for powder.

Product	Catalog No.	Quantity
Sterile solution, 10 mg/ml	1676045	10 ml
Sterile solution, 50 mg/ml	1676245	10 ml
Crystalline powder, potency 600 µg/mg non-sterile	194530	50 mg 250 mg 1 g 5 g

## Kanamycin Sulfate

Kanamycin is an aminoglycoside antibiotic effective against most gram negative and gram positive bacteria and most types of yeast. It interrupts protein synthesis by causing a misreading of the genetic code through action on the 70s ribosome. The effective working concentration is 100 mg/L. Storage: 0 to -20°C

$C_{18}H_{36}N_4O_{11} \cdot H_2SO_4$  MW 582.6

Product	Catalog No.	Quantity
Sterile solution, 5 mg/ml	1672048	50 ml
Kanamycin Sulfate, potency: 735 µg/mg, non-sterile	194531	1 g 5 g 25 g
Kanamycin Acid Sulfate, potency: 650 µg/mg, non-sterile	150030	1 g 5 g 25 g

## Neomycin Sulfate

Neomycin is an aminoglycoside antibiotic that acts as an inhibitor of protein synthesis, interfering with initiation, translation and elongation by binding to ribosomes and causing a misreading of mRNA. It is effective against most bacteria (gram negative and gram positive). Neomycin is also a phospholipid inhibitor. The recommended working concentration is 50 mg/ml. Storage: room temperature stable for 5 days.

$C_{23}H_{46}N_6O_{13} \cdot 3H_2SO_4$  MW 908.97

Product	Catalog No.	Quantity
Powder, non-sterile potency: >630 µg/mg, purity: 90-95%	194533	1 g 5 g 10 g 25 g 100 g

## Penicillin G

A commonly used antibiotic effective against most gram positive bacteria at a working concentration of 100,000 u/L. Higher concentrations are effective against gram negative bacteria. Penicillin G acts by interfering with the last stages of bacterial cell wall formation in growing cells resulting in the accumulation of uracil nucleotides and muramic acid peptides. Also, it prevents cross-linking of peptidoglycan strands. A stock solution should be prepared in water at a concentration appropriate for the specific culture application.

$C_{18}H_{17}N_2O_4$  SK MW 908.9

Product	Catalog No.	Quantity
Potassium Salt, non-sterile potency: approx. 1500-1700 u/mg	194536	1 MU 10 MU 25 MU 100 MU
Sodium Salt, non-sterile potency: min. 1500 u/mg	194537	1 MU 10 MU 25 MU 100 MU

## Penicillin-Streptomycin

This mixture of penicillin and streptomycin is effective against most gram positive and gram negative bacteria. The recommended working concentration is 100,000 I.U. penicillin/100,000 µg/ml streptomycin per liter. ICN offers a 100X formulation and 200X formulation

Product	Catalog No.	Quantity
100X Sterile solution, penicillin (5000 IU/ml) and streptomycin (5 mg/ml)	1670046 1670049	20 ml 100 ml
200X Sterile solution, penicillin (10000 IU/ml) and streptomycin (10 mg/ml)	1670249	100 ml

## Streptomycin Sulfate

An antibiotic active against most gram negative and gram positive bacteria by inhibiting initiation and causing a misreading of rRNA during protein synthesis. The recommended working concentration is 100 mg/L. A stock solution should be prepared in water at a concentration appropriate for the culture application.

$C_{42}H_{84}N_{14}O_{36}S_3$  MW 1457.4

Product	Catalog No.	Quantity
White powder, non-sterile	194541	5 g 25 g 50 g 100 g

## Tylosin

Tylosin is a macrolide antibiotic effective against most mycoplasma. The recommended working concentration is 1 ml/L.

$C_{46}H_{77}NO_{17}$  MW 916.2

Product	Catalog No.	Quantity
Sterile solution, 5 mg/ml	1672248	50 ml
Tartrate salt, non-sterile	193454	1 g 5 g 10 g

Media Supplements and Reagents

# Media Supplements and Reagents

## Mycoplasma Removal Agent

A unique antibiotic exclusively from ICN!

The presence of mycoplasma in tissue culture is a serious problem often resulting in the loss of the cell line concerned. As all cell lines are susceptible to contamination whether they are plant or animal, primary, finite or established, the potential scale of the problem is enormous. The incidence of contamination in tissue culture varies widely, anywhere from 30-90% depending on the survey. Use of tissue culture products from companies such as ICN where quality control measures are exacting has had a significant impact on reducing this problem. Nevertheless, problems still arise due to prior infection of the primary material or poor technique.

ICN's Mycoplasma Removal Agent (MRA) is a significant breakthrough in the eradication of mycoplasma contamination in cell and tissue cultures. MRA is a derivative of the quinoline family of antibiotics and it is effective in eliminating various mycoplasma contamination from cell cultures. MRA actively kills a variety of mycoplasma organisms when used at a concentration of 0.5 µg/ml by inhibiting mycoplasma DNA gyrase. It is stable at room temperature. Each vial is capable of decontaminating up to 25 cultures. Cellular toxicity is rare when used at the recommended concentrations, as well as, reinfection by the contaminating mycoplasma after cellular transfer or passage following treatment.

MRA has been cited by the European Collection of Animal Cell Cultures (Porton Down, UK) as being **superior** to all other existing products for the elimination of mycoplasma<sup>1</sup>. At ICN, we believe MRA is of vital use wherever valuable cell lines are at risk and is of major benefit in helping reduce problem mycoplasma contamination in cell and tissue cultures.

**Caution** - MRA is a research reagent and must be used only as a mycoplasma removal agent in cell cultures. It is a synthetic molecule and proper laboratory practices should be observed when handling the product. The recommended effective concentration for use is 0.5 µg/ml. The cytotoxicity of MRA is low and cell toxicity is rare when used at this concentration. For specific function of any cell, however, it is recommended that the retention of desired cellular characteristics be confirmed after treatment. Protect from light to prevent decomposition.

### Ref.:

1. Barile, M.F., J. Med. Sci., **17**, 7 (1981).
2. Casemore, D.P., J. Clin. Pathol., **20**, 298 (1967).
3. Fogh, J., Proc. Soc. Exp. Biol. Med., **117**, 899 (1964).
4. McGarrity, G.J., In Vitro, **20**, 1 (1984).
5. Mowles, J., et al., Nature, **340**, No. 3 (1989).

Product	Catalog No.	Quantity
MRA	3050044	5 ml

## Other Antibiotics

194525 0-5°C	<b>ACTINOMYCIN D</b> [50-76-0] <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Purity: &gt;98%</b> Inhibits nucleic acid synthesis and potently induces apoptosis. C <sub>62</sub> H <sub>86</sub> N <sub>12</sub> O <sub>16</sub> MW 1255.5	2 mg 5 mg 10 mg 25 mg
159009 0-5°C	<b>ALAMETHICIN</b> [27061-78-5] (Antibiotic U-22324) Mixture of alamethicin homologs. Antibiotic which increases the permeability of membranes. Also increases the incorporation of <sup>32</sup> P into phosphatidylinositol 4-phosphate and sarcoplasmic reticulum vesicles permeability. <b>Ref.:</b> 1. Brewer, D., et al., Can. J. Microbiol., <b>33</b> , 619 (1987). 2. Quist, E., et al., Arch. Biochem. Biophys., <b>271</b> , 21 (1989).	5 mg 10 mg 25 mg
150342 0-5°C	<b>AMIKACIN</b> [37517-28-5] (1-N-[L-(-)-4-Amino-2-hydroxy-butyl] kanamycin A) <b>From Kanamycin A</b> m.p. 203-204°C White crystalline powder C <sub>22</sub> H <sub>43</sub> N <sub>5</sub> O <sub>13</sub> MW 585.6	250 mg 1 g 5 g
195856 0-5°C	<b>7-AMINOACTINOMYCIN D</b> [7240-37-1] (7-AAD; 7-Amino-AMD; 7-Actinomycin C <sub>1</sub> ; 7-Aminodactinomycin) <b>Purity: &gt;95%</b> DNA intercalator and growth inhibitor against certain forms of leukemia and sarcomas. MW 1270.4	1 mg
194199 0-5°C	<b>AMPICILLIN</b> [69-52-3] <b>Sodium Salt</b> <b>γ-Irradiated</b> <b>Molecular Biology Reagent</b> Inhibits cell wall biosynthesis. C <sub>16</sub> H <sub>18</sub> N <sub>3</sub> O <sub>4</sub> SNa MW 371.4	20 mg 50 mg
159881 -20°C	<b>ANISOMYCIN</b> [22862-76-6] (2-[p-Methoxybenzyl]-3,4-pyrrolidinediol 3-acetate) From <i>Streptomyces griseolus</i> <b>Purity: 97%</b> Activates a restricted subset of kinases currently only identified by p54 and MAP kinase. Study aid for cytoplasmic signals resulting in nuclear signaling and induction of <i>c-fos</i> and <i>c-jun</i> . <b>Ref.:</b> 1. Kavdal, E., et al., Mol. Cell. Biol., <b>14</b> , 1066 (1994). C <sub>14</sub> H <sub>19</sub> NO <sub>4</sub> MW 265.3	10 mg 25 mg 50 mg
152328 0-5°C	<b>ANTIBIOTIC A23187</b> [52665-69-7] (Calcium Ionophore A23187) <b>Free Acid</b> White crystalline solid. Antibiotic A23187 is an antibiotic which demonstrates weak <i>in vitro</i> activity against gram-positive bacteria and fungi. It also has the ability to form stable complexes with divalent cations, increasing their ability to cross biological membranes, thus giving A23187 properties as an ionophore. Its U.V. and fluorescence spectral properties allow this calcium ionophore to be useful as a cytoplasmic free calcium ion probe. A23187 does exhibit toxicity and is a potential health hazard, so caution should be used when handling, in accordance with normal procedures for handling toxic compounds. C <sub>29</sub> H <sub>37</sub> N <sub>3</sub> O <sub>6</sub> MW 523.6	1 mg 5 mg 10 mg

# Media Supplements and Reagents

190046 0°C	<b>ANTIMYCIN A</b> [1397-94-0] From <i>Streptomyces kitazawensis</i> <b>Crystalline</b> A mixture of predominantly antimycin A <sub>1</sub> and A <sub>3</sub>	10 mg 25 mg 50 mg 100 mg
100165 0-5°C	<b>BACITRACIN, U.S.P.</b> [1405-87-4] <b>Activity: 60 units/mg minimum</b> Antimicrobial C <sub>66</sub> H <sub>103</sub> N <sub>17</sub> O <sub>16</sub> S MW 1422.7	50 KU 250 KU 1 MU
190301 0-5°C	<b>BACITRACIN, U.S.P.</b> [1405-89-6] <b>Activity: 60 units/mg minimum</b> Main component is bacitracin A. Acts as a peptide-antibiotic and an inhibitor of peptidoglycan synthesis. <b>Zinc Salt</b> <b>Ref.:</b> Scogin, D., et al., <i>Biochemistry</i> , <b>19</b> , 3348 (1980). C <sub>66</sub> H <sub>101</sub> N <sub>17</sub> O <sub>16</sub> SZn MW 1486.1	50 KU 250 KU 1 MU
190306 0-5°C	<b>BLEOMYCIN SULFATE</b> [9041-93-4] From <i>Streptomyces verticillus</i> Freely soluble in water. A mixture of cytotoxic glycopeptide antibiotics which reacts with DNA and causes strand scission. 1.6-1.8 units per mg material	15 U
195092 0-5°C	<b>CARBENICILLIN</b> [4800-94-6] (α-Carboxybenzylpenicillin) <b>Disodium Salt</b> C <sub>17</sub> H <sub>16</sub> N <sub>2</sub> O <sub>6</sub> SN <sub>2</sub> MW 422.4	250 mg 1 g 5 g
154947 0-5°C	<b>CEFOTAXIME</b> [64485-93-4] <b>Sodium Salt</b> <b>Purity: 95%</b> C <sub>16</sub> H <sub>16</sub> N <sub>5</sub> O <sub>7</sub> S <sub>2</sub> Na MW 477.4	100 mg 500 mg 1 g
150585 -20-0°C	<b>CEPHALEXIN</b> [23325-78-2] <b>Hydrate</b> White to light beige, crystalline powder Meets B.P. and U.S.P. specifications Minimum Activity: 95% <b>Ref.:</b> Barley, A., Hadley, A., Walker A., James, D.G., J. Post Grad Med., <b>46</b> , 157-158 (1970). C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>4</sub> S • H <sub>2</sub> O MW 365.4	5 g 10 g 25 g
150588 0-5°C	<b>CEPHAPIRIN</b> [24356-60-3] (Cefadyl) <b>Sodium Salt</b> White crystalline powder This antibacterial of the cephalosporin(c) class is effective against gram pos. and gram neg. bacteria including <i>Staph. a.</i> , <i>E. coli</i> , <i>Klebsiella pneumoniae</i> and <i>Proteus mirabilis</i> . C <sub>17</sub> H <sub>16</sub> N <sub>3</sub> O <sub>6</sub> S <sub>2</sub> Na MW 445.4	250 mg 1 g 5 g
195098 -20°C	<b>CERULENIN</b> [17397-89-6] (2,3-Epoxy-4-oxo-7,10-dodecadienamide) From <i>Cephalosporium caerulens</i> <b>Purity: &gt;95%</b> Antibiotic which inhibits sterol and fatty acid biosynthesis. <b>Ref.:</b> Ohno, T., et al., <i>Biochem. Biophys. Res. Commun.</i> , <b>57</b> , 1999 (1974). C <sub>12</sub> H <sub>17</sub> NO <sub>3</sub> MW 223.3	1 mg 5 mg 10 mg

152400 RT	<b>8-CHLOROADENOSINE-cyclic-3',5'-MONOPHOSPHATE</b> [41941-56-4] (8-Chloro-cAMP). An analog of c-AMP that demonstrates novel properties in cell culture, including steroidogenic activity in rat adrenal cells and inhibition of a variety of cancer cells in culture. <b>Ref.:</b> 1. Free, C.A. and Paik, V.S., <i>Endocrinology</i> , <b>100</b> , 1287-1293 (1977). 2. Tagliaferri, P., et al., <i>Cancer Res.</i> , <b>48</b> , 1642-1650 (1988). C <sub>10</sub> H <sub>11</sub> N <sub>5</sub> O <sub>6</sub> PCl MW 363.7	5 mg 10 mg 25 mg 250 mg
150588 0-5°C	<b>CEPHAPIRIN</b> [24356-60-3] (Cefadyl) <b>Sodium Salt</b> White crystalline powder This antibacterial of the cephalosporin(c) class is effective against gram pos. and gram neg. bacteria including <i>Staph. a.</i> , <i>E. coli</i> , <i>Klebsiella pneumoniae</i> and <i>Proteus mirabilis</i> . C <sub>17</sub> H <sub>16</sub> N <sub>3</sub> O <sub>6</sub> S <sub>2</sub> Na MW 445.4	250 mg 1 g 5 g
190327 0°C	<b>CHLORTETRACYCLINE</b> [64-72-2] (Aureomycin) <b>Hydrochloride</b> Antibacterial C <sub>22</sub> H <sub>23</sub> ClN <sub>2</sub> O <sub>8</sub> • HCl MW 515.3	5 g 25 g 100 g
150686 0°C	<b>CHROMOMYCIN A<sub>3</sub></b> [7059-24-7] (3β-O-(4-O-Acetyl-2,6-dideoxy-3-C-methyl-α-L-arabino hexopyranosyl)-7-methylolivomycin D; Aburamycin β; Toyomycin) Yellow powder m.p. 185-186°C Inhibitor of DNA and RNA polymerases. C <sub>57</sub> H <sub>82</sub> O <sub>26</sub> MW 1183.3	1 mg 5 mg
154987 RT	<b>CINOXACIN</b> [28657-80-9] C <sub>12</sub> H <sub>10</sub> N <sub>2</sub> O <sub>5</sub> MW 262.2	1 g 5 g
191168 0-5°C	<b>CLINDAMYCIN</b> [21462-39-5] (7[S]-Chloro-7-deoxylincomycin; Cleocin) <b>Hydrochloride</b> C <sub>18</sub> H <sub>33</sub> ClN <sub>2</sub> O <sub>5</sub> S • HCl MW 461.4	10 mg 50 mg 100 mg
158892 0-5°C	<b>CLINDAMYCIN PHOSPHATE</b> [24729-96-2] (Clindamycin-2-dihydrogen phosphate; 7(S)-Chloro-7-deoxylincomycin; Antibiotic U-28508E) C <sub>18</sub> H <sub>34</sub> N <sub>2</sub> O <sub>8</sub> PSCl MW 505	10 mg 50 mg 100 mg
150702 0-5°C	<b>CLOXACILLIN</b> [61-72-3] ([5-Methyl-3-(o-chlorophenyl)-4-isoxazolyl] penicillin) <b>Sodium Salt</b> White micro-crystalline powder pH 6.0-7.5 Antibacterial C <sub>19</sub> H <sub>17</sub> ClN <sub>3</sub> O <sub>5</sub> Na MW 457.9	1 g 5 g 25 g
159025 0°C	<b>DECOYININE</b> (U 7984) <b>Purity: 99%</b> An adenine-ketose antibiotic which specifically blocks GMP synthase. It decreases intracellular GTP levels. <b>Ref.:</b> 1. Suhadolnick, R.J., <i>Nucleoside antibiotics</i> , 96-121 (1970). 2. Glazebrook, M.A., <i>J. Gen. Microbiol.</i> , <b>136</b> , 581 (1990). 3. Fouet, A. and Sonenshein, A.L., <i>J. Bacteriol.</i> , <b>172</b> , 835 (1990). MW 279.2	1 mg 10 mg 25 mg
150876 0-5°C	<b>DICLOXACILLIN</b> [3116-76-5] (3-(2,6-Dichlorophenyl-5-methyl-4-isoxazolyl) penicillin) mp 222-230°C. C <sub>19</sub> H <sub>17</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>5</sub> S MW 470.33	1 g 5 g

Media Supplements and Reagents

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194528 0-5°C	<b>DIHYDROSTREPTOMYCIN SULFATE</b> [5490-27-7] <b>Cell Culture Reagent</b> Each mg. of Dihydrostreptomycin Sulfate contains 650 µg/mg minimum of Dihydrostreptomycin <b>Crystalline</b> C <sub>21</sub> H <sub>41</sub> N <sub>7</sub> O <sub>12</sub> • 3/2H <sub>2</sub> SO <sub>4</sub> MW 730.7	5 g 25 g 100 g	
195157 0°C	<b>DISTAMYCIN A</b> [6576-51-8] <b>Hydrochloride</b> From <i>Streptomyces distallicus</i> <b>Purity: ~97%</b> Inhibits initiation of RNA synthesis <b>Ref.:</b> Puschendorf, B., et al., <i>Biochem. Biophys. Res. Commun.</i> , <b>43</b> , 617 (1971). C <sub>22</sub> H <sub>27</sub> N <sub>9</sub> O <sub>4</sub> • HCl MW 518	1 mg 5 mg	
159101 RT	<b>DOXORUBICIN</b> [25316-40-9] (Adriamycin; 14-Hydroxydaunomycin, HCl) <b>Hydrochloride</b> <b>Purity: &gt;95%</b> by HPLC Chemotherapeutic agent. Antitumor, immunosuppressive, and antibiotic agent. Blocks RNA polymerase and reverse transcriptase. Also inhibits nucleic acid synthesis. <b>Ref.:</b> 1. McLoon, L.K., et al., <i>Invest. Ophthalmol. Vis. Sci.</i> , <b>32</b> , 1667 (1991) 2. Ellis, C.N., et al., <i>Biochem. J.</i> , <b>245</b> , 309 (1987). C <sub>27</sub> H <sub>29</sub> NO <sub>11</sub> • HCl MW 580	1 mg 5 mg 10 mg 50 mg	
198955 RT	<b>DOXYCYCLINE HYCLATE</b> [24390-14-5] <b>USP Grade</b> Light yellow powder. Freely soluble in water and in methanol. C <sub>22</sub> H <sub>25</sub> ClN <sub>2</sub> O <sub>8</sub> • 1/2C <sub>2</sub> H <sub>6</sub> O • 1/2H <sub>2</sub> O	1 g 5 g 10 g 25 g	
194166 0°C	<b>ENDURACIDIN</b> [11115-82-5] (Enramycin) <b>Hydrochloride</b> An antibacterial that inhibits peptidoglycan formation. C <sub>107</sub> H <sub>138</sub> N <sub>26</sub> O <sub>31</sub> Cl <sub>2</sub> • HCl MW 2389.5	1 mg	
195045 0-5°C	<b>ENOXACIN</b> [74011-58-8] (1-Ethyl-6-fluoro-1,4-dihydro-4-oxo-7-[1-piperazinyl]-1,8-naphthyridine-3-carboxylic acid) C <sub>15</sub> H <sub>17</sub> FN <sub>4</sub> O <sub>3</sub> MW 320.3	500 mg 1 g 5 g	
NEW 199019 0-5°C	<b>ENROFLOXACIN</b> [93106-60-6] <b>Anti-bacterial Agent</b> C <sub>19</sub> H <sub>22</sub> FN <sub>3</sub> O <sub>3</sub> MW 359.40	25 g 100 g	
195984 0-5°C	<b>EPIRUBICIN</b> [56390-09-1] (4'-Epidoxorubicin) <b>Hydrochloride</b> <b>Purity: ≥95%</b> Anti-tumor antibiotic which is less toxic than doxorubicin. C <sub>27</sub> H <sub>29</sub> NO <sub>11</sub> • HCl MW 580.0	1 mg	
194529 RT	<b>ERYTHROMYCIN</b> [114-07-8] <b>Cell Culture Reagent</b> <b>Purity: ~98%</b> Inhibits bacterial protein synthesis by binding to the ribosomes. <b>Ref.:</b> Teraoka, H., <i>Umsch. Wiss. Tech.</i> , <b>77</b> , 347 (1977). C <sub>37</sub> H <sub>67</sub> NO <sub>13</sub> MW 733.95	1 g 5 g	
195994 -20°C	<b>GELDANAMYCIN</b> [30562-34-6] From <i>Streptomyces hygroscopicus</i> <b>Purity: ≥95%</b> Benzoquinoid antibiotic which is a potent inhibitor of pp60 <sup>src</sup> tyrosine kinase and <i>c-myc</i> gene expression in murine lymphoblastoma cells. C <sub>29</sub> H <sub>40</sub> N <sub>2</sub> O <sub>9</sub> MW 560.6	100 µg	
158928 -20-0°C	<b>HERBIMYCIN A</b> [70563-58-5] From <i>Streptomyces hygroscopicus</i> Irreversibly inhibits tyrosine kinases. Also, inhibits thrombin-stimulated tyrosine phosphorylation of phospholipase C. Antibiotic against Src, Yes, Fps, Ros, and, Erb oncogene reagents. <b>Ref.:</b> 1. Uehara, Y. and Fukazawa, H., <i>Methods Enzymol.</i> , <b>201</b> , 370 (1991). 2. Fukazawa, H., et al., <i>Biochem. Pharmacol.</i> , <b>42</b> , 1661 (1991). 3. Satoh, T., et al., <i>J. Biol. Chem.</i> , <b>267</b> , 2537 (1992). 4. Weiss, R. and Nuccitelli, R., <i>J. Biol. Chem.</i> , <b>267</b> , 5608 (1992).	100 µg	
194170 0-5°C	<b>HYGROMYCIN B</b> [31282-04-9] <b>Purity: &gt;98%</b> C <sub>20</sub> H <sub>37</sub> N <sub>3</sub> O <sub>13</sub> MW 527.5	50 mg 100 mg 250 mg 1 g	
151380 0-5°C	<b>JOSAMYCIN</b> [16846-24-5] (Leucomycin V,3-aceta 4 <sup>B</sup> -(3-methyl butanoate)) (Leucomycin A <sub>3</sub> ) From <i>Streptomyces narbonensis</i> m.p. 130-133°C Macrolide antibiotic <b>Ref.:</b> K.C. Nicolau, et al., <i>J. Am. Chem. Soc.</i> , <b>103</b> , 1,222 (1981). MW 828.0	50 mg 500 mg 1 g	
158948 0-5°C	<b>LINCOMYCIN</b> [859-18-7] (U-10149A) <b>Purity: 98%</b> <b>Hydrochloride</b> Active against gram-positive bacteria. Binds to the 50S subunit of bacterial ribosomes and suppresses protein synthesis. C <sub>18</sub> H <sub>34</sub> N <sub>2</sub> O <sub>6</sub> S • HCl MW 443	1 g 5 g	
158949 0-5°C	<b>LOMOFUNGIN</b> [26786-84-5] (U-24792) <b>Purity: 98%</b> Broad spectrum antibiotic. Also, inhibits RNA synthesis. <b>Ref.:</b> Kopecka, M. and Farkas, V., <i>J. Gen. Microbiol.</i> , <b>110</b> , 453 (1979).	5 mg 10 mg 25 mg 50 mg	
159522 RT	<b>2-METHYLISOTHIAZOLONE (MIT)</b> Broad spectrum antibiotic similar in function and performance as bromonitrodoxane against gram-positive and gram-negative bacteria as well as yeast and fungi. <b>Hydrochloride</b> <b>Purity: &gt;99%</b> C <sub>4</sub> H <sub>5</sub> NOS • HCl MW 151.6	500 mg 1 g	
194532 0-5°C	<b>MITOMYCIN C</b> [50-07-7] <b>Cell Culture Reagent</b> <b>Crystalline</b> Contains 2 mg/vial of pure mitomycin C. <b>NOT FOR HUMAN USE!</b> C <sub>15</sub> H <sub>18</sub> N <sub>4</sub> O <sub>5</sub> MW 334.3	2 mg	
190241 0°C	<b>MONENSIN</b> [22373-78-0] <b>Sodium Salt</b> Antibiotic that functions as an ionophore by forming stable complexes with monovalent cations. <b>Ref.:</b> Gartenbach, P.G. and Popov, A.I., <i>J. Am. Chem. Soc.</i> , <b>97</b> , 4738 (1975). C <sub>36</sub> H <sub>61</sub> O <sub>11</sub> Na MW 692.9	500 mg 1 g	
194172 0-5°C	<b>MYCOPHENOLIC ACID</b> [24280-93-1] (6-[4-Hydroxy-6-methoxy-7-methyl-3-oxo-5-phthalanyl]-4-methyl-4-hexenoic acid) From <i>Penicillium brevicompactum</i> <b>Purity: 98%</b> C <sub>17</sub> H <sub>20</sub> O <sub>6</sub> MW 320.3	25 mg 100 mg 250 mg	

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Outside the U.S.: (714) 545-0100, fax (714) 557-4872

# Media Supplements and Reagents

158966 0-5°C	<b>NEAMINE</b> [3947-65-7] (U-5214) <b>Purity: 97%</b> Increases phosphatidylinositol 4-phosphate kinase activity specifically over PI kinase activity. It may increase permeability in PI-containing membranes. <b>Ref.:</b> 1. Quist, E., et al., Arch. Biochem. Biophys., <b>271</b> , 21 (1989). 2. Au, S., et al., Biochem. Biophys. Acta., <b>902</b> , 80 (1987). C <sub>12</sub> H <sub>26</sub> N <sub>4</sub> O <sub>6</sub> MW 322.4	5 mg 10 mg 25 mg 50 mg
195345 0-5°C	<b>NIGERICIN</b> [28380-24-7] Mixture of sodium and potassium salts <b>Purity: ~95%</b> A polyether antibiotic that affects ion transport and ATPase activity in mitochondria. <b>Ref.:</b> Sze, H., Proc. Nat. Acad. Sci. U.S.A., <b>77</b> , 5904 (1980). C <sub>40</sub> H <sub>67</sub> O <sub>11</sub> Na MW 747	1 mg 5 mg 10 mg
194534 0-5°C	<b>NYSTATIN</b> [1400-61-9] <b>Cell Culture Reagent</b> Not less than 4,800 units/mg. Slightly soluble in H <sub>2</sub> O, slightly soluble in alcohol. Light tan powder. C <sub>47</sub> H <sub>75</sub> NO <sub>17</sub> MW 926.1	500 KU 1 MU 5 MU 25 MU
151786 0-5°C	<b>OLIGOMYCIN</b> [1404-19-9] A mixture of oligomycin A, B, and C in approx. ratio 60:30:10 Antibiotic that inhibits respiration in mitochondria	1 mg 5 mg 10 mg
152403 RT	<b>OXYTETRACYCLINE</b> [15251-48-6] <b>Calcium Salt</b> Yellowish to light brown, crystalline powder. <b>Activity:</b> ≥865 mcg oxytetracycline/mg <b>Moisture (Karl Fisher):</b> 8-14% pH 6.0-8.0 <b>Calcium:</b> 3.85-4.35% C <sub>22</sub> H <sub>24</sub> N <sub>2</sub> O <sub>9</sub> • 1/2Ca MW 480.5	10 g 50 g 100 g
150145 RT	<b>OXYTETRACYCLINE</b> [2058-46-0] <b>Hydrochloride</b> Yellow crystals C <sub>22</sub> H <sub>24</sub> N <sub>2</sub> O <sub>9</sub> • HCl MW 496.9	10 g 50 g 100 g
194535 RT	<b>PAROMOMYCIN SULFATE</b> [1263-89-4] <b>Cell Culture Reagent</b> <b>Purity: ≥97%</b> C <sub>23</sub> H <sub>45</sub> N <sub>5</sub> O <sub>14</sub> MW 615.6 (as Free Base)	1 g 5 g
194538 0-5°C	<b>POLYMYXIN B SULFATE</b> [1405-20-5] <b>Cell Culture Reagent</b> Aerosporin <b>Activity:</b> >6,000 u/mg	1 MU 5 MU
194539 0°C	<b>PUROMYCIN</b> [58-58-2] <b>Cell Culture Reagent</b> <b>Dihydrochloride</b> <b>Crystalline</b> Antimicrobial Causes premature chain termination in protein synthesis, and is an inhibitor of aminopeptidase and enkephalinase. <b>Ref.:</b> 1. Reboud, A.M., et al., Biochemistry, <b>20</b> , 5281 (1981); 2. Pekarek, J., et al., Immunology, <b>31</b> , 773 (1976). C <sub>22</sub> H <sub>29</sub> N <sub>7</sub> O <sub>5</sub> • 2HCl MW 544.4	10 mg 25 mg 100 mg

195490 0°C	<b>RIFAMPIN</b> [13294-46-1] (Rifampicin) A rifamycin which specifically inhibits DNA-dependent bacterial RNA Polymerase. Mammalian RNA polymerase is not affected. <b>Ref.:</b> Wehrli, et al., Proc. Natl. Acad. Sci., <b>61</b> , 667 (1968). C <sub>43</sub> H <sub>58</sub> N <sub>4</sub> O <sub>12</sub> MW 823	100 mg 250 mg 1 g 5 g 25 g
195489 0-5°C	<b>RISTOCETIN</b> [1404-55-3] (Ristomycin monosulfate) <b>Sulfate Salt</b> <b>Purity: &gt;90% Ristocetin A;</b> remainder mostly Ristocetin B. <b>Crystalline</b> Useful for investigation of platelet aggregation. C <sub>95</sub> H <sub>110</sub> N <sub>8</sub> O <sub>44</sub> • H <sub>2</sub> SO <sub>4</sub> MW 2166	1 mg 5 mg 25 mg 100 mg 250 mg
194540 0-5°C	<b>SPECTINOMYCIN</b> [1695-77-8] (Actinospectacin, M141) From <i>Streptomyces</i> sp. <b>Cell Culture Reagent</b> <b>Dihydrochloride</b> White to pale buff crystalline powder Water soluble antibiotic C <sub>14</sub> H <sub>24</sub> N <sub>2</sub> O <sub>7</sub> • 2HCl MW 405.3	1 g 5 g 25 g
158993 0-5°C	<b>SPECTINOMYCIN</b> (U 18409E, antibiotic) <b>Sulfate</b> <b>Purity: 98%</b> C <sub>14</sub> H <sub>24</sub> N <sub>2</sub> O <sub>7</sub> • H <sub>2</sub> SO <sub>4</sub> MW 430.4	1 g 2 g 5 g
191400 0-5°C	<b>STAUROSPORINE</b> [62996-74-1] From <i>Streptomyces</i> sp. Found to inhibit phospholipid/Ca <sup>2+</sup> dependent and cyclic nucleotide dependent protein kinases. A potent protein kinase inhibitor useful as a tool for studies on protein phosphorylation in the regulation of cellular functions. C <sub>28</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> MW 466.5	100 µg 500 µg 1 mg
194143 -20°C	<b>TAUTOMYCIN</b> [109946-35-2] From <i>Streptomyces spiroverficillatus</i> <b>Purity: &gt;97%</b> Potent inhibitor of protein phosphatases including PP1, PP2A, endogenous smooth muscle and PP2B at higher concentrations. It will not activate PKC or inhibit myosin light chain kinase. It can stimulate cellular protein phosphorylation. <b>Ref.:</b> Saganuma, M., et al., Toxicon, <b>30</b> , 873 (1992). C <sub>41</sub> H <sub>66</sub> O <sub>13</sub> MW 767.0	25 µg 50 µg
105010 0-5°C	<b>VALINOMYCIN</b> [2001-95-8] <b>Purity: ≥93%</b> <b>Crystalline</b> A metabolite with a broad antibiotic spectrum. Inhibitor of mitochondrial action. C <sub>54</sub> H <sub>90</sub> N <sub>6</sub> O <sub>18</sub> MW 1111.4	5 mg 10 mg 25 mg 100 mg
195540 0-5°C	<b>VANCOMYCIN</b> [123409-00-7] <b>Hydrochloride</b> Potency approx. 1000 µg/mg Inhibits bacterial mucopeptide biosynthesis.	100 mg 250 mg 1 g 5 g

Media Supplements and Reagents

## APOPTOSIS REAGENTS

195857 RT	<b>BERBERINE</b> [633-65-8] (Natural Yellow 18; C.I. 75160) <b>Chloride</b> Apoptosis Inhibitor. C <sub>20</sub> H <sub>19</sub> NO <sub>4</sub> Cl MW 371.8	1 g 5 g 25 g
195859 0-5°C	<b>BETULINIC ACID</b> [472-15-1] (3β-Hydroxy-20(29)-lupaene-28-oic acid) <b>Purity: ≥97%</b> Selectively inhibits human melanoma in cell culture and in animal models and demonstrates antitumor properties by inducing apoptosis. Possess anti-HIV properties. C <sub>30</sub> H <sub>48</sub> O <sub>3</sub> MW 456.7	1 mg 5 mg
195860 -20°C	<b>CAFFEIC ACID PHENETHYL ESTER</b> [104594-70-9] (CAPE) <b>Purity: ≥97%</b> Active component of propolis from honeybee hives. Possesses anti-viral, anti-inflammatory and immunomodulatory properties. Inhibits growth of several types of transformed cells and induces apoptosis in cloned rat embryo fibroblast (CREF) cells. C <sub>17</sub> H <sub>16</sub> O <sub>4</sub> MW 284.3	1 mg 5 mg 1 kg
159942 -20°C	<b>4-HYDROXYPHENYLRETINAMIDE</b> [65646-68-6] <b>Purity: 97%</b> Demonstrates anti-proliferative activity on human breast cancer cells in culture. Induces malignant hemopoietic cell line apoptosis. <b>Ref.:</b> 1. Marth, C., et al., <i>J. Natl. Cancer Inst.</i> , <b>75</b> , 871 (1985). 2. Grubbs, C.J., et al., <i>Anticancer Res.</i> , <b>10</b> , 661 (1990). 3. Delia, D., et al., <i>Cancer Res.</i> , <b>53</b> , 6036 (1993). MW 391.5	1 mg 5 mg 10 mg
195863 -20°C	<b>LACTACYSTIN</b> <b>Synthetic</b> Cell permeable 20S proteasome inhibitor. Induces neurite outgrowth in mouse neuroblastoma cells and inhibits progression of synchronized Neuro 2A cells and MG-63 human osteosarcoma cells beyond the G <sub>1</sub> phase. Appears to induce apoptosis in human monoblast cells. C <sub>15</sub> H <sub>24</sub> N <sub>2</sub> O <sub>7</sub> S MW 376.4	200 µg
196029 RT	<b>SULINDAC SULFIDE</b> [32004-67-4] <b>Purity: ≥99%</b> Cyclooxygenase inhibitor but not related to apoptosis induction. MW 340.4	1 mg 5 mg 25 mg
196030 RT	<b>SULINDAC SULFONE</b> [59864-04-9] <b>Purity: ≥99%</b> Induces apoptosis but does not inhibit cyclooxygenase activity. MW 372.4	1 mg 5 mg 25 mg
195868 -20°C	<b>ICE SUBSTRATE</b> (CPP32/Apopain Substrate; Ac-DEVD-AMC) Ac-Asp-Glu-Val-Asp-AMC <b>Purity: ≥97%</b> Fluorometric substrate for CPP32/Apopain and related cysteine proteases. C <sub>30</sub> H <sub>37</sub> N <sub>5</sub> O <sub>13</sub> MW 675.6	1 mg
195870 -20°C	<b>ICE INHIBITOR I</b> [143313-51-3] (Ac-YVAD-CHO; Caspase Inhibitor I) Ac-Tyr-Val-Ala-Asp-CHO <b>Purity: ≥97%</b> Inhibits Interleukin 1β Converting Enzyme (ICE). C <sub>24</sub> H <sub>32</sub> N <sub>4</sub> O <sub>9</sub> MW 520.5	1 mg 5 mg

195872 -20°C	<b>ICE INHIBITOR II</b> (Ac-YVAD-CMK) Ac-Tyr-Val-Ala-Asp-CMK <b>Purity: ≥97%</b> <b>Biotinylated</b> Inhibits Interleukin 1β Converting Enzyme (ICE) irreversibly. MW 724.3	1 mg 5 mg
195873 -20°C	<b>ICE INHIBITOR III</b> Ac-Tyr-Val-Ala-Asp-Acyloxymethylketone <b>Purity: ≥90%</b> Selectively and strongly inhibits Interleukin 1β Converting Enzyme (ICE). MW 761.7	1 mg
193610 RT	<b>GRANZYME B INHIBITOR</b> Z-Val-Ala-Asp-CH <sub>2</sub> Cl For use in apoptosis research.	1 mg 5 mg
193604 RT	<b>ICE-LIKE INHIBITOR</b> Z-Val-Ala-Asp(OMe)-CH <sub>2</sub> F Inhibitor of Interleukin 1β Converting Enzyme (ICE) for use in apoptosis research.	1 mg
193605 RT	<b>ICE-LIKE INHIBITOR</b> Z-Asp(OMe)-Glu(OMe)-Val-Asp(OMe)-CH <sub>2</sub> F Inhibitor of Interleukin 1β Converting Enzyme (ICE) for use in apoptosis research.	1 mg
193606 RT	<b>ICE-LIKE INHIBITOR</b> BOC-Asp(OMe)-CH <sub>2</sub> F Inhibitor of Interleukin 1β Converting Enzyme (ICE) for use in apoptosis research. Supplied as an oil.	1 mg
193607 RT	<b>ICE-LIKE INHIBITOR</b> Z-Phe-Ala-CH <sub>2</sub> F Inhibitor of Interleukin 1β Converting Enzyme (ICE) for use in apoptosis research.	1 mg
193602 0-5°C	<b>ENZYME OVERLAY MEMBRANES</b> Treated with Z-Tyr-Val-Ala-Asp-AFC substrate. EOMs are ideal for the detection of ICE-Like activity on electrophoretic gels of cellular extracts. For use in apoptosis research.	1 sheet 5 sheets
193603 0-5°C	<b>ENZYME OVERLAY MEMBRANES</b> Treated with Z-Asp-Glu-Val-Asp-AFC substrate. EOMs are ideal for the detection of ICE-Like activity on electrophoretic gels of cellular extracts. For use in apoptosis research.	1 sheet 5 sheets
193608 RT	<b>GRANZYME B SUBSTRATE</b> Boc-Ala-Ala-Asp-S-BZL For use in apoptosis research.	1 mg 10 mg
193609 RT	<b>GRANZYME B SUBSTRATE</b> Z-Ala-Ala-Asp-AFC A fluorescent substrate for use in apoptosis research.	1 mg 10 mg
193600 RT	<b>Z-TYR-VAL-ALA-ASP-AFC</b> (Aminotrifluoromethylcoumarin tetrapeptide conjugate) A valuable fluorescent substrate for Interleukin 1β Converting Enzyme (ICE) ideal for apoptosis research.	1 mg 10 mg
195849 -20°C	<b>ICE SUBSTRATE III</b> (Acetyl-YVAD-AMC; IL-1β Converting Enzyme Fluorogenic Substrate) N-Acetyl-Tyr-Val-Ala-Asp-AMC <b>Purity: ≥97%</b> Fluorogenic substrate for ICE. Excitation = 380 nm; Emission = 460 nm. C <sub>33</sub> H <sub>39</sub> N <sub>5</sub> O <sub>10</sub> MW 665.7	1 mg

ICN

Media Supplements and Reagents



## ATTACHMENT FACTORS

These products facilitate the attachment, adherence, and spreading of adhesion-dependent cell types. They are particularly important when culturing cells that are incapable of providing their own bio-matrix. Also see Cell Support Matrices in the Labware Section.

150026 0-5°C	<b>COLLAGEN</b> [9007-34-5] <b>From Calf Skin</b> <b>Type I</b> Soluble, Lyophilized. For attachment of primary cultures of epithelioid cells, and many other cell types. Prepared according to the method of Gallop and Seifert S., Methods in Enzymology, VI, 635 (1963).	10 mg 100 mg 250 mg
160084 0-5°C	<b>COLLAGEN</b> [9007-34-5] <b>From Calf Skin</b> <b>Soluble Form</b> Suitable for gel formation, platelet aggregation and assay of collagenase by viscometry. Prepared by method of Gallop, P.M. and Seifert, S., Meth. in Enzymol., VI, 635 (1963).	10 mg 50 mg 100 mg 250 mg
193492 0-5°C	<b>COLLAGEN</b> [9007-34-5] <b>Bovine</b> <b>Sterile</b> Aqueous solution which contains 0.3% pure bovine collagen buffered with 0.1% acetate. 95% Type I Collagen 5% Type III Collagen pH (20°C): 3.2-3.8	20 ml
150025 0°C	<b>FIBRONECTIN</b> <b>From Bovine Plasma</b> Lyophilized. Used as an attachment factor in cell culture work.	1 mg 5 mg
151126 0°C	<b>FIBRONECTIN</b> <b>From Human Plasma</b> lyophilized <b>Tissue culture grade</b> <b>Purity: &gt;95%</b> by SDS-PAGE Purified from the Cohn Fraction I of human plasma by a modification of the procedure of Engvall and Ruoslahti. <b>Ref.:</b> International Journal of Cancer, 20,1-5, (1977).	1 mg
194072 -20°C	<b>FIBRONECTIN</b> [86088-73-8] <b>From Human Plasma</b> Purified protein containing <1 µg of factor VIII and fibrinogen. Used as a substrate for the promotion of attachment and replication of cells in culture. <b>Ref.:</b> Mosesson, M.W., Blood, 56, 145-58 (1980).	500 µg
158220 0°C	<b>FIBRONECTIN</b> <b>Human Cellular</b> This human cellular fibroblast fibronectin is a component of the extracellular matrix. It is involved in attachment of cells to their substrate, long-term studies of wound healing and prevention of spread of metastatic tumor cells. Unlike plasma fibronectin, this product is excreted into the medium by human cellular fibroblasts. <b>Highly purified</b> Free of tenascin and other large proteins. Reacts with monoclonal antibodies specific for the ED-A region MW 271,000 Daltons on reduced SDS-PAGE (or 542,000 Daltons for the dimeric native molecule). Aseptically filled and lyophilized in 20 ml serum-stoppered vials. Contents should be reconstituted with sterile water to yield 1mg/ml.	0.25 mg 0.50 mg

901771 RT	<b>GELATIN</b> [9000-70-8] <b>From Bovine Skin</b> Food Grade; Type A; 225 Bloom	100 g 500 g 1 kg
150027 0°C	<b>LAMININ</b> From the basement membrane of Engelbreth Holm-Swarm transplantable mouse tumor. Supplied as a 1-2 mg/ml solution in 0.05M TRIS, 0.15M NaCl, pH 7.4. A purified natural cellular attachment factor which significantly facilitates the culture of epithelial and endothelial cells. <b>Ref.:</b> S.R. Ledbetter, H.K. Kleinman, J.R. Hassel, G.R. Martin., Isolation of Laminin, in Methods for Preparation of Media. Supplements, and Substrata for Serum Free Cell Culture. A.R. Liss, Inc., New York, N.Y. 1984, pg 231-238.	1 mg
150175 0°C	<b>POLY-D-LYSINE HYDROBROMIDE</b> [27964-99-4] Useful as an attachment factor in cell and tissue culture applications. MW 75,000-150,000	10 mg 25 mg 50 mg 100 mg
150176 0°C	<b>POLY-L-LYSINE HYDROBROMIDE</b> [25988-63-0] Attachment factor for tissue culture. MW 30,000-70,000	10 mg 25 mg 50 mg 100 mg
194543 0°C	<b>POLY-L-LYSINE HYDROBROMIDE</b> [25988-63-0] <b>Cell Culture Reagent</b> <b>γ-Irradiated</b> Attachment factor for tissue culture. MW 30,000-70,000	5 mg
150177 0°C	<b>POLY-L-LYSINE HYDROBROMIDE</b> [25988-63-0] Cellular attachment factor in culture applications. MW >70,000	10 mg 25 mg 50 mg 100 mg
194544 0°C	<b>POLY-L-LYSINE HYDROBROMIDE</b> [25988-63-0] <b>Cell Culture Reagent</b> <b>γ-Irradiated</b> Cellular attachment factor in culture applications. MW >70,000	5 mg
152692 0°C	<b>POLY-L-ORNITHINE HYDROBROMIDE</b> [27378-49-0] MW 5,000 - 20,000	500 mg
7690001 7690005	<b>PRONECTIN F®</b> Contains equal parts of coating protein powder and prepared diluent.	1 mg 5 mg
153843 -70°C	<b>TENASCIN</b> <b>Human</b> Purified by salt precipitation and affinity chromatography. Single band at 250 KD by SDS-PAGE	100 µg
194934 -20°C	<b>THROMBOSPONDIN</b> <b>From Human Platelets</b> A heparin binding glycoprotein which is responsible for platelet aggregation and adherence. It also functions in cell-matrix interactions. Supplied in 50% glycerol/Tris buffer solution. <b>Ref.:</b> Lawler, J.W., et al., J. Biol. Chem., 253, 8609 (1978).	100 µg
194086 -20°C	<b>VITRONECTIN</b> <b>From Human Plasma</b> An adhesive protein associated with several tissues and found in undisturbed vessel walls and in arteriosclerotic lesions. <b>Ref.:</b> van den Nieuwenhuizen, M., et al., Thromb. Haemostas, 69(6), 771 (1993).	100 µg



## BALANCED SALT SOLUTIONS

Like CELLect™ Media, all balanced salt solutions from ICN are thoroughly screened for endotoxin. Each lot must meet specifications of <0.25 EU/mL (0.025 ng/ml). In fact, many lots have undetectable levels of endotoxin (<0.001 ng/ml) per ICN's testing methods. ICN uses only the highest purity sterile water and follows strict sanitation guidelines to insure that all products are free from mitogenic endotoxin and meet all expectations.

Additionally, ICN follows current FDA guidelines for sterility (SAL </- 0.1%), which are a requirement for "Sterile" labeled IVD products. The SAL (Sterility Assurance Level) denotes the producer's ability to meet sterility of the final product during aseptic filling. Manufacturers who use the term "Sterile Filtered" for an IVD product, generally have decided not to validate their SAL to this standard and may not meet the FDA guidelines.

Finally, all salt solutions are screened for mycoplasma contamination, a unique characteristic in the industry. Other manufacturers may only test for mycoplasma in the components of animal origin. ICN's commitment to quality offers added assurance that ICN's products will not be a source of mycoplasma contamination.

## Phosphate Buffered Saline (Dulbecco's)

PBS is commonly used for washing cells, as a diluent for media or assays, and as an inorganic base in cell culture media. ICN's modification of the original formulation maintains optimal physiological pH, osmotic equilibrium, and membrane potential. Additionally, it provides ions essential for metabolism, serving as cofactors in enzyme reactions and during cellular attachment. PBS does not contain nutrients suitable for long term growth or maintenance. Recommended storage: 15-30°C.

Product	Catalog No.	Quantity
1X Liquid with calcium, magnesium and phenol red	1860049	100 ml
	1860054	500 ml
1X Liquid with phenol red; w/o calcium and magnesium	1860449	100 ml
	1860454	500 ml
1X Liquid with magnesium chloride; w/o magnesium sulfate	1861054	500 ml
10X Liquid with calcium and magnesium	1960049	100 ml
	1960054	500 ml
10X Liquid w/o calcium and magnesium	1960449	100 ml
	1960454	500 ml
10X Liquid with magnesium chloride; w/o magnesium sulfate	1961054	500 ml
Powder with calcium and magnesium	1760020	10x1 liter
	1760022	1x10 liter
Powder w/o calcium and magnesium	1760420	10x1 liter
	1760422	1x10 liter
PBS Tablets w/o calcium and magnesium 1 tablet = 100 ml of PBS	2810305	100 each
	2810306	200 each
	2810307	500 each

## Earle's Balanced Salts

ICN's EBS formulations have been modified from the original and contain potassium chloride, sodium chloride, monobasic sodium phosphate and D-glucose. Some formulations may include other components. Recommended storage: 15-30°C.

Product	Catalog No.	Quantity
1X Liquid with calcium, magnesium and phenol red	1800049	100 ml
	1800054	500 ml
1X Liquid with calcium and magnesium; w/o phenol red	1800254	500 ml
1X Liquid with phenol red; w/o calcium and magnesium	1800449	100 ml
	1800454	500 ml
10X Liquid with calcium, magnesium and phenol red; w/o sodium bicarbonate	1900154	500 ml
Powder with calcium and magnesium; w/o sodium bicarbonate	1700120	10x1 liter
	1700122	1x10 liter

## Hanks' Balanced Salts

HBSS was originally formulated as a growth medium to be supplemented with serum and bovine embryo extract for use without CO<sub>2</sub> in the gas phase because of the low bicarbonate content. Today, HBS is used for a variety of applications including cell washing, as a diluent for media or assays, and as an inorganic base in standard media. Recommended storage: 15-30°C.

Product	Catalog No.	Quantity
1X Liquid with calcium, magnesium and phenol red	1810049	100 ml
	1810054	500 ml
1X Liquid with calcium and magnesium; w/o phenol red	1810254	500 ml
1X Liquid with phenol red; w/o calcium and magnesium	1810449	100 ml
	1810454	500 ml
1X Liquid w/o calcium, magnesium and phenol red	1810554	500 ml
10X Liquid with calcium, magnesium and phenol red; w/o sodium bicarbonate	1910149	100 ml
	1910154	500 ml
10X Liquid w/o calcium, magnesium and sodium bicarbonate	1910654	500 ml
Powder with calcium and magnesium; w/o sodium bicarbonate	1710120	10x1 liter
	1710122	1x10 liter
	1710124	1x50 liter

ICN

Media Supplements and Reagents

## BIOLOGICAL BUFFERS

Proper pH maintenance is vital for successful cell culturing. Sodium bicarbonate is commonly used to control pH, however, normal bicarbonate buffering may not always be adequate since cell types vary in their sensitivity to different buffers. Toxic reactions may occur even at normally suggested concentration levels. Hence, ICN recommends that researchers determine the appropriate buffer by testing different buffers and concentrations for specific cell types. To do this, ICN offers a variety of buffers for proper pH maintenance.

### Buffer Solutions

	Catalog No.	Quantity
Alsever's Solution, sterile filtered, no endotoxin	2801154	500 ml
EDTA 0.02% Solution (w/v) in normal saline	2820349	100 ml
EDTA 2.0% Solution (w/v) in PBS w/o calcium and magnesium	2820549	100 ml
HEPES 1M Solution Cell Culture Grade, pH 7.2-7.4	1688446 1688449	20 ml 100 ml
HEPES Saline Albumin Gelatin (HSAG) Buffer for IVD use and Rubella HA test	2801749	100 ml
Hydrochloric Acid 1N Solution	1688045	10 ml
Sodium Bicarbonate 5.6% Solution (w/v)	1688249	100 ml
Sodium Bicarbonate 7.5% Solution (w/v)	1688349	100 ml
Sodium Hydroxide 1N Solution	1688145	10 ml
Water, for cell culture double-deionized, sterile	1696054	500 ml
Water, DNase, RNase-free deionized and treated with 0.001% DEPC, sterile- filtered through 0.2 µm filter and autoclaved	821739	500 ml
Water, for PCR procedures 18 megohm, sterile-filtered, no detectable DNase or RNase; 1 vial = 1.5 ml water	195720	1 vial 5 vials
Water, LAL reagent prepared specially for LAL assays. <0.005 EU/ml	3075049 3075054	100 ml 500 ml

### Powders

194545 RT	<b>BES</b> [10191-18-1] [N,N-bis(2-Hydroxyethyl)-2-aminoethanesulfonic acid] <b>Cell Culture Reagent</b> <b>Free Acid</b> <b>Crystalline</b> Zwitterionic buffer pKa=7.1 at 25°C, useful pH range 6.4-7.8. C <sub>6</sub> H <sub>15</sub> NO <sub>5</sub> S MW 213.3	5 g 25 g 100 g 250 g 1 kg
194546 RT	<b>BIS-TRIS</b> [6976-37-0] (2,2-Bis-(hydroxymethyl)-2,2',2''- nitrilotriethanol) <b>Cell Culture Reagent</b> <b>Purity: 99+%</b> Zwitterionic buffer pKa = 6.5 at 25°C Useful pH range 5.8-7.2. C <sub>8</sub> H <sub>19</sub> NO <sub>5</sub> MW 209.2	25 g 100 g 500 g 1 kg
194809 RT	<b>BIS-TRIS PROPANE</b> [64431-96-5] (1,3-bis[tris(Hydroxymethyl)methyl- amino]-propane) <b>Molecular Biology Reagent</b> <b>Purity: ≥99%</b> pKa <sub>1</sub> =6.8, pKa <sub>2</sub> = 9.0 at 25°C. Useful pH range 6.3-9.5. C <sub>11</sub> H <sub>26</sub> N <sub>2</sub> O <sub>6</sub> MW 282.3	25 g 100 g 500 g
194681 RT	<b>GLYCINE</b> [56-40-6] (Aminoacetic acid) <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Free Acid</b> C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub> MW 75.1	100 g 500 g 1 kg 5 kg
194548 RT	<b>GLYCYLGLYCINE</b> [556-50-3] (GLYGLY) <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Free Base</b> pKa=8.2 at 25°C Useful pH range 7.5-8.9 C <sub>4</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub> MW 132.1	10 g 25 g 100 g 1 kg
194549 RT	<b>HEPES</b> [7365-45-9] (N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid) <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Free Acid</b> Zwitterionic Buffer useful in the pH range 6.8-8.2. pKa=7.55 at 25°C For HEPES buffered cell culture solutions, please see the Cell Biology Section. C <sub>8</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> S MW 238.3	10 g 25 g 50 g 100 g 250 g 500 g 1 kg
194550 RT	<b>HEPES</b> [75277-39-3] <b>Cell Culture Reagent</b> <b>Sodium Salt</b> <b>Purity: ~99%</b> pKa=7.55 at 25°C C <sub>8</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> SNa MW 260.3	10 g 25 g 100 g 250 g 1 kg



# Media Supplements and Reagents

**ICN**

Media Supplements and Reagents

	<b>HEPES BUFFER</b> Powdered <b>Cell Culture Grade</b> Storage temperature: 15-30°C				
1588413		20 g			
1588415		50 g			
1588416		100 g			
1588417		500 g			
	<b>HEPPS</b> [16052-06-5] (EPPS; N-2-Hydroxyethylpiperazine-N'-3-propanesulfonic acid) <b>Cell Culture Reagent</b> <b>Crystalline</b> Useful pH range 7.3-8.7 This is the propane analog of HEPES C <sub>9</sub> H <sub>20</sub> N <sub>2</sub> O <sub>4</sub> S MW 252.3	10 g 25 g 100 g 250 g 1 kg			
194547					
RT					
	<b>MOPS</b> [1132-61-2] (3-[N-Morpholino]propanesulfonic acid) <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Free Acid</b> Useful buffer range: 6.5-7.9 C <sub>7</sub> H <sub>13</sub> NO <sub>4</sub> S MW 209.3	25 g 100 g 250 g			
194551					
RT					
	<b>PIPES</b> [5625-37-6] (Piperazine-N,N'-bis[2-ethanesulfonic acid]) <b>Cell Culture Reagent</b> <b>Free Acid</b> <b>Crystalline</b> Zwitterionic Buffer Buffer range: 6.1 to 7.5 pKa at 37°C = 6.66 C <sub>8</sub> H <sub>18</sub> N <sub>2</sub> O <sub>6</sub> S <sub>2</sub> MW 302.4	10 g 25 g 100 g 500 g 1 kg			
194552					
RT					
	<b>SODIUM BICARBONATE</b> [144-55-8] <b>Cell Culture Reagent</b> <b>Crystalline</b> <b>Purity: 99.5%</b> NaHCO <sub>3</sub> MW 84.01	500 g 1 kg 5 kg			
194553					
	<b>SODIUM HYDROXIDE</b> [1310-73-2] <b>Anhydrous</b> NaOH MW 40.0	500 g 1 kg 5 kg			
153495					
RT					
	<b>TAPSO</b> [68399-81-5] (3-[N-tris(Hydroxymethyl)methyl-amino]-2-hydroxypropanesulfonic acid) <b>Cell Culture Reagent</b> <b>Free Acid</b> <b>Crystalline</b> pKa at 25°C = 7.6, useful pH range 7.0-8.2. C <sub>7</sub> H <sub>17</sub> NO <sub>7</sub> S MW 259.3	25 g 100 g			
194554					
RT					
	<b>TES</b> [7365-44-8] (N-Tris-[hydroxymethyl]methyl-2-aminoethanesulfonic acid) <b>Cell Culture Reagent</b> <b>Free Acid</b> <b>Crystalline</b> pKa at 25°C = 7.5 Useful pH range 6.8-8.2 C <sub>6</sub> H <sub>15</sub> NO <sub>6</sub> S MW 229.2	10 g 25 g 100 g 1 kg 5 kg			
194555					
RT					
	<b>TRICINE</b> [5704-04-1] (N-Tris-[hydroxymethyl]methylglycine) <b>Cell Culture Reagent</b> Biological buffer pKa at 25°C = 8.1 Buffering pH range 7.4-8.8 C <sub>6</sub> H <sub>13</sub> NO <sub>5</sub> MW 179.2	25 g 100 g 250 g 1 kg			
194556					
RT					
	<b>TRIS</b> [77-86-1] (Tris-[hydroxymethyl]amino-methane) <b>Cell Culture Reagent</b> <b>Purity: 99.95% min.</b> Buffering pH range 7.0-9.0 pKa at 25°C = 8.1 Excellent biochemical and biological buffer for all applications where ultra high purity is required. C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 121.14	100 g 500 g 1 kg 5 kg			
194557					
RT					
	<b>TRIS</b> [1185-53-1] <b>Cell Culture Reagent</b> <b>Hydrochloride</b> <b>Crystalline</b> <b>Purity: ≥99%</b> C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> • HCl MW 157.6	100 g 500 g 1 kg 5 kg			
194558					
RT					
	<b>TRIS</b> [77-86-1] (Tris-[hydroxymethyl]amino-methane) <b>Ultra Pure Grade</b> <b>Purity: 99.95% min.</b> Buffering pH range 7.0-9.0 pKa at 25°C = 8.1 Excellent biochemical and biological buffer for all applications where ultra high purity is required.	100 g 250 g 500 g 1 kg 5 kg 10 kg			
103133					
RT					
	<i>ICN offers a complete selection of <b>Biological Buffers</b> including:</i> • <b>BES</b> • <b>BICINE</b> • <b>BIS-TRIS</b> • <b>HEPES</b> • <b>MOPS</b> • <b>PIPES</b> • <i>And many more...</i> C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 121.1				
	<b>TRIS</b> [77-86-1] (Tris-[hydroxymethyl]aminomethane) <b>Technical Grade</b> <b>Purity: 96% min.</b> Buffering pH range 7.0-9.0 pKa at 25°C = 8.1 This grade of tris is suitable for use as a standard biological buffer in less critical applications where economy is an important consideration. C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 121.1	500 g 1 kg 5 kg 25 kg			
103132					
RT					
	<b>TRIS, U.S.P.</b> [77-86-1] (Tris-[hydroxymethyl]amino-methane) <b>USP Grade</b> <b>Purity: 99.95% min.</b> Buffering pH range 7.0-9.0 pKa at 25°C = 8.1 Excellent biochemical and biological buffer for all applications where ultra high purity is required. C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 121.14	50 g 100 g 500 g 1 kg			
195605					
RT					

## CELL SEPARATION MEDIA

### LSM<sup>®</sup> - Lymphocyte Separation Media

Exclusively from ICN!

- "One-Step" Centrifugation
- Sterile-filtered
- Maximum lymphocyte yield
- Ready-to-use formulation

LSM<sup>®</sup> is specially formulated for the fast, convenient isolation of mononuclear cells from defibrinated or heparinized whole human blood. "One-step" centrifugation permits separation of mononuclear lymphocytes from erythrocytes, polynuclear lymphocytes and most platelets. Each lot is examined for proper density, yield and the absence of bacterial contamination. It has a two-year minimum shelf-life when properly stored at room temperature. The resulting mononuclear lymphocytes may be used for mixed lymphocyte cell cultures, immunostaining for cell surface markers, panning, FACS and other procedures. Adjustment of the density may be required for isolating different cells or to maximize the yield of lymphocytes from other species.

	Catalog No.	Quantity
LSM <sup>®</sup>	50494	5x100 ml

### LymphoSep<sup>™</sup> - Lymphocyte Separation Medium

When the resolving power of Mono-Poly<sup>™</sup> is not required, use LymphoSep<sup>™</sup> for routine separations!

LymphoSep<sup>™</sup> is a quick, simple and reliable media for the isolation of lymphocytes from whole blood. It is a sterile, iso-osmotic, low viscosity solution for density centrifugation yielding a clear separation of lymphocytes from heparinized or defibrinated human blood. Lymphocytes are isolated by layering diluted, heparinized blood over a solution of sodium metrizoate (density = 1.077 g/ml) that contains a polysaccharide. This polysaccharide aggregates the erythrocytes so that they can be sedimented by low centrifugation. The less dense lymphocytes remain as a clearly defined band at the plasma-LymphoSep<sup>™</sup> interface.

The concentration of the components results in a density of 1.077 g/ml,  $\pm 0.001$  g/ml. A low viscosity is maintained and osmolality is 265-295 mOsm/kg. LymphoSep<sup>™</sup> is supplied as a ready-made sterile aqueous solution of sodium metrizoate (9.6% w/v) and Ficoll<sup>®</sup> (5.6% w/v). All glassware that comes into contact with the blood sample should be siliconized prior to use. Storage temperature is 15-30°C.

	Catalog No.	Quantity
LymphoSep <sup>™</sup>	1692249	100 ml
	1692254	500 ml

### Mono-Poly<sup>™</sup> Resolving Medium

Separate mononuclear and polymorphonuclear leukocytes from whole human blood in one easy step!

Mono-Poly<sup>™</sup> (M-PRM) is a sterile preparation for *in vitro* isolation of mononuclear and polymorphonuclear leukocytes from whole blood. It is the only Ficoll<sup>®</sup>-Hypaque medium which provides:

- Separation of mononuclear and polymorphonuclear leukocytes in two distinct bands.
- Greater than 95% cell viability.
- An easy, single step procedure.
- no sample dilution requirement or lysis of red blood cells.

Mono-Poly<sup>™</sup> is highly versatile and can be used for a variety of research and clinical applications such as histocompatibility testing, lymphokine studies, *in vitro* cell mediated immunity assays, any procedure requiring pure white blood cell preparation. Only fresh blood should be used to ensure good separation and high viability of isolated cells. However, acceptable separation can be obtained for up to 3 hours after blood collection.

Functionality is assessed by using the medium to separate both mononuclear and polymorphonuclear leukocyte fractions free of erythrocyte contamination from human whole blood. Each lot of Mono-Poly<sup>™</sup> is tested for the correct density, osmolality and functionality. The normal density is 1.114 g/ml  $\pm 0.002$  g/ml. Ficoll<sup>®</sup> 400 concentration is 88.0 mg/ml; Sodium hypaque 90 concentration is 167.6 mg/ml. Storage temperature is 15-30°C.

Ref.: 1. Needham, P.L., J. Immunol. Methods, 99, 283-284 (1986).  
2. Bignold, L.P., Cell Biol. Inter. Reports., 11, 19-25 (1987).

	Catalog No.	Quantity
Mono-Poly <sup>™</sup> Resolving Medium	1698049	100 ml



## Media Supplements and Reagents

### CYTOKINES and GROWTH FACTORS

ICN offers a vast range of cytokines and growth factors for supplementing cell cultures and investigating various metabolic processes.

#### Human

	Catalog No.	Quantity
Amphiregulin (recombinant)	195724	100 µg
Angiogenin (recombinant)	195723	50 µg
Brain-derived Neurotrophic Factor (BDNF) (rec.)	193950	5 µg
Ciliary Neurotrophic Factor (CNF) (recombinant)	160006	10 µg
GM-CSF (recombinant)	150708	5 KU
GM-CSF (recombinant)	154137	2 µg
G-CSF (recombinant)	154138	2 µg
M-CSF (recombinant)	152368	500 U
M-CSF (from urine)	160008	2 µg
ENA-78 (recombinant)	193967	20 µg
Eotaxin (recombinant)	193965	10 µg
Epidermal Growth Factor (recombinant)	153508	100 µg
Epidermal Growth Factor (recombinant)	154571	100 µg
Epidermal Growth Factor (recombinant)	153481	500 µg
Erythropoietin (from urine), Ultra Pure Grade	152301	20 U
Erythropoietin (recombinant)	151073	50 U
Fibroblast Growth Factor-acidic (recombinant)	153482	25 µg
Fibroblast Growth Factor-basic (recombinant)	153509	25 µg
Fibroblast Growth Factor-basic (recombinant)	154570	50 µg
Fibroblast Growth Factor 4 (recombinant)	160071	25 µg
Fibroblast Growth Factor 5 (recombinant)	160172	50 µg
Fibroblast Growth Factor 6 (recombinant)	160073	25 µg
Fibroblast Growth Factor 9 (recombinant)	195735	25 µg
Flt3 Ligand (recombinant)	195004	10 µg
GRO (recombinant)	160013	10 µg 25 µg
GRO-α (recombinant)	160016	10 µg
GRO-β (recombinant)	160017	10 µg
GRO-γ (recombinant)	160018	10 µg
HCC-1 (recombinant)	195785	10 µg
Hepatocyte Growth Factor (recombinant)	160245	5 µg
Insulin (recombinant)	193900	10 mg 25 mg 100 mg
Insulin-like Growth Factor 1 (recombinant)	153505	25 µg
Insulin-like Growth Factor 1 (recombinant)	153479	50 µg
Insulin-like Growth Factor 1, Fragment 24-41 (synthetic)	154467	1 mg
Insulin-like Growth Factor 1, Fragment 30-41 (synthetic)	191469	0.5 mg 1 mg
Insulin-like Growth Factor 2 (recombinant)	153504	25 µg
Insulin-like Growth Factor 2 (recombinant)	154568	50 µg
α-Interferon (recombinant)	191380	5 µg
α-Interferon (from human lymphoblastoids)	153513	100 KU
β-Interferon (recombinant)	195003	10 µg
β-Interferon (from human lymphoblastoids)	153512	200 KU
γ-Interferon (recombinant)	191381	100 µg
Interleukin 1 (from monocytes)	150173	1 ml 5 ml
Interleukin 1α (recombinant)	154146	2 µg
Interleukin 1α (recombinant)	151333	50 KU
Interleukin 2 (recombinant), Ultra Pure Grade	153896	10 KU
Interleukin 2 (recombinant)	151342	10 KU
Interleukin 2 (natural), Tissue Culture Grade	152371	50 ml
Interleukin 3 (recombinant)	154143	10 µg
Interleukin 4 (recombinant)	154142	5 µg

#### Human

	Catalog No.	Quantity
Interleukin 5 (recombinant)	152402	2 µg 10 µg
Interleukin 6 (recombinant)	154565	10 µg
Interleukin 6 (recombinant)	152352	100 KU 200 KU
Interleukin 6 (from blood cells)	152353	5 KU
Interleukin 6 Soluble Receptor (recombinant)	160034	5 µg
Interleukin 7 (recombinant)	153473	6 µg
Interleukin 8 (recombinant), endothelial	153478	10 µg 25 µg
Interleukin 8 (recombinant), monocyte	160240	10 µg 25 µg
Interleukin 9 (recombinant)	158851	2 µg 10 µg
Interleukin 10 (recombinant)	158700	5 µg
Interleukin 11 (recombinant)	158853	10 µg
Interleukin 12 (recombinant)	160042	5 µg
Interleukin 15 (recombinant)	160044	5 µg
Interleukin 16 (recombinant)	195005	5 µg
Interleukin 17 (recombinant)	195753	25 µg 50 µg
Interleukin 18 (recombinant)	195798	10 µg
IP-10 (recombinant)	195791	10 µg
Keratinocyte Growth Factor (recombinant)	158418	10 µg
Leptin (recombinant)	195807	500 µg 1 mg
Liver Cell Growth Factor	153114	5 mg 10 mg 50 mg
Lymphotoxin (recombinant)	193969	10 µg
Midkine (recombinant)	195729	10 µg
β-Nerve Growth Factor (recombinant)	160062	100 µg
Neurotrophin 3 (recombinant)	193951	1 µg
Neurotrophin 3 (recombinant)	193952	5 µg
Neurotrophin 4 (recombinant)	193954	5 µg
Oncostatin M (recombinant)	158702	2 µg 10 µg
Platelet-derived Endothelial Cell Growth Factor (recombinant)	195740	10 µg
Platelet-derived Growth Factor (from outdated human platelets)	150204	50 U
Platelet-derived Growth Factor AA (recombinant)	153476	5 µg 10 µg
Platelet-derived Growth Factor BB (recombinant)	153477	5 µg 10 µg
Platelet Factor 4 (from human platelets)	195808	20 µg
Pleiotrophin (recombinant)	195727	50 µg
Rantes (recombinant)	158419	20 µg
Stem Cell Factor (recombinant)	158698	5 µg 10 µg
Transforming Growth Factor-α (recombinant)	150217	50 µg
Transforming Growth Factor-α (recombinant)	153507	25 µg 100 µg
Transforming Growth Factor-β (from platelets)	150206	0.5 µg
Transforming Growth Factor-β1 (from platelets)	154134	1 µg
Transforming Growth Factor-β1 (recombinant)	160266	2 µg
Transforming Growth Factor-β1 latent form (rec.)	195750	2 µg
Transforming Growth Factor-β2 (recombinant)	160267	2 µg
Transforming Growth Factor-β3 (recombinant)	160068	2 µg
Tumor Necrosis Factor (synthetic)	152336	200 µg
Tumor Necrosis Factor-α (recombinant)	154564	50 µg
Tumor Necrosis Factor-α (rec.), Ultra Pure Grade	152178	10 µg
Tumor Necrosis Factor-β (recombinant)	154139	10 µg

ICN

Media Supplements and Reagents

## Media Supplements and Reagents

### Murine

	Catalog No.	Quantity
Ciliary Neurotrophic Factor (CNF), rat (rec.)	158699	10 µg 25 µg
GM-CSF, mouse (recombinant)	150709	2 KU
GM-CSF, mouse (recombinant)	195007	10 µg
G-CSF, mouse (recombinant)	195761	5 µg
M-CSF, mouse (recombinant)	160007	10 µg
Eotaxin, mouse (recombinant)	193966	10 µg
Epidermal Growth Factor, mouse (from sub-maxillary gland), Tissue Culture Grade	160035	100 µg
Epidermal Growth Factor, mouse (from sub-maxillary gland), Receptor-iodination Grade	160036	100 µg
Epidermal Growth Factor, rat (from sub-maxillary gland)	160024	10 µg
Fibroblast Growth Factor 8b, mouse (recombinant)	195783	25 µg
Glial-derived Neurotrophic Factor, rat (rec.)	195777	10 µg
GRO, rat (recombinant)	160014	10 µg
GRO-β (recombinant)	160015	10 µg
α-Interferon (from mouse cells)	153514	100 KU
β-Interferon (from mouse cells)	153515	60 KU
γ-Interferon, mouse (recombinant)	195769	100 µg
γ-Interferon, rat (recombinant)	195787	100 µg
Interferon, rat (recombinant)	153516	25 KU
Interleukin 1α, mouse (recombinant)	160021	5 µg
Interleukin 1β, mouse (recombinant)	160010	5 µg
Interleukin 1β, rat (recombinant)	195774	5 µg
Interleukin 2, mouse (recombinant)	195758	20 µg
Interleukin 2, mouse (from lymphocytes)	151336	20 ml
Interleukin 2, mouse (from lymphocytes), purified	151338	20 ml
Interleukin 2, rat (recombinant)	160023	10 KU
Interleukin 2, rat (from lymphocytes)	151339	20 ml
Interleukin 2, rat (from lymphocytes), purified	151341	20 ml
Interleukin 3, mouse (recombinant)	193512	100 KU
	160227	10 µg
Interleukin 4, mouse (recombinant)	160028	2 µg
Interleukin 4, rat (recombinant)	195776	5 µg
Interleukin 5, mouse (recombinant)	158349	5 KU
Interleukin 5, mouse (recombinant)	195759	5 µg
Interleukin 6, mouse (recombinant)	160032	5 µg
Interleukin 7, mouse (recombinant)	153472	6 µg
Interleukin 10, mouse (recombinant)	158852	5 µg
Interleukin 11, mouse (recombinant)	195762	5 µg
Interleukin 12, mouse (recombinant)	195763	5 µg
Interleukin 13, mouse (recombinant)	160243	5 µg
Leukemia Inhibitory Factor, mouse (recombinant)	160052	10 µg
MIP-1α, rat (recombinant)	195805	20 µg
β-Nerve Growth Factor, mouse (from sub-maxillary gland)	152303	10 µg
2.5S-Nerve Growth Factor, mouse (from sub-maxillary gland)	160040	10 µg
2.5S-Nerve Growth Factor, mouse (from sub-maxillary glands of males)	150022	10 µg
7S-Nerve Growth Factor, mouse (from sub-maxillary glands of males)	150174	100 µg
7S-Nerve Growth Factor, mouse (from sub-maxillary glands)	160072	100 µg
Oncostatin M, mouse (recombinant)	195773	25 µg
Stem Cell Factor, mouse (recombinant)	160065	10 µg
Transforming Growth Factor-α, rat (synthetic)	195719	10 µg 50 µg
Tumor Necrosis Factor-α, mouse (recombinant)	152312	10 µg
Tumor Necrosis Factor-α, rat (recombinant)	160070	20 µg

### Other

	Catalog No.	Quantity
Endothelial Cell Growth Supplement (ECGS) (from bovine hypothalamus)	151518	15 mg
Endothelial Cell Growth Supplement (ECGS) (from bovine brain)	152330	25 mg 50 mg
Endothelial Mitogen (EM) (from bovine hypothal.)	160038	50 mg
Ewing Sarcoma Growth Factor (from ES-1 cell line)	150168	2.5 ml 12.5 ml
Fibroblast Growth Factor (from bovine pituitary)	160037	10 µg
Fibroblast Growth Factor-acidic (from bovine hypothalamus)	152306	5 µg
Fibroblast Growth Factor-basic (from bovine pituitary)	152323	5 µg
Growth Hormone (from bovine pituitary)	160074	100 µg
Hybridoma Cell Growth Supplement (HCGS) (from cultured human endothelial cells)	150202	25 ml
Lactoferrin (from bovine milk)	152333	10 mg 50 mg 100 mg
Lactoferrin (from bovine milk)	151535	5 mg 10 mg 50 mg
Lactoferrin (from human milk)	160046	10 mg 50 mg 100 mg
Nerve Growth Factor (from <i>Echis multisquamatus</i> )	191130	100 µg
Nerve Growth Factor (from <i>Naja oxiana</i> )	191132	100 µg
β-Nerve Growth Factor (from <i>Naja naja kaouthia</i> )	159840	10 µg 50 µg
Oxyrin (from <i>Oxyuranus scutellatus</i> )	159839	10 µg 50 µg
Platelet-derived Growth Factor (from porcine platelets)	153503	5 µg
Platelet-derived Growth Factor (from porcine platelets)	150020	100 U
Transforming Growth Factor-β1 (from porcine platelets)	154133	1 µg
Transforming Growth Factor-β2 (from porcine platelets)	154135	1 µg



Media Supplements and Reagents

## DISSOCIATION REAGENTS

For cells grown in monolayer attached to a surface, the removal or reduction of cell density may be affected physically or chemically. Typically, the harvest of cells prior to their subcultivation *in vitro* is accomplished through the use of enzymes. The extracellular matrix (EM) that binds cells together or to surfaces is a complex mixture of glycoproteins, glycolipids, lipids, mucopolysaccharides, and proteins. Enzymes, alone or in combination, are used to dissociate the EM and isolate individual viable cells. Collagenase, elastase, hyaluronidase, and trypsin are general purpose proteolytic enzymes. Other enzymes such as yeast lytic enzyme, lysing enzyme, and macerozyme offer more specific action. Enzymes may also be used to treat cells prior to their actual culturing.

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Media Supplements and Reagents

194559 0-5°C	<b>APROTININ</b> [9087-70-1] <b>Cell Culture Reagent</b> From Bovine Lung Lyophilized white powder <b>Activity:</b> 3-4 Inhibitor units/mg of dry weight. One Inhibitor unit = 1500 KIU.	10 mg 25 mg 100 mg 250 mg
100428 0-5°C	<b>CATALASE</b> [9001-05-2] <b>From Beef Liver</b> E.C.1.11.1.6 <b>Activity:</b> >6,000 units/mg <b>Unit Definition:</b> one unit decomposes one μmole of H <sub>2</sub> O <sub>2</sub> per minute at 25°C, pH 7.0.	1 g 5 g
100429 0-5°C	<b>CATALASE</b> [9001-05-2] <b>From Bovine Liver</b> E.C.1.11.1.6 Sterile aqueous solution. <b>Activity:</b> >40,000 units/mg solid <b>Unit Definition:</b> one unit decomposes one μmole of H <sub>2</sub> O <sub>2</sub> per minute at 25°C, pH 7.0. Approx. 30,000 units per ml.	10 ml
191341 -20°C	<b>CATALASE</b> <b>From Human Erythrocytes</b> E.C.1.11.1.6. <b>Activity:</b> approx. 160,000 unit/mg protein. Supplied as frozen solution of 1mg/ml in 1.5mM sodium phosphate, 20mM NaCl, pH 7.0 composed of four identical subunits. Negative for HBsAg and HIV antibodies. <b>Unit definition:</b> one unit is defined as the amount of enzyme that will decompose 1 μmole of H <sub>2</sub> O <sub>2</sub> per minute at 25°C, pH 7.0. <b>Ref.:</b> Bonaventura, J., et al., (1972), Arch. Biochem. Biophysics, <b>150</b> , 606. MW 256,000	25 KU 50 KU 100 KU 250 KU
100402 0-5°C	<b>CATALASE</b> [9001-05-2] Fungal suspension from <i>Aspergillus niger</i> . E.C.1.11.1.6 <b>Activity:</b> 1000 units/ml <b>Unit Definition:</b> One unit decomposes 1.0 μmole of H <sub>2</sub> O <sub>2</sub> per minute at pH 7.0, 25°C.	50 ml 100 ml
100501 0°C	<b>COLLAGENASE</b> [9001-12-1] E.C.3.4.24.3 From <i>Clostridium histolyticum</i> Sterile, salt-free, lyophilized <b>Activity:</b> 125-250 units/mg dry weight. Similar to 195109 but sterile filtered.	50 mg

150704 0-5°C	<b>COLLAGENASE</b> [9001-12-1] (Clostridiopeptidase A) E.C.3.4.24.3 From <i>Clostridium histolyticum</i> <b>Islet Isolation Grade</b> <b>Activities:</b> Collagenase ≥3,500 u/g; clostripain, trypsin and caseinase ≤300 u/g (by casein-fofin method, pH 7.0). Yellowish brown lyophilized powder. Optimum pH and Temperature: 7.0 at 30°C Inhibitors: Hg <sup>2+</sup> , Pb <sup>2+</sup> , Cd <sup>2+</sup> , Cu <sup>2+</sup> , Zn <sup>2+</sup> , EDTA, o-phenanthroline. After numerous use tests this grade was selected as most suitable for pancreatic islet isolation. <b>Unit Definition:</b> One unit will liberate peptides from collagen equivalent in ninhydrin color to 3.0μmole of L-leucine in 18 hr at pH 7.4 and 37°C.	1 g 5x1 g
150705 0-5°C	<b>COLLAGENASE</b> [9001-12-1] (Clostridiopeptidase A; EC 3.4.24.3) From <i>Clostridium histolyticum</i> <b>Cell Preparation Grade</b> <b>Activities:</b> Collagenase ≥2,000 u/gm; clostripain, trypsin and caseinase ≤500 u/gm (by casein-fofin method, pH 7.0). Yellowish brown lyophilized powder. Optimum pH and Temperature: 7.0 at 30°C Inhibitors: Hg <sup>2+</sup> , Pb <sup>2+</sup> , Cd <sup>2+</sup> , Zn <sup>2+</sup> , EDTA, o-phenanthroline. <b>Unit Definition:</b> One unit will liberate peptides from collagen equivalent in ninhydrin color to 3.0 μmole of L-leucine in 18 hr at pH 7.4 and 37°C.	1 g 5x1 g
195109 0°C	<b>COLLAGENASE</b> [9001-12-1] <b>Grade I</b> From <i>Clostridium histolyticum</i> Salt-free, lyophilized <b>Activity:</b> ~125-220 units per mg solid. <b>Unit Definition:</b> One unit will liberate peptides from collagen equivalent in ninhydrin color to 1.0 μmole of L-leucine in 5 hr at pH 7.4 and 37°C in presence of calcium ions. Contains clostripain, neutral protease and trypsin activities. <b>Ref.:</b> Mandl, I., et al., J. Clin. Invest., <b>32</b> , 1323 (1953)	25 mg 100 mg 500 mg 1 g
100502 0°C	<b>COLLAGENASE</b> [9001-12-1] <b>Grade II</b> From <i>Clostridium histolyticum</i> Lyophilized powder <b>Activity:</b> 125-250 units/mg dry weight. Enzymatically similar to 195109	25 mg 100 mg 500 mg 1 g
195110 0°C	<b>COLLAGENASE</b> [9001-12-1] <b>Type 4</b> From <i>Clostridium histolyticum</i> Salt-free, lyophilized <b>Activity:</b> ~125 units per mg solid. <b>Unit Definition:</b> one unit liberates peptides from collagen equivalent in ninhydrin color to 1.0 μmole of L-leucine in 5 hr at pH 7.4 and 37°C in presence of calcium ions. <b>Hepatocyte Isolation Grade</b> Contains clostripain, neutral protease and trypsin activities.	25 mg 100 mg 500 mg
151459 0-5°C	<b>COLLAGENASE</b> [9001-12-1] <b>Highly Purified</b> Free of detectable non-specific proteases From <i>Clostridium histolyticum</i> <b>Activity:</b> 2,000 to 3,000 units per ml when reconstituted with one ml buffer. <b>Unit Definition:</b> A unit equals the amount of collagenase required to solubilize one micromole of leucine equivalents, after 24 hour incubation with undenatured collagen at 37°C, pH 7.4.	1 vial



# Media Supplements and Reagents

**195022** **DISPASE** 5 U  
**0-5°C** (EC 3.4.24.4) 25 U  
 From *Bacillus polymyxa*  
 Lyophilized  
 Microbial metalloenzyme used in tissue dissociation (primary cell cultures) and subcultivation (secondary cell cultures). Extremely stable.  
**Activity:** 6 units/mg  
**Unit Definition:** one unit is the amount of enzyme which liberates 1.0  $\mu$ mole of Tyr per minute at 37°C, pH 7.5.  
**Ref.:** Akimoto, Y., et al., J. Histochem. Cytochem., **40**, 1129 (1992).  
 MW 35.9 kDa

**2820349** **ETHYLENEDIAMINETetraACETIC ACID** 100 ml  
 (EDTA; Versene)  
 0.02% (w/v) solution  
**In Normal Saline**  
 Storage temperature: 15-30°C

**2820549** **ETHYLENEDIAMINETetraACETIC ACID** 100 ml  
 (EDTA; Versene)  
 2.0% (w/v) solution  
**In PBS**  
 Without calcium and magnesium  
 Storage temperature: 15-30°C

**100619** **ELASTASE** 5 mg  
**0-5°C** [9004-06-2] 10 mg  
**From Porcine Pancreas** 20 mg  
 E.C. 3.4.21.11 100 mg  
 Lyophilized powder  
**Activity:**  $\geq$ 95 units/mg protein  
**Unit Definition:** One unit will solubilize 1 mg of elastin in 20 minutes at 37°C, pH 8.8.

**100617** **ELASTASE** 10 mg  
**0-5°C** [9004-06-2] 25 mg  
**From Porcine Pancreas** 50 mg  
 E.C. 3.4.21.11 100 mg  
**2X-Crystallized**  
 Aqueous suspension with 0.01% sodium azide as preservative.  
**Activity:**  $>$ 50 units/mg protein  
**Unit Definition:** One unit will solubilize 1 mg of elastin in 20 minutes at 37°C and pH 8.8.

**191337** **ELASTASE** 100  $\mu$ g  
**-20°C** **From Human Neutrophils** 500  $\mu$ g  
 (white leucocytes)  
**Activity:** 18-30 units/mg protein  
 Salt-free, lyophilized solid  
**Purity:**  $>$ 98% by SDS-PAGE  
 Degrades elastin, collagen, and proteoglycans. Negative for HBs Ag and HIV antibodies.  
**Unit Definition:** One unit is defined as the amount of enzyme that will hydrolyze 1  $\mu$ mole of Meo-Suc-Ala-Ala-Pro-Val-pNA per minute at 25 degrees, pH 8.0.  
**Ref.:** Baugh, R.J. and Travis, J., (1976), Biochem., **15**, 836.  
 MW 29,500

**151270** **HYALURONIDASE** 100 U  
**0-5°C** [37326-33-3] 200 U  
 From *Streptococcus hyalurolyticus* 400 U  
 E.C. 3.2.1.35  
 Lyophilized salt-free powder  
**Activity:** 2000 units/mg solid Protease and lysozyme activities not detectable  
**Unit Definition:** Enzyme activity is determined by a change in optical density in a solution of hyaluronic acid. Activity is compared to a hyaluronidase International Standard and is expressed as an International Unit (U)<sup>2</sup>.  
**Ref.:** (1) Dorfman, A., Methods in Enzymology I, 166. Ed. by Colowick, S.P. and Kaplan, N.O. New York: Academic Press, Inc. (1955); (2) Humphrey, J.H., Bull. W.H.O., **16**, 291 (1957).

**100740** **HYALURONIDASE** 100 mg  
**0-5°C** [37326-33-3] 500 mg  
**Bovine Testes** 1 g  
**Activity:** 300 USP units/mg min.  
 Lyophilized powder

**151277** **HYALURONIDASE** 100 mg  
**0-5°C** [37326-33-3] 250 mg  
 E.C. 3.1.2.35 500 mg  
**Source: Bovine Testes**  
 Lyophilized salt-free  
**Activity:**  $\geq$  2,000 I.U./mg solid

**151273** **HYALURONIDASE** 100 KU  
**0°C** [37326-33-3] 200 KU

**From Ovine Testes**  
 (Hyaluronate glycanohydrolase)  
 E.C. 3.2.1.35  
**Activity:** 300 units/mg solid  
**Unit Definition:** One unit is the amount of enzyme that will cause the same turbidity reduction as 1.0 unit of International Standard preparation.  
**Ref.:** (1), H. Humphrey., Bull. World Health Org., **16**, 291 (1957).

**195303** **LYSOZYME** 1 g  
**0°C** [9001-63-2] 5 g  
 (Muramidase) 25 g  
**From Chicken Eggwhite**  
**Type VI**  
**Molecular Biology Reagent**  
 3X Crystallized  
 Salt-Free, Albumin-Free  
 Lyophilized  
**Activity:**  $\sim$ 60,000 units/mg protein  
**Unit Definition:** one unit will produce a decrease in A<sub>450</sub> of 0.001 per minute at pH 6.24 and 25°C using *Micrococcus lysodeikticus* as substrate.

**100831** **LYSOZYME** 100 mg  
**0°C** [9001-63-2] 500 mg  
 (Muramidase) 1 g  
**From Chicken Egg White** 5 g  
**3X Crystallized** 10 g  
 Salt-free and albumin-free 25 g  
 Lyophilized 100 g  
**Activity:** 20,000-25,000 units/mg protein  
**Unit Definition:** One unit will cause a decrease in A<sub>450</sub> of 0.001 per minute at pH 6.24 and 25°C using *Micrococcus lysodeikticus* as substrate.

**100834** **LYSOZYME** 1 g  
**0°C** [9001-63-2] 5 g  
**From Chicken Eggwhite** 10 g  
**2X Crystallized**  
 Salt-free and soluble.  
 Lyophilized  
**Activity:**  $>$ 9,000 units/mg protein  
**Unit Definition:** One unit will cause a decrease in A<sub>450</sub> of 0.001 per minute at pH 6.24 and 25°C using *Micrococcus lysodeikticus* as substrate.



Media Supplements and Reagents

# Media Supplements and Reagents

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363234 -20°C	<b>LYSOZYME</b> (Muramidase) From <i>Micrococcus luteus</i> <b>Activity:</b> ~20,000 units/mg protein This enzyme catalyzes the hydrolysis of Gram-positive bacteria cell walls. Some limited activity to Gram-negative bacteria, chitin, and N-acetylglucosamine oligomers is observed. Optimum activity is observed at pH 6.0-7.0. <b>Unit Definition:</b> one unit of enzyme will decrease the A <sub>450nm</sub> 0.001 per minute at pH 6.24, 25°C in an assay using the lysis of <i>M. luteus</i> cells. This enzyme is supplied as an exhaustively dialyzed, lyophilized powder.	5 g
191335 -20°C	<b>LYSOZYME</b> (Muramidase; EC 3.2.1.17) <b>From Human Neutrophils</b> (White leucocytes) <b>Activity:</b> ~30,000 Shugar units/mg protein <b>Purity:</b> >98% by SDS-PAGE Supplied as a salt-free, lyophilized solid <b>Unit Definition:</b> One unit is defined as the amount of enzyme that will digest powdered cells of <i>Micrococcus lysodeikticus</i> , causing a decrease in absorbancy of 0.001 per minute at 37°C, pH 7.0. <b>Ref.:</b> Shugar, D., (1952), Biochem. Biophys. Acta, 8, 302. MW 17 kDa	100 µg
152340 0°C	<b>MACEROZYME</b> From <i>Rhizopus</i> sp. Cell-separating enzyme. Powder <b>Activity:</b> 3000 maceration units/gm. <b>Unit Definition:</b> One unit is a measure of the macerating activity on potato tuber disks as determined by loss of weight at 40°C, pH 5.0. <b>Ref.:</b> Takebe, I., Plant & Cell Physiol., 9, 115 (1969).	10 KU 50 KU
152341 0°C	<b>NEUTRALASE™, GRADE II</b> (Neutral Protease) From <i>Streptomyces griseus</i> <b>Activity:</b> Approx. 250,000 PU/gm <b>Unit Definition:</b> One PU is the amount of enzyme that will liberate folin-positive amino acids and peptides equivalent to 1 µg of tyrosine within 1 minute at pH 7.5 and 40°C, using casein as a substrate.	1 g 5 g 10 g 50 g
1676949 0-5°C	<b>NON-ENZYMATIC CELL DISSOCIATION REAGENT</b> (1X Liquid) <b>Endotoxin Tested</b> Sterile Filtered	100 ml
193975 0°C	<b>PANCREATIN 4X, U.S.P.</b> [8049-47-6] <b>From Porcine Pancreas</b> <b>USP Grade Reagent</b> Composed of numerous enzymes including amylase, trypsin, lipase, ribonuclease and protease. It will convert a minimum of 25 times its weight of potato starch into soluble carbohydrate in 5 minutes in water at 40°C, and not less than 25 times its weight of casein into proteoses. It hydrolyzes fats to glycerol and fatty acid, protein to proteoses and derived compounds, and starch into dextrins and sugar. Lipase Activity: 8 units/mg Amylase Activity: 100 units/mg Protease Activity: 100 units/mg	25 g 100 g 500 g
102559 -20°C	<b>PANCREATIN 5X</b> [8049-47-6] <b>Source/Species:</b> Hog pancreas Stable Powder; enzyme activities are 5 times those of pancreatin U.S.P. (1X).	25 g 100 g 500 g
193976 0°C	<b>PANCREATIN 8X, U.S.P.</b> [8049-47-6] <b>From Porcine Pancreas</b> <b>USP Grade Reagent</b> Composed of numerous enzymes including amylase, trypsin, lipase, ribonuclease and protease. It will convert a minimum of 25 times its weight of potato starch into soluble carbohydrate in 5 minutes in water at 40°C, and not less than 25 times its weight of casein into proteoses. It hydrolyzes fats to glycerol and fatty acid, protein to proteoses and derived compounds, and starch into dextrins and sugar. Lipase Activity: 8 units/mg Amylase Activity: 100 units/mg Protease Activity: 100 units/mg	25 g 100 g 500 g
193974 0-5°C	<b>PANCRELIPASE, U.S.P.</b> <b>From Hog Pancreas</b> <b>USP Grade Reagent</b> A cream colored, amorphous powder composed of lipase, amylase and protease. Lipase Activity: 24 units/mg Protease Activity: 100 units/mg Amylase Activity: 100 units/mg	25 g 100 g 500 g 1 kg
191520 0-5°C	<b>PRIMATONE RL</b> Enzymatic digest of animal tissues effective in allowing reduction in the level of fetal bovine serum used in culture media.	250 g 500 g 1 kg
2751049 0-5°C	<b>PRIMATONE RL®</b> (50X Solution) Concentration = 100 g/L For Research Use Only Primatone® is a registered trademark of Quest International	100 ml
2751016 2751017	<b>PRIMATONE RL®</b> (Powder) Primatone® is a registered trademark of Quest International	100 g 500 g
150210 0-5°C	<b>PROTEASE</b> [9001-92-7] From <i>Bacillus thermoproteolyticus rokko</i> <b>Type X</b> Crystallized and lyophilized powder containing approx. 20% buffer salts. <b>Activity:</b> 50-100 units/mg protein <b>Unit Definition:</b> One unit will hydrolyze casein to produce color equivalent to 1.0 µmole of tyrosine per minute at pH 7.5 and 37°C. Color is determined by Folin-Ciocalteu reagent. This enzyme is characterized by its excellent heat stability and substrate specificity.	10 mg 25 mg 100 mg 250 mg 1 g
151972 -20°C	<b>PROTEASE</b> [9001-92-7] Isolated from <i>S. aureus</i> , strain V8, this protease exhibits cleavage of peptide bonds on the COOH-terminal side of either aspartate or glutamate residues. <b>Unit Definition:</b> One unit will hydrolyze casein to change A <sub>280</sub> 0.001 per minute, pH 7.8, at 37°C Lyophilized <b>Activity:</b> Approx. 500 units/mg <b>Ref.:</b> (1) Drapeau, G.A., Bolly, Y., Houmar, J., J. Biol. Chem., 217, 6720 (1972); (2) Kunitz, M., J. Gen. Physiol. 30, 291 (1947).	1 mg 5 mg 10 mg

# Media Supplements and Reagents

399001 -20°C	<b>PROTEASE</b> From <i>S. aureus</i> , strain V8 <b>Activity:</b> ~500 units/mg This enzyme will cleave peptide bonds on the carboxyl-terminal side of either aspartate or glutamate residues. Only the aspartoyl bonds of asp-gly are cleaved at a detectable rate and the glutamoyl bonds involving hydrophobic amino acids with bulky side chains are cleaved at a low rate. It does demonstrate a high level of substrate specificity. <b>Unit Definition:</b> one unit will change $A_{280nm}$ 0.001 per minute at 37°C, pH 7.8, using casein as the substrate.	5 mg
321351 0-5°C	<b>THERMOLYSIN</b> From <i>Bacillus thermoproteolyticus</i> <b>3X Crystallized</b> This enzyme is characterized by its excellent heat stability and substrate specificity. <b>Activity:</b> 7000 PU/mg of protein. For further information, please see Miscellaneous Enzymes in the Immunobiologicals section.	250 mg
103140 0-5°C	<b>TRYPSIN, 1-300</b> [9002-07-7] <b>From Hog Pancreas</b> Dry powder Protease activity $\geq 300,000$ USP units/gm.	25 g 100 g 250 g 500 g 1 kg
101179 0°C	<b>TRYPSIN</b> [9002-07-7] <b>From Beef Pancreas</b> <b>2X Crystallized</b> Salt-free; lyophilized; 3,000 N.F. units or 180 TAME units/mg. Chymotrypsin: Approx. 3.5%	100 mg 500 mg 1 g 10 g
101192 0°C	<b>TRYPSIN</b> [9002-07-7] <b>From Beef Pancreas</b> <b>3X Crystalline</b> Sterile Lyophilized; >3,000 NF units/mg	50 mg
150213 0-5°C	<b>TRYPSIN</b> [9002-07-7] <b>From Porcine Pancreas</b> <b>Activity:</b> >400 USP units/mg solid Chymotrypsin activity: >95 USP units/mg solid. <b>Immunohistology grade</b>	1 g 10 g 100 g
191340 -20°C	<b>TRYPSIN</b> <b>From Human Pancreas</b> <b>Activity:</b> >1 units/mg protein Supplied frozen in <2 mM hydrochloric acid. MW 22 KDA	25 µg 5X25 µg
190046 0-5°C	<b>TRYPSIN</b> [9002-07-7] <b>From Porcine Pancreas</b> Sterile filtered, solution <b>Activity:</b> 75,000-125,000 BAEE units/ml Useful in tissue culture work for reduction of cell density.	100 ml

1689454 -20-0°C	<b>TRYPSIN</b> (Trypsin 1:300) 0.25% solution (Modified) In HBS With 200 IU/ml penicillin, 100 µg/ml streptomycin, and 0.5 g/L sodium bicarbonate Without calcium, magnesium and phenol red.	500 ml
1689349 -20-0°C	<b>TRYPSIN</b> (Trypsin 1:250) 2.5% (w/v) solution In HBS Without calcium, magnesium and phenol red.	100 ml
1689649 1689654	<b>1X TRYPSIN-EDTA 1:250</b> (Trypsin-EDTA 1:250) 0.25% (w/v) solution.	100 ml 500 ml
1689149 1689154	<b>TRYPSIN-EDTA SOLUTION</b> Trypsin - EDTA solution <b>Concentration:</b> 0.05% (w/v) Trypsin (1:250) and 0.02% (w/v) EDTA (Versene)	100 ml 500 ml
101113 0°C	<b>TRYPSIN INHIBITOR</b> [9035-81-8] <b>From Soybean</b> Chromatographically prepared, lyophilized, salt free <b>Activity:</b> >10,000 BAEE units of inhibition/mg material <b>Unit Definition:</b> One unit will inhibit one unit of Trypsin activity (BAEE).	25 mg 100 mg 250 mg 500 mg 1 g 5 g
100798 0-5°C	<b>TRYPSIN INHIBITOR</b> [9035-81-8] <b>From Lima Beans</b> Salt-free Lyophilized 1 mg inhibits 2.3-3.0 mg. of trypsin. Stable: 1-2 years <b>Ref.:</b> Fraction III: Arch. Biochem. Biophys. 37; 393 (1952).	25 mg 100 mg 500 mg 1 g
1676849 0-5°C	<b>TRYPSIN NEUTRALIZER SOLUTION</b> (1X Liquid) Sterile Filtered	100 ml



Media Supplements and Reagents

## GROWTH SUPPLEMENTS

### Opti-Clone™ - Hybridoma Cloning Factor

- Promotes the growth of hybridomas plated at low cell densities
- Eliminates feeder cell layer requirements
- Increases the number of surviving hybridomas during HAT selection
- Increases the number of antibody secreting cells
- Improves cell viability of stressed cells
- Enhances cell growth after thawing

ICN's Opti-Clone™ is a partially purified hybridoma growth supplement derived from the medium used to culture a murine macrophage-like cell line. It offers improved cloning efficiency of murine B-cell hybridomas and enhanced growth of hybridomas cultured at low densities. Consequently, it will dramatically increase the percentage of antibody producing colonies. Similarly, it is an excellent replacement for feeder cell layers or other conditioned media used for hybridoma cloning or growth during HAT selection. Hence, Opti-Clone™ eliminates the risk of contamination from the feeder layer. Hybridomas which may be difficult to grow will improve substantially with the addition of Opti-Clone™.

*Sterile-filtered*  
*Endotoxin - <10 ng/ml per LAL chromogenic assay*  
*No contaminating murine antibodies*  
*Screened for mycoplasma and MAV (murine adventitious virus)*  
*Stable for a minimum of two years at -20°C.*

Product	Catalog No.	Quantity
Opti-Clone™	1000045	10 ml
	1000048	50 ml

### Opti-Cell™ Growth Supplement

- Provides optimal hematopoietic cell growth
- Enhances leukemic cell growth
- Improves bone marrow cytogenetic analysis
- Excellent source of colony stimulating factor

Opti-Cell™ is a convenient, ready-to-use conditioned medium prepared from a cultured Giant Cell tumor line. It offers a variety of growth factors including IL-1, IL-6 and colony stimulating factor. Additionally, it contains plasminogen activator, collagenase and prostaglandin E for optimal productivity of various progenitor cell types.

*Sterile-filtered*  
*Low endotoxin - <10 ng/ml per LAL chromogenic assay*  
*No contaminating concanavalin A, phorbol myristate acetate, PHA (pokeweed mitogen), lipopolysaccharide or other inducers*  
*Screened for HBsAg, HIV and mycoplasma*  
*Stable for a minimum of two years at -20°C.*

Product	Catalog No.	Quantity
Opti-Cell™	1000345	10 ml
	1000348	50 ml

### B/T-Cell Plus™ Growth Supplement

- Stimulates B and T cells *in vitro*
- Promotes and maintains helper T cells
- Promotes the growth of IL-2 and IL-4 dependent cell lines
- Provides higher levels of IL-2 than rat or mouse spleen cells

ICN's B/T-Cell Plus™ growth supplement is specially prepared from a stimulated murine lymphoma cell line. It is functionally tested for IL-2, IL-4 and IL-6. The cell line used in the preparation of B/T-Cell Plus™ has been reported to produce a variety of other growth factors including IL-3, IL-5 and GM-CSF.

*Sterile-filtered*  
*Ready-to-use*  
*Low endotoxin*  
*Screened for mycoplasma and infectious agents*  
*Stable for a minimum of two years at -20°C.*

Product	Catalog No.	Quantity
B/T-Cell Plus™	1000245	10 ml
	1000248	50 ml

### HAT Supplement (50X)

HAT is a mixture of hypoxanthine (13.61 mg/L), aminopterin (0.1906 mg/L) and thymidine (3.876 mg/L). After dilution with sterile distilled water, HAT serves as a post-fusion selective medium for removing unfused or self-fused HGPRT myeloma cells. Hypoxanthine and thymidine supplies purines and pyrimidines needed for DNA synthesis by hybridomas by the way of the salvage pathway which utilizes HGPRT from the fused spleen cell. Aminopterin is a folic acid antagonist that inhibits the *de novo* nucleoside biosynthesis pathway.

#### Liquid

	Catalog No.	Quantity
50X HAT	1680849	100 ml

### HT Supplement (50X)

HT is a mixture of hypoxanthine (13.61 mg/L) and thymidine (3.876 mg/L). After dilution with sterile distilled water, HT becomes a rescue medium supplying preformed purines and pyrimidines to overcome the effects of residual intracellular aminopterin. Once the *de novo* nucleoside biosynthesis pathway is reestablished, supplementation is discontinued.

#### Liquid

	Catalog No.	Quantity
50X HT	1680949	100 ml

## HORMONES

The following products are intended for **research use only**. They are not intended for therapeutic use.

194560 0-5°C	<b>DEXAMETHASONE</b> [50-02-2] (9 $\alpha$ -Fluoro-16 $\alpha$ -methylprednisolone) <b>Cell Culture Reagent</b> $\gamma$ -Irradiated <b>Crystalline</b> C <sub>22</sub> H <sub>29</sub> FO <sub>5</sub> MW 392.5	1 mg
194561 0-5°C	<b>DEXAMETHASONE</b> [50-02-2] (9 $\alpha$ -Fluoro-16 $\alpha$ -methylprednisolone) <b>Cell Culture Reagent</b> <b>Crystalline</b> C <sub>22</sub> H <sub>29</sub> FO <sub>5</sub> MW 392.5	25 mg 100 mg 500 mg 1 g
194564 RT	<b><math>\beta</math>-ESTRADIOL</b> [50-28-2] (1,3,5(10)-Estratriene-3,17 $\beta$ -diol) <b>Cell Culture Reagent</b> $\gamma$ -Irradiated Precipitable by Digitonin. <b>Crystalline</b> C <sub>18</sub> H <sub>24</sub> O <sub>2</sub> MW 272.39	1 mg
194565 RT	<b><math>\beta</math>-ESTRADIOL</b> [50-28-2] (1,3,5(10)-Estratriene-3,17 $\beta$ -diol) <b>Cell Culture Reagent</b> Precipitable by Digitonin. <b>Crystalline</b> C <sub>18</sub> H <sub>24</sub> O <sub>2</sub> MW 272.39	250 mg 1 g 5 g
194568 RT	<b>HYDROCORTISONE</b> [50-23-7] ( $\Delta^4$ -Pregnen-11 $\beta$ ,17 $\alpha$ ,21-triol-3,20-dione; 17-Hydroxycorticosterone) <b>Cell Culture Reagent</b> $\gamma$ -Irradiated Sulfuric acid solutions fluoresce green. C <sub>21</sub> H <sub>30</sub> O <sub>5</sub> MW 362.5	1 mg
194569 RT	<b>HYDROCORTISONE</b> [50-23-7] ( $\Delta^4$ -Pregnen-11 $\beta$ ,17 $\alpha$ ,21-triol-3,20-dione; 17-Hydroxycorticosterone) <b>Cell Culture Reagent</b> Sulfuric acid solutions fluoresce green C <sub>21</sub> H <sub>30</sub> O <sub>5</sub> MW 362.5	1 g 5 g 10 g 25 g
105707 -20-0°C	<b>INSULIN</b> [9004-10-8] <b>Source/Species:</b> Bovine pancreas Zinc stabilized <b>Activity:</b> 25 I.U./mg dry weight	1 KU 5 KU 15 KU 25 KU
193900 0°C	<b>INSULIN</b> [11061-68-0] <b>Human, Recombinant</b> Expressed in <i>E. coli</i> Approx. 28 I.U. per mg Zinc content: 0.25 to 1.1%	10 mg 25 mg 100 mg

151565 -20°C	<b>LUTEINIZING HORMONE</b> (hLH) <b>Human</b> <b>Iodination Grade</b> Supplied as a lyophilized powder with an activity of >10,000 IU/mg <b>Purity:</b> >98% Contaminants: Prolactin <0.1% hFSH <0.1% hTSH <0.1% <b>Ref.:</b> WHO IRP (68/40)	500 $\mu$ g 1 mg
152904 -20-0°C	<b>LH-RH</b> [71447-49-9] (Luteinizing Hormone Releasing Hormone; pyroGlu-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH <sub>2</sub> ) <b>Source/Species:</b> Human	1 mg 5 mg 25 mg
151740 -20-0°C	<b>NEUROTENSIN</b> [58889-67-1] (pyroGlu-Leu-Tyr-Glu-Asn-Lys-Pro-Arg-Arg-Pro-Tyr-Ile-Leu) <b>Ref.:</b> 1. Carraway, R. and Leeman, S., <i>J. Biol. Chem.</i> , <b>250</b> , 1912 (1975). 2. Rivier, J.E., et al., <i>J. Med. Chem.</i> , <b>20</b> , 1409 (1977).	1 mg 5 mg 10 mg
194570 RT	<b>PROGESTERONE</b> [57-83-0] ( $\Delta^4$ -Pregnen-3,20-dione) <b>Cell Culture Reagent</b> $\gamma$ -Irradiated <b>Purity:</b> 99+% <b>Crystalline</b> C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> MW 314.5	1 mg
194571 RT	<b>PROGESTERONE</b> [57-83-0] ( $\Delta^4$ -Pregnen-3,20-dione) <b>Cell Culture Reagent</b> <b>Purity:</b> 99+% <b>Crystalline</b> C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> MW 314.5	1 g 5 g 25 g
194572 0°C	<b>PROSTAGLANDIN D<sub>2</sub></b> [41598-07-6] ([5Z,9 $\alpha$ ,13E,15S]9,15-Dihydroxy-11-oxoprostanoic acid) <b>Cell Culture Reagent</b> $\gamma$ -Irradiated <b>Synthetic</b> White crystalline powder <b>Purity:</b> 99% <b>Hygroscopic</b> C <sub>20</sub> H <sub>32</sub> O <sub>5</sub> MW 352.5	1 mg
194573 0°C	<b>PROSTAGLANDIN D<sub>2</sub></b> [41598-07-6] ([5Z,9 $\alpha$ ,13E,15S]9,15-Dihydroxy-11-oxoprostanoic acid) <b>Cell Culture Reagent</b> <b>Synthetic</b> White crystalline powder <b>Purity:</b> 99% <b>Hygroscopic</b> C <sub>20</sub> H <sub>32</sub> O <sub>5</sub> MW 352.5	1 mg 5 mg

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194574 0°C	<b>PROSTAGLANDIN E<sub>1</sub></b> [745-65-3] [[11α,13E,15S]-11,15-Dihydroxy-9-oxoprostanoic acid] <b>Cell Culture Reagent</b> γ-Irradiated Synthetic White to light yellow needles <b>Purity: 99%</b> C <sub>20</sub> H <sub>34</sub> O <sub>5</sub> MW 354.5	1 mg	194580 -20-0°C	<b>SOMATOSTATIN</b> [38916-34-6] (SRIF; Growth Hormone Release Inhibiting Factor; Somatostatin-14; Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr- Phe-Thr-Ser-Cys) <b>Cell Culture Reagent</b> γ-Irradiated Contains a disulfide bond between Cys <sup>3</sup> and Cys <sup>14</sup> .	20 μg
194575 0°C	<b>PROSTAGLANDIN E<sub>1</sub></b> [745-65-3] [[11α,13E,15S]-11,15-Dihydroxy-9-oxoprostanoic acid] <b>Cell Culture Reagent</b> Synthetic White to light yellow needles <b>Purity: 99%</b> C <sub>20</sub> H <sub>34</sub> O <sub>5</sub> MW 354.5	1 mg 5 mg 10 mg	194581 -20-0°C	<b>SOMATOSTATIN</b> [38916-34-6] (SRIF; Growth Hormone Release Inhibiting Factor; Somatostatin-14; Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr- Phe-Thr-Ser-Cys) <b>Cell Culture Reagent</b> Contains a disulfide bond between Cys <sup>3</sup> and Cys <sup>14</sup> . <b>Ref:</b> 1. Gomez-Pan, A. and Rodriguez-Arneo, M.D., Endocrinol. Metab., <b>12</b> , 469 (1983).	100 μg 250 μg 500 μg 1 mg
194576 0°C	<b>PROSTAGLANDIN E<sub>2</sub></b> [363-24-6] [[5Z,11α,13E,15S]-11,15-Dihydroxy-9-oxoprostanoic acid] <b>Cell Culture Reagent</b> γ-Irradiated Synthetic White to light yellow needles <b>Purity: 99%</b> C <sub>20</sub> H <sub>32</sub> O <sub>5</sub> MW 352.5	1 mg	153173 -20-0°C	<b>PyroGLU-HIS-PRO AMIDE</b> [24305-27-9] (Thyrotropin Releasing Hormone; TRH) <b>Ref:</b> Bowers, C.Y., et al., J. Med. Chem., <b>14</b> , 477 (1971). C <sub>16</sub> H <sub>22</sub> N <sub>6</sub> O <sub>4</sub> MW 362.4	5 mg 10 mg 50 mg 250 mg
194577 0°C	<b>PROSTAGLANDIN E<sub>2</sub></b> [363-24-6] [[5Z,11α,13E,15S]-11,15-Dihydroxy-9-oxoprostanoic acid] <b>Cell Culture Reagent</b> Synthetic White to light yellow needles <b>Purity: 99%</b> C <sub>20</sub> H <sub>32</sub> O <sub>5</sub> MW 352.5	1 mg 5 mg 10 mg	194583 0°C	<b>L-THYROXINE</b> [6106-07-6] <b>Cell Culture Reagent</b> Sodium Salt Crystalline Pentahydrate C <sub>15</sub> H <sub>10</sub> I <sub>4</sub> NO <sub>4</sub> Na • 5H <sub>2</sub> O MW 888.9	100 mg 500 mg 1 g 5 g
194578 0°C	<b>PROSTAGLANDIN F<sub>2α</sub></b> [38562-01-5] (PGF <sub>2α</sub> ) Tris Salt (Tromethamine) <b>Cell Culture Reagent</b> γ-Irradiated White crystalline powder <b>Purity: ~99%</b> C <sub>20</sub> H <sub>34</sub> O <sub>5</sub> • C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 475.6	1 mg	194584 0°C	<b>3,3',5-TRIIODO-L-THYRONINE</b> [55-06-1] <b>Cell Culture Reagent</b> γ-Irradiated Sodium Salt Crystalline <b>Purity: 95-98%</b> C <sub>15</sub> H <sub>11</sub> I <sub>3</sub> NO <sub>4</sub> Na MW 673	1 mg
194579 0°C	<b>PROSTAGLANDIN F<sub>2α</sub></b> [38562-01-5] (PGF <sub>2α</sub> ) <b>Cell Culture Reagent</b> Tris Salt (Tromethamine) White crystalline powder <b>Purity: ~99%</b> C <sub>20</sub> H <sub>34</sub> O <sub>5</sub> • C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> MW 475.6	1 mg 5 mg 10 mg	194585 0°C	<b>3,3',5-TRIIODO-L-THYRONINE</b> [55-06-1] <b>Cell Culture Reagent</b> Sodium salt Crystalline <b>Purity: 95-98%</b> C <sub>15</sub> H <sub>11</sub> I <sub>3</sub> NO <sub>4</sub> Na MW 673	100 mg 250 mg 500 mg 1 g

## LECTINS

Lectins, also known as phytohemagglutinins or agglutinins, are proteins of non-immune origin featuring the affinity to bind to specific carbohydrate receptors common to cell membrane surfaces. Their unique ability to agglutinate cells and precipitate complex carbohydrates allows for new discoveries in the study of cell surface membranes and other processes. They are useful for polysaccharide research, glycoprotein research, cell membrane studies, cell agglutination, cell typing experiments, cell separation procedures, and immunocompetence testing. The lectins presented in this catalog give optimum performance in applications such as karyotyping and lymphocyte transformation.

151802 0-5°C	<b>ARACHIS HYPOGAEA AGGLUTININ</b> (PNA) Peanut agglutinin (PNA) isolated from peanuts ( <i>Arachis hypogaea</i> ) by affinity chromatography. PNA is specific for D-Galactose residues and agglutinates lymphocytes that have been treated with neuraminidase but not normal lymphocytes. Supplied in a 1 mg/ml solution. Caution: Has mitogenic properties.	5 mg 25 mg
153240 -20°C	<b>BAUHINIA PURPUREA AGGLUTININ</b> (BPA; Camels Foot Tree) Extracts of <i>B. purpurea</i> seeds are reported to contain an anti-N blood group specific lectin, but after purification BPA is not blood group specific. Purified by affinity chromatography BPA has exhibited specificity for $\beta$ -D-gal(1 $\rightarrow$ 3)-D-galNAc	5 mg
150710 0-5°C	<b>CONCAVALIN A</b> [11028-71-0] (Con A) Concanavalin A (Con A) lectin is isolated from <i>Canavalia ensiformis</i> (jack bean) seeds by affinity chromatography. Con A has specificity for terminal $\alpha$ -D-mannosyl and $\alpha$ -D-glucosyl residues and also agglutinates red blood cells. Supplied as a lyophilized, white powder. Essentially salt-free and carbohydrate free. Caution: Has mitogenic properties. Ref.: (1) Concanavalin A as a tool, Ed., Bittiges, H. and Schnebli, H.P., J. Wiley and Sons, London (1976).	100 mg 250 mg 500 mg 1 g
153244 0°C	<b>CONCAVALIN A</b> (Con A) <b>Biotin Conjugated</b> Purified by affinity chromatography Has exhibited a specificity for $\alpha$ -D-man, $\alpha$ -D-glc.	1 mg 5 mg
153245 0°C	<b>CONCAVALIN A</b> (Con A) <b>FITC Conjugated</b> Purified by affinity chromatography Has exhibited a specificity for $\alpha$ -D-man, $\alpha$ -D-glc.	1 mg 5 mg
153246 0°C	<b>CONCAVALIN A</b> (Con A) <b>HRP Conjugated</b> Purified by affinity chromatography Has exhibited a specificity for $\alpha$ -D-man, $\alpha$ -D-glc.	1 mg 5 mg

151015 0-5°C	<b>DOLICHOS BIFLORUS AGGLUTININ</b> (DBA) <i>Dolichos biflorus</i> lectin (DBA) is isolated from horse gram by means of affinity chromatography. DBA has affinity for terminal N-acetyl- $\alpha$ -D-galactosaminyl residues. DBA also has anti-A <sub>1</sub> human blood group specificity and is therefore useful in distinguishing between A <sub>1</sub> and A <sub>2</sub> blood types. Supplied in a 1 mg/ml solution. Ref.: (1) Etzler, M.W., Kabat, E.A., Biochemistry, 9, 869 (1970); (2) Bird, G.W.G., Blut, 21, 366 (1970). See also: Lectins.	1 mg 5 mg
152066 0-5°C	<b>GLYCINE MAX AGGLUTININ</b> [68513-95-1] (SBA) <b>Soybean Agglutinin</b> Soybean agglutinin (SBA) is isolated from <i>Glycine max</i> by affinity chromatography. SBA has an affinity for N-acetyl-D-galactosamine and is useful in separation of blood cell populations: it agglutinates mouse B-cells but not T-cells. Ref.: (1) Reisner, Y., Ravid, A., and Sharon, N. Biochem. Biophys. Res. Comm., 72, 1585 (1976); (2) Reisner, Y., et al., Proc. Nat. Acad. Sci., 75, 2933 (1978). Caution: Has mitogenic properties.	1 mg 5 mg 25 mg
153266 0°C	<b>GLYCINE MAX AGGLUTININ</b> (Soybean Agglutinin-Biotin; SBA-Biotin) <b>Biotinylated</b> Purified by affinity chromatography Exhibits a specificity for D-galNAc.	2 mg 5 mg
153267 0°C	<b>GLYCINE MAX AGGLUTININ</b> (Soybean Agglutinin-FITC; SBA-FITC) <b>FITC Conjugated</b> Purified by affinity chromatography Exhibits a specificity for D-galNAc.	2 mg 5 mg
153268 0°C	<b>GLYCINE MAX AGGLUTININ</b> (Soybean agglutinin-HRP; SBA-HRP) <b>HRP Conjugated</b> Purified by affinity chromatography Exhibits a specificity for D-galNAc.	1 mg
153269 0°C	<b>GRIFONIA SIMPLICIFOLIA GS-I AGGLUTININ</b> (Bandeirea Simplicifolia) Purified by affinity chromatography Exhibits a specificity for D-GluNAc.	5 mg
150422 0-5°C	<b>GRIFONIA SIMPLICIFOLIA AGGLUTININ</b> The second <i>Bandeiraea simplicifolia</i> lectin GS-II is isolated by affinity chromatography. GS-II has affinity for N-Acetyl-D-glucosamine. GS-II agglutinates "acquired B-cells," activated T-cells, and Tk polyagglutinable cells. Supplied in a 1 mg/ml solution. See also: Lectins	1 mg 5 mg
151229 0-5°C	<b>HELIX POMATIA AGGLUTININ</b> (HPA) <i>Helix pomatia</i> lectin (HPA) is isolated from Roman or edible snail by affinity chromatography. HPA is specific for the anti-A human blood group and has affinity for terminal N-Acetyl- $\beta$ -D-galactosaminyl residues. Supplied in a 1 mg/ml solution.	1 mg
151542 0-5°C	<b>LENS CULINARIS AGGLUTININ</b> <i>Lens culinaris</i> lectin (LCH) is isolated from lentil seeds by affinity chromatography. This lectin has specificity for terminal $\alpha$ -D-Mannosyl and $\alpha$ -D-Glucosyl residues. Lens culinaris lectin has been found to stimulate human lymphocytes in culture to incorporate <sup>3</sup> H-Thymidine. Lens culinaris lectin is comprised of two isomers: Lens culinaris hemagglutinin A(LCH-A), Lens culinaris hemagglutinin B (LCH-B). The two LCH's differ in amino acid content and electrophoretic mobility. Supplied as a lyophilized powder and is electrophoretically pure.	5 mg 25 mg 100 mg

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153293 0-5°C	<b>LENS CULINARIS AGGLUTININ</b> (LCH)(A+B) <b>FITC Conjugated</b> Purified by affinity chromatography Exhibits a specificity for $\alpha$ -D-man	5 mg	152063 0-5°C	<b>SOLANUM TUBEROSUM AGGLUTININ</b> (STA) Solanum tuberosum lectin (STA) is isolated from potato by affinity chromatography. STA is not blood group specific, however, it does have an affinity for N-acetyl- $\beta$ -D-glucosamine oligomers.	1 mg 5 mg 10 mg
153292 0-5°C	<b>LENS CULINARIS AGGLUTININ</b> (LCH)(A+B) <b>HRP Conjugated</b> Purified by affinity chromatography Exhibits a specificity for $\alpha$ -D-man	1 mg 2 mg	152266 0-5°C	<b>TRITICUM VULGARIS AGGLUTININ</b> (Wheat Germ Agglutinin) (WGA) Wheat germ lectin is isolated from wheat germ ( <i>Triticum vulgare</i> ) by affinity chromatography. WGA has specificity for N-acetyl- $\beta$ -D-glucosaminyl residues and N-acetyl- $\beta$ -D-glucamine oligomers. WGA agglutinates erythrocytes and lymphocytes non-specifically. Supplied as a lyophilized powder. Essentially salt-free and carbohydrate-free. <b>Caution:</b> has mitogenic properties.	5 mg 25 mg 100 mg
153318 0°C	<b>PHASEOLUS VULGARIS AGGLUTININ</b> (PHA-P) PHA-E Purified by affinity chromatography Exhibits specificity for D-galNAc.	5 mg	153362 0°C	<b>TRITICUM VULGARIS AGGLUTININ</b> (WGA) <b>Biotin Conjugated</b> Purified by affinity chromatography Exhibits a specificity for $[\beta(1\rightarrow4)\text{-D-glcNAc}]_2$ .	2 mg 5 mg
153322 0-5°C	<b>PHASEOLUS VULGARIS AGGLUTININ</b> (PHA-P) PHA-L Purified by affinity chromatography Exhibits a specificity for D-gal NAc.	1 mg 5 mg	153363 0°C	<b>TRITICUM VULGARIS AGGLUTININ</b> (WGA) <b>FITC Conjugated</b> Purified by affinity chromatography Exhibits a specificity for $[\beta(1\rightarrow4)\text{-D-glcNAc}]_2$ .	2 mg 5 mg
151884 0-5°C	<b>PHYTOHEMAGGLUTININ</b> (PHA) Phytohemagglutinin lectin is isolated from red kidney bean ( <i>Phaseolus vulgaris</i> ). This product is a partially purified product consisting of a mixture of isolectins. PHA will agglutinate erythrocytes of all human blood groups and many mammalian blood groups. Supplied as a lyophilized powder. <b>Caution:</b> PHA has mitogenic properties. <i>Please inquire for conjugated and immobilized lectins.</i>	1 mg 5 mg	153364 0-5°C	<b>TRITICUM VULGARIS AGGLUTININ</b> <b>HRP Conjugated</b> Purified by affinity chromatography Exhibits a specificity for $[\beta(1\rightarrow4)\text{-D-glcNAc}]_2$ .	1 mg 2 mg
151885 0-5°C	<b>PHYTOHEMAGGLUTININ-ERYTHROAGGLUTININ</b> (PHA-E) Phytohemagglutinin-E (PHA-E) is isolated from <i>Phaseolus vulgaris</i> (red kidney bean) by affinity chromatography. PHA-E has high erythroagglutinating activity, and a low mitogenic activity. This lectin can be inhibited by certain oligosaccharides. Supplied as a solid. <b>Ref.:</b> (1) Kornfeld, R., and Kornfeld, S., J. Biol. Chem., <b>245</b> , 2536 (1970); (2) Yachnin, A., and Svenson, R.H., Immunology, <b>22</b> , 871 (1972). <i>Please inquire for conjugated and immobilized lectins.</i>	2 mg	152179 0-5°C	<b>ULEX EUROPAEUS AGGLUTININ I</b> (UEA-I) <i>Ulex europaeus</i> agglutinin-I (UEA-I) is isolated from gorse seeds by affinity chromatography. UEA-I has affinity for L-fucose and H-antigen bearing red blood cells. This lectin is useful for identification of blood groups A, B, and for secretors. Supplied in a 1.0-2.0 mg/ml solution. <b>Ref.:</b> (1) Boyd, W.C., Sharpleigh, E., J. Lab. Clin. Med., <b>44</b> , 235 (1954); (2) Pereira, M.E.A., et al., Arch. Biochem. Biophys., <b>185</b> , 108 (1978); (3) Boyd, W.C., Sharpleigh, E., Blood, <b>9</b> , 1195 (1954).	1 mg 5 mg
151886 0-5°C	<b>PHYTOHEMAGGLUTININ-LEUKOAGGLUTININ</b> (PHA-L) Phytohemagglutinin-L (PHA-L) is isolated from <i>Phaseolus vulgaris</i> (red kidney bean) by affinity chromatography. PHA-L has leucoagglutinin properties, and a high mitogenic activity. PHA-L is low in erythroagglutinin activity. Supplied in a 1.0-2.0 mg/ml solution. <b>Ref.:</b> Yachnin, A., Svenson, R.H., Immunology, <b>22</b> , 871 (1972).	1 mg 5 mg	152264 0-5°C	<b>VISCUM ALBUM AGGLUTININ</b> (VAA) <i>Visum album</i> lectin (VAA) is isolated from European mistletoe by affinity chromatography. VAA has affinity for terminal $\beta$ -D-galactosyl residues. The lectin inhibits allergen induced histamine release <i>in vitro</i> from human leukocytes and also inhibits protein synthesis in a manner similar to Ricinus communis agglutinin-II	0.2 mg 0.5 mg 1 mg
153327 0-5°C	<b>PHYTOLACCA AMERICANA AGGLUTININ</b> [63231-57-2] (Pokeweed Mitogen) Purified by affinity chromatography Salt and sugar free. <b>Activity:</b> <20 $\mu$ g/ml 10 $\mu$ g agglutinates fresh human 2% type O erythrocytes in 0.01M PBS, pH 7.45. Exhibits specificity for (D-glcNAc) <sub>3</sub> and demonstrates mitogenic properties at approximately 2.5 $\mu$ g per ml.	1 mg 5 mg			

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## RADIOCHEMICALS

ICN Cell Biology products provide for a complimentary union of leading edge products in biotechnology. Nowhere is this more apparent than with ICN radiochemical products. ICN is recognized as an innovative leading supplier of high quality radiochemicals. Many products are specially prepared for cell culture applications including Trans<sup>35</sup>S-label™, the premier metabolic labeling reagent.

13070L -20°C	<b>ACETYL COENZYME A, [ACETYL-1-<sup>14</sup>C]</b> <b>CAT Assay Grade</b> Sp. Act. 3-5 mCi/mmol 111-185 GBq/mmol Phosphate buffer Shipped in dry ice. <i>HPLC Analyzed for Purity.</i> <i>Developed Exclusively for CAT Assays!</i> CH <sub>3</sub> CO-CoA MW 809.6	10µCi 25µCi 50µCi
23005L -20°C	<b>ACETYL COENZYME A, [ACETYL-<sup>3</sup>H]</b> <b>CAT Assay Grade</b> Sp. Act. 180-220 mCi/mmol 6.66-13.32 MBq/mmol 70 mM Tris pH 4.8 Shipped in dry ice. <i>HPLC Analyzed for Purity.</i> <i>Analyzed for CAT Assay performance.</i> <i>Ideal for CAT analysis of Gene Transcription.</i> <i>For optimal quantification use ICN BetaMax™ ES!</i> CH <sub>3</sub> CO-CoA MW 809.6	50µCi 250µCi
12060 -20°C	<b>CHLORAMPHENICOL, D-threo-[1,2-<sup>14</sup>C]</b> <b>CAT Assay Grade</b> Sp. Act. >50 mCi/mmol >1.85 GBq/mmol 25 mM Tris-HCl, pH 7.4, sterile solution. Packaged under nitrogen gas in the versatainer packaging system. Shipped in dry ice. <i>HPLC Analyzed for Purity</i> MW 323.1	25µCi 50µCi 250µCi
12060E -20°C	<b>CHLORAMPHENICOL, D-threo-[1,2-<sup>14</sup>C]</b> <b>CAT Assay Grade</b> Sp. Act. >50 mCi/mmol >1.85 GBq/mmol Ethanol: water solution (2:98) sterile. Packaged under nitrogen gas in the versatainer packaging system. Shipped in dry ice. <i>HPLC Analyzed for Purity</i> MW 323.1	25µCi 50µCi 250µCi
51002 -70°C	<b>L-CYSTEINE, [<sup>35</sup>S]</b> <b>In Vitro Translation Grade</b> Sp. Act. >800 Ci/mmol >29.6 TBq/mmol Aqueous solution stabilized with 50 mM L-lysine, pH. 7.4, containing 10 mM 2-mercaptoethanol. Concentration ~10 mCi/ml ~370 MBq/ml Shipped in dry ice Packaged under nitrogen in the Versatainer System. HSCH <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 121.2	1mCi 5mCi
27100H 0-5°C	<b>myo-INOSITOL, [2-<sup>3</sup>H]</b> See structural formula section Sp. Act. 10-20 Ci/mmol 370-740 GBq/mmol Ethanol:water solution (1:1) <b>Ref.:</b> Gottschalk, W.K., <i>Arch. Biochem. Biophys.</i> , <b>299</b> , 137-146 (1992). MW 180.2	250µCi 1mCi 5mCi

27100S 0-5°C	<b>myo-INOSITOL, [2-<sup>3</sup>H]</b> See structural formula section Sp. Act. 10-20 Ci/mmol 0.37-0.74 TBq/mmol Sterile aqueous solution. <b>Ref.:</b> Gottschalk, W.K., <i>Arch. Biochem. Biophys.</i> , <b>137-146</b> (1992). MW 180.2	250µCi 1mCi 5mCi
10088E 0-5°C	<b>L-LEUCINE, [1-<sup>14</sup>C]</b> Sp. Act. >50 mCi/mmol >1.85 GBq/mmol Ethanol: water solution (2:98) sterile. <i>HPLC analyzed for purity.</i> (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 131.2	50µCi 250µCi
10089E 0-5°C	<b>L-LEUCINE, [U-<sup>14</sup>C]</b> Sp. Act. 270-330 mCi/mmol 10-12.2 GBq/mmol Ethanol: water solution (2:98) sterile. <i>HPLC analyzed for purity.</i> (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 131.2	50µCi 250µCi 1mCi
20036E 0-5°C	<b>L-LEUCINE, [4,5-<sup>3</sup>H]</b> Sp. Act. 40-60 Ci/mmol 1.48-2.22 TBq/mmol Ethanol: water solution (2:98) sterile. <i>HPLC analyzed for purity.</i> (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 131.2	250µCi 1mCi 5mCi
20032E 0-5°C	<b>L-LEUCINE, [2,3,4,5-<sup>3</sup>H]</b> Sp. Act. >110 Ci/mmol >4.1 TBq/mmol Ethanol: water solution (2:98) sterile. <i>HPLC analyzed for purity.</i> (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 131.2	250µCi 1mCi 5mCi
10102 -20°C	<b>L-METHIONINE, [Methyl-<sup>14</sup>C]</b> Sp. Act. 30-60 mCi/mmol 1.11-2.22 GBq/mmol Ethanol: water solution (3:7). Containing 10 mM 2-mercaptoethanol Shipped in dry ice. CH <sub>3</sub> S(CH <sub>2</sub> ) <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 149.2	50µCi 250µCi 1mCi
20039H -20°C	<b>L-METHIONINE, [Methyl-<sup>3</sup>H]</b> Sp. Act. 5-15 Ci/mmol 185-555 GBq/mmol <b>Purity &gt;94%</b> Ethanol: water solution (3:7). Containing 10 mM 2-mercaptoethanol Shipped in dry ice. CH <sub>3</sub> S(CH <sub>2</sub> ) <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 149.2	250µCi 1mCi 5mCi
51001 -70°C	<b>L-METHIONINE, [<sup>35</sup>S]</b> <b>In Vitro Translation Grade</b> Sp. Act. >400 Ci/mmol >14.8 TBq/mmol Aqueous solution stabilized with 50 mM L-lysine, pH 7.4, containing 10 mM 2-mercaptoethanol Concentration ~10 mCi/ml ~370 MBq/ml Packaged under nitrogen in the Versatainer System. Shipped in dry ice CH <sub>3</sub> S(CH <sub>2</sub> ) <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 149.2	500µCi 1mCi 5mCi

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Media Supplements and Reagents

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51001H -70°C	<b>L-METHIONINE, [<sup>35</sup>S], In Vitro Translation Grade</b> Sp. Act. >1000 Ci/mmol >37 TBq/mmol Aqueous solution stabilized with 50 mM L-lysine pH 7.4, containing 10 mM 2-mercaptoethanol Concentration ~10 mCi/ml ~370 MBq/ml Packaged under nitrogen in the Versatainer System Shipped in dry ice CH <sub>3</sub> S(CH <sub>2</sub> ) <sub>2</sub> CH(NH <sub>2</sub> )COOH MW 149.2	500µCi 1mCi 5mCi	24059 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 20-40 Ci/mmol 0.74-1.48 TBq/mmol Sterile aqueous solution. Please inquire regarding contract prices. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
68049 0-5°C	<b>PROTEIN A, [<sup>125</sup>I] Immunological Grade</b> Sp. Act. 2-10 µCi/µg 74-370 kBq/µg 0.1 M Potassium phosphate pH 7.5: ethanol (1:1) with 0.5% BSA.	100µCi 250µCi	24042 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 40-60 Ci/mmol 1.48-2.22 TBq/mmol Sterile aqueous solution. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
68038 0-5°C	<b>PROTEIN A, [<sup>125</sup>I] Immunological Grade</b> Sp. Act. >30 µCi/µg >1.11 MBq/µg 0.1 M Potassium phosphate pH 7.5: ethanol (1:1) with 0.5% BSA.	100µCi 250µCi 500µCi	24043 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 40-60 Ci/mmol 1.48-2.22 TBq/mmol Ethanol:water solution (7:3). HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
68061 0-5°C	<b>PROTEIN A, [<sup>125</sup>I] Immunological Grade</b> Sp. Act. 70-100 µCi/µg 2.59-3.7 MBq/µg 0.1 M Potassium phosphate pH 7.5: ethanol (1:1) with 0.5% BSA.	10µCi 20µCi 50µCi	24060 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 60-90 Ci/mmol 2.22-3.33 TBq/mmol Sterile aqueous solution. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
17441H 0-5°C	<b>SODIUM BICARBONATE, [<sup>14</sup>C]</b> Sp. Act. 30-60 mCi/mmol 1.11-2.22 GBq/mmol Sterile aqueous solution. NaHCO <sub>3</sub> MW 84.0	250µCi 1mCi 5mCi 25mCi	24039 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 60-90 Ci/mmol 2.22-3.33 TBq/mmol Ethanol: water solution (7:3). HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
14036 0-5°C	<b>THYMIDINE, [2-<sup>14</sup>C]</b> See structural formula section. Sp. Act. 50-60 mCi/mmol 1.85-2.22 GBq/mmol Sterile aqueous solution. HPLC Analyzed for Purity MW 242.2	10µCi 50µCi 250µCi	24041 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 1-10 Ci/mmol 37-370 GBq/mmol Sterile aqueous solution. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
24070 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 2.0 Ci/mmol 74 GBq/mmol Sterile aqueous solution. Please inquire regarding contract prices. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi	24066 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 6.7 Ci/mmol 248 GBq/mmol Sterile aqueous solution. Please inquire regarding contract prices. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi
24067 0-5°C	<b>THYMIDINE, [Methyl-<sup>3</sup>H]</b> See structural formula section. Sp. Act. 20 Ci/mmol 740 GBq/mmol Ethanol: water solution (7:3) Please inquire regarding contract prices. HPLC Analyzed for Purity MW 242.2	250µCi 1mCi 5mCi	51006 -70°C	<b>TRAN<sup>35</sup>S-LABEL™ Metabolic Labeling Reagent</b> (L-Methionine, [ <sup>35</sup> S]; L-Cysteine, [ <sup>35</sup> S]) Sp. Act. >1000 Ci/mmol >37.0 TBq/mmol Net L-Methionine Radioactivity 1 mCi, 5 mCi and 10 mCi, respectively. Metabolic labeling reagent derived from [ <sup>35</sup> S]E. coli hydrolysate containing 70% L-methionine, [ <sup>35</sup> S], ~15% L-cysteine, [ <sup>35</sup> S] Aqueous solution stabilized with 50 mM L-lysine, pH 7.4, containing 10 mM 2-mercaptoethanol Concentration ~10 mCi/ml ~370 MBq/ml Packaged under nitrogen in the Versatainer System. Shipped in dry ice  For Higher Incorporation in Metabolic Labeling: ICN CELLect™ Met/Cys Deficient Media •Deficient in Methionine Allows methionine incorporation in metabolic labeling •Deficient in Cysteine Optimal media for labeling with <sup>35</sup> S-Methionine since cysteine is a metabolic precursor to methionine. Also allows for <sup>35</sup> S- Cysteine incorporation which is of interest to users of Tran <sup>35</sup> S- label and <sup>35</sup> S-Cysteine	1.4mCi 7mCi 14mCi

## STAINS

The following products are commonly used for cell staining.

152295 -20-0°C	<b>ADAM</b> (9-Anthryldiazomethane) Highly fluorescent and ultraviolet label for spectrophotometric determination of picomole quantities of fatty acids by high-pressure liquid chromatography. Has been used to detect and quantify picomole quantities of fatty acids <sup>1</sup> , carboxylic acids <sup>1</sup> , prostaglandins, and urinary oxalic acid <sup>3</sup> . <b>Ref.:</b> 1. Barber, S.A. et al., <i>Anal. Biochem.</i> , <b>107</b> , 116 (1980) 2. Hatsumi, M., et al., <i>J. Chromat.</i> , <b>253</b> , 271 (1982) 3. Imaoka, S., et al., <i>Anal. Biochem.</i> , <b>128</b> , 459 (1983) C <sub>15</sub> H <sub>10</sub> N <sub>2</sub> MW 218.2	5 mg 10 mg 25 mg
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195064	<b>AURAMINE O</b> [2465-27-2] C.I. 41000 Fluorescent stain for acid resistant bacteria in sputum or paraffin <b>Ref.:</b> <i>Stain Technol.</i> , <b>7</b> , 70 (1931). <b>SUSPECTED CANCER AGENT!</b> C <sub>17</sub> H <sub>21</sub> N <sub>3</sub> • HCl MW 303.8	10 g 50 g 100 g
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194589 0°C	<b>bis-BENZIMIDE H-33258</b> [23491-45-4] (Hoechst #33258; 2-[2-(4-Hydroxyphenyl)-6-benzimidazolyl]-6-[1-methyl-4-piperazyl]benzimidazole) <b>Cell Culture Reagent</b> <b>Trihydrochloride</b> Specific chromosome banding patterns C <sub>25</sub> H <sub>24</sub> N <sub>6</sub> O • 3HCl MW 533.9	25 mg 50 mg 100 mg
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194811 0°C	<b>5-BROMO-4-CHLORO-3-INDOLYL-β-D-GALACTOPYRANOSIDE</b> [7240-90-6] (X-Gal; 5-Bromo-4-chloro-3-indolyl-β-D-galactoside) <b>Molecular Biology Reagent</b> <b>Purity: ≥98%</b> Used as indigogenic substrate for β-galactosidase, for detection of β-galactosidase-positive clones, and the identification of lac and bacterial colonies or phage plaques. C <sub>14</sub> H <sub>15</sub> BrClNO <sub>6</sub> MW 408.6	10 mg 100 mg 500 mg
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193922 -20°C	<b>5-BROMO-6-CHLORO-3-INDOLYL-β-D-GALACTOPYRANOSIDE</b> (5-Bromo-6-chloro-3-indolyl-β-D-galactoside; Magenta-GAL) <b>Purity: ≥98%</b> A chromogenic substrate for β-D-galactosidase and an alternative to X-GAL which produces an insoluble magenta chromophore in lac <sup>+</sup> bacterial colonies. It may be used in histochemistry for enzyme activity localization in mammalian tissues. <i>Protect from light and humidity.</i> C <sub>14</sub> H <sub>15</sub> BrClNO <sub>6</sub> MW 408.6	25 mg 100 mg 500 mg
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194813 -20°C	<b>5-BROMO-4-CHLORO-3-INDOLYL-β-D-GLUCURONIDE</b> [129541-41-9] (X-GlcA; X-Glucuro) <b>Molecular Biology Reagent</b> <b>Sodium Salt</b> <b>Purity: ≥98%</b> A β-glucuronidase substrate which forms an intense blue precipitate upon enzymatic action. Used for the detection of the GUS gene in bacterial colonies and in histochemical applications. <i>Protect from light and humidity.</i> C <sub>14</sub> H <sub>13</sub> BrClNO <sub>7</sub> Na MW 444.6	10 mg 25 mg 100 mg
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157574 0°C	<b>4',6-DIAMIDINO-2-PHENYLINDOLE</b> [28718-90-3] (DAPI) <b>Dihydrochloride</b> <b>Crystalline</b> C <sub>16</sub> H <sub>15</sub> N <sub>5</sub> • 2HCl MW 350.2	1 mg 5 mg 10 mg 50 mg
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194592 0-5°C	<b>3-(4,5-DIMETHYLTHIAZOLYL-2)-2,5-DIPHENYL TETRAZOLIUM BROMIDE</b> [298-93-1] (MTT; Thiazolyl Blue) <b>Cell Culture Reagent</b> Yellow crystals <b>Purity: ~98%</b> C <sub>18</sub> H <sub>16</sub> N <sub>5</sub> SBr MW 414.3	100 mg 500 mg 1 g
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194590 RT	<b>ERYTHROSIN B</b> [15905-32-5] (Solvent Red 140; C.I. 45430:2) <b>Cell Culture Reagent</b> <b>Free Acid</b> <b>Purity: ~98%</b> C <sub>20</sub> H <sub>8</sub> l <sub>4</sub> O <sub>5</sub> MW 835.9	5 g 10 g 25 g
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194591 RT	<b>GIEMSA STAIN</b> [51811-82-6] <b>Cell Culture Reagent</b> <b>Crystalline</b> Biological stain for thin blood films to differentiate leucocytes, for thick blood films to show malarial parasites, and for bone marrow to show cell morphology.	1 g 5 g 10 g 25 g
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1691149 RT	<b>NEUTRAL RED</b> 1:300 Solution Storage temperature: 15-30°C	100 ml
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102438 RT	<b>NEUTRAL RED</b> [553-24-2] (3-Amino-7-dimethylamino-2-methylphenazine hydrochloride) C.I. 50040 Useful indicator and biological stain pH range 6.8-8.0 Practical grade <b>Dye Content: Approx. 60%</b> C <sub>15</sub> H <sub>16</sub> N <sub>4</sub> • HCl MW 288.8	25 g 100 g 250 g 1 kg
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# Media Supplements and Reagents

194593 RT	<b>NIGROSIN</b> [8005-03-6] (C.I. 50420; Acid Black 2) <b>Cell Culture Reagent</b> Water soluble.	25 g 100 g	
194594 0°C	<b>p-NITROPHENYL PHOSPHATE</b> [4264-83-9] <b>Cell Culture Reagent</b> <b>Disodium Salt</b> <b>Hexahydrate</b> <b>Purity: 99+%</b> White to pale yellow crystals Free p-nitrophenol <0.005% Suitable for use as a substrate for alkaline and acid phosphatase. C <sub>6</sub> H <sub>4</sub> NO <sub>6</sub> PNa <sub>2</sub> • 6H <sub>2</sub> O MW 371	250 mg 500 mg 1 g 5 g	
193556 0°C	<b>p-NITROPHENYL PHOSPHATE</b> (pNPP Alkaline Phosphatase Substrate) Two tablets when dissolved in 1 ml deionized water makes a ready-to-use buffered solution of pNPP. Each tablet contains 5.0 mg.	6 tablets 60 tablets	
194595 0°C	<b>PHENAZINE METHOSULFATE</b> [299-11-6] (N-Methyl(dibenzyl)pyrazine methyl sulfate salt) <b>Cell Culture Reagent</b> Yellow crystals Used in tyrosine transaminase test and for enzymic determination of ethanol in blood by the colorimetric micromethod. C <sub>13</sub> H <sub>11</sub> N <sub>2</sub> • CH <sub>3</sub> SO <sub>4</sub> MW 306.3	500 mg 1 g 5 g	
194596 RT	<b>PHENOL RED</b> [143-74-8] <b>Free Acid</b> <b>Cell Culture Reagent</b> (Phenolsulfonphthalein) pH indicator: 6.8 (yellow)-8.2 (red) C <sub>19</sub> H <sub>14</sub> O <sub>5</sub> S MW 354.3	1 g 5 g 10 g	
194597 RT	<b>PHENOL RED</b> [34487-61-1] <b>Sodium Salt</b> <b>Cell Culture Reagent</b> (Phenolsulfonphthalein) Water soluble pH indicator: 6.8 (yellow)-8.2 (red) C <sub>19</sub> H <sub>13</sub> O <sub>5</sub> SNa MW 376.4	1 g 5 g 10 g 25 g	
1690049 RT	<b>PHENOL RED STAIN</b> 0.5% (w/v) Solution Storage temperature: 15-30°C		100 ml
152646 RT	<b>PHLOXINE B</b> [18472-87-2] C.I. 45410 (Acid Red 92; Cyanosine WS; Magdala Red Technical; Eosin 10B) Useful as a counterstain for bacteria and as a nuclear stain. C <sub>20</sub> H <sub>2</sub> Br <sub>4</sub> Cl <sub>4</sub> O <sub>5</sub> Na <sub>2</sub> MW 829.6		25 g
194598 RT	<b>RESAZURIN</b> [62758-13-8] (7-Hydroxy-3H-phenoxazin-3-one 10-oxide) <b>Cell Culture Reagent</b> <b>Sodium Salt</b> <b>Dye Content: Approx. 85%</b> pH 3.8 (orange) to pH 6.5 (violet) C <sub>12</sub> H <sub>6</sub> NO <sub>4</sub> Na MW 251.2		1 g 5 g
194599 RT	<b>SULFORHODAMINE B</b> [3520-42-1] <b>Cell Culture Reagent</b> <b>Dye content: Approx. 75%</b> C <sub>27</sub> H <sub>29</sub> N <sub>2</sub> O <sub>7</sub> S <sub>2</sub> Na MW 580.6		1 g 5 g 25 g
194600 RT	<b>TRYPAN BLUE</b> [72-57-1] (Direct Blue 14; Niagara Blue 3B) C.I. 23850 <b>Cell Culture Reagent</b> <b>Dye Content: Approx. 40%</b>  <i>Also see Cell Biology Section.</i> C <sub>34</sub> H <sub>24</sub> N <sub>6</sub> O <sub>14</sub> S <sub>4</sub> Na <sub>4</sub> MW 960.8		5 g 25 g 100 g
194601 0-5°C	<b>TRYPAN BLUE STAIN SOLUTION</b> 0.4% (w/v) Solution In normal saline Storage temperature 15-30°C		100 ml
194601 0-5°C	<b>XTT</b> [111072-31-2] (2,3-bis[2-Methoxy-4-nitro-5-sulphophenyl]-2H-tetrazolium-5-carboxanilide inner salt) <b>Sodium Salt</b> <b>Cell Culture Reagent</b> <b>Purity: ~90%</b> A useful tetrazolium derivative for AIDS and cancer research. <b>Ref.:</b> Scudiero, et al., Cancer Res., <b>48</b> , 4827 (1988). C <sub>22</sub> H <sub>16</sub> N <sub>7</sub> O <sub>13</sub> S <sub>2</sub> Na MW 673.5		100 mg 500 mg

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Media Supplements and Reagents

## TRANSPORT FACTORS

Transport factors are proteins which enable small metabolites to be carried in usable form to cells. Since many substances, such as lipids and other molecules are only slightly soluble, they are not taken up well by cells, or may even be toxic in their free form. Transport factors aid in the conveyance of these metabolites to the cells, especially important when culturing cells in a defined medium.

152154 -20-0°C	<b>TRANSFERRIN</b> <b>Source:</b> guinea pig <b>Purity:</b> ≥98% Purified by affinity chromatography Concentrated Sterile filtered Supplied as frozen sterile product. This iron binding protein displays bacteriostatic and fungistatic characteristics	1 mg 5 mg 10 mg
152155 -20-0°C	<b>TRANSFERRIN</b> <b>Source:</b> Murine <b>Purity 90%</b> Purified by affinity chromatography Concentrated Sterile filtered	1 mg 5 mg 10 mg
152334 -20°C	<b>TRANSFERRIN (APO)</b> <b>From Bovine Plasma</b> Supplied as a buffer-free, off-white lyophilized powder. <b>Purity: 98%</b> (FPLC). A useful transport factor in cell culture work to convey essential metabolites to the cells. Important factor when culturing cells in a defined medium.	100 mg 500 mg
152335 -20°C	<b>TRANSFERRIN (HOLO)</b> <b>From Bovine Plasma</b> Supplied as a buffer-free, off-white lyophilized powder. <b>Purity: 98%</b> (FPLC). An important factor in culture work to carry metabolites to the cells, particularly in a defined medium.	100 mg 500 mg
820561 -20°C	<b>TRANSFERRIN</b> <b>From Bovine Plasma</b> <b>Iron Poor</b> Contains <1.0% iron <b>Low Endotoxin</b> Contains only trace amounts of IgG.	1 g
820551 -20°C	<b>TRANSFERRIN</b> <b>From Bovine Plasma</b> This is a highly purified preparation. <b>30% Iron Saturated</b> This product is suitable for use as a growth factor for primary, continuous, and transformed cell lines.	1 g

820571 -20°C	<b>TRANSFERRIN</b> <b>From Bovine Plasma</b> This is a highly purified preparation. <b>90% Iron Saturated</b> Contains only trace amounts of IgG. It is ideal for use as a growth factor for primary, continuous, and transformed cell lines.	1 g
823411 0-5°C	<b>TRANSFERRIN</b> <b>From Human Plasma</b> This is a highly purified preparation. <b>Iron Poor</b> Contains <1.0% iron and only trace amounts to non-detectable levels of IgG. This product is ideal for use as a growth factor for primary, continuous, and transformed cell cultures.	1 g
823421 -20°C	<b>TRANSFERRIN</b> <b>From Human Plasma</b> This is a highly purified preparation. <b>30% Iron Saturated</b> Contains only trace amounts of IgG. This product is excellent for use as a growth factor for primary, continuous, and transformed cell lines.	1 g
823431 -20°C	<b>TRANSFERRIN</b> <b>From Human Plasma</b> This is a highly purified preparations. <b>90% Iron Saturated</b> Contains no detectable IgG This product is excellent for use as a growth factor for primary, continuous, and transformed cell lines.	1 g
160076 0°C	<b>TRANSFERRIN</b> <b>(HOLO)</b> <b>From Human Serum</b> Not less than 95% total protein. Each vial (lyophilized) contains 10 mg transferrin, 10 mg mannitol, 1 mg sodium chloride. The contents of each vial readily dissolve in 1 ml water. Transferrin is a transport factor used in cell culture work to convey essential metabolites to cells. Transferrin binds iron and makes this element available to cells in a recognizable form. Cellular iron is utilized as an enzymatic cofactor in key metabolic pathways such as the generation of ATP. The metabolic transport functions of transferrin make it a strong promoter of cell growth in cell culture (for example, high transferrin levels in ICN CELLect™ Iron-Supplemented Calf Serum facilitate growth performance similar to FBS; data sheet available upon request). Transferrin is frequently used as a supplement when culturing cells in <b>Serum-Free Media</b> .	1 vial 5 vials

