

# Product Information

## Minimum Essential Medium

with Earle's Balanced Salts, with 2.0 mM L-glutamine

CATALOG NO. 51411C

### Description

Minimum Essential Medium (MEM) with Earle's Balanced Salts was developed by Harry Eagle as a result of his studies to determine the essential nutritional requirements of mouse L cells and HeLa cells in culture. He demonstrated that these cells require 13 amino acids and seven vitamins to grow and reproduce *in vitro*. MEM is a modification of Eagle's earlier medium Basal Medium Eagle (BME), containing higher concentrations of the essential nutrients. These media have demonstrated the ability to support a variety of normal and transformed cells in culture and contain Earle's Balanced Salts, which make them suitable for use in atmospheres charged with CO<sub>2</sub> gas.

### Precautions

Use aseptic technique when handling or supplementing medium. This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

### Storage

Store medium protect from light at 2 to 8 C. Do not freeze. Do not use after the expiration date.

### Indications of Deterioration

Medium should be clear of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change or degradation of physical or performance characteristics.

### Preparation Instructions

Supplements, such as antibiotics, can be added to the sterilized solution using aseptic technique. Storage conditions and shelf life of the supplemented product may be affected by the nature of the supplements. Sterile serum should not be refiltered before or after being added to sterile medium because growth promoting capacity may be reduced upon refiltration.

### Formulation

Component (all components measured in mg/L)	
<b>INORGANIC SALTS</b>	
Calcium chloride anhydrous	200.000
Magnesium sulfate anhydrous	97.670
Potassium chloride	400.000
Sodium bicarbonate	2200.000
Sodium chloride	6800.000
Sodium phosphate monobasic monohydrate	140.000
<b>VITAMINS</b>	
D-calcium pantothenate	1.000
Choline chloride	1.000
Folic acid	1.000
i-inositol	2.000
Niacinamide	1.000
Pyridoxal HCl	1.000
Riboflavin	0.100
Thiamine HCl	1.000
<b>AMINO ACIDS</b>	
L-arginine HCl	126.980
L-cystine 2HCl	31.280
L-glutamine	292.000
L-histidine HCl monohydrate	41.880
L-isoleucine	52.000
L-leucine	52.000
L-lysine HCl	72.470
L-methionine	15.000
L-phenylalanine	32.000
L-threonine	48.000
L-tryptophan	10.000
L-tyrosine 2Na dihydrate	51.900
L-valine	46.000
<b>OTHER</b>	
Dextrose anhydrous	1000.000
Phenol red sodium salt	10.620

#### United States

SAFC Biosciences, Inc.  
13804 W. 107th Street  
Lenexa, Kansas 66215  
USA  
Phone +1 913-469-5580  
Toll free-USA 1 800-255-6032  
Fax +1 913-469-5584  
E-mail info-na@sial.com

#### Europe

SAFC Biosciences Ltd.  
Smeaton Road, West Portway  
Andover, Hampshire SP10 3LF  
UNITED KINGDOM  
Phone +44 (0)1264-333311  
Fax +44 (0)1264-332412  
E-mail info-eu@sial.com

#### Asia Pacific

SAFC Biosciences Pty. Ltd.  
18-20 Export Drive  
Brooklyn, Victoria 3025  
AUSTRALIA  
Phone +61 (0)3-9362-4500  
Toll free-AUS 1 800-200-404  
Fax +61 (0)3-9315-1656  
E-mail info-ap@sial.com

## Characteristics

### Appearance

Clear red solution

### Endotoxin (LAL)

≤ 1.0 EU/mL

### Osmolality (as supplied)

270 - 310 mOsm/kg H<sub>2</sub>O

### pH (as supplied)

7.0 - 7.4

### Sterility

No microbial growth detected

## References

1. Eagle, H., *Science* (1959) 130:432.
2. Eagle, H., Peil, K. A., Fleischman, R. *JBC* (1957) 228:847.
3. Hanks, J. H., Wallace, R. E., *PSEBM* (1949) 71:196.
4. Lockhart, R. Z., Eagle, H., *Science* (1959) 192:252.
5. Stanners, C. P., Eliceiri, G. L., Green, H., *Nature* (1971) 230:52.
6. Stanners, C. P., Becker, H., *J Physiol* (1971) 77:31.

#### Warranty, Limitation of Remedies

SAFC Biosciences warrants to the purchaser for a period of one year from date of delivery that this product conforms to its specifications. Other terms and conditions of this warranty are contained in SAFC Biosciences' written warranty, a copy of which is available upon request. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. In no case will SAFC Biosciences be liable for any special, incidental, or consequential damages arising out of this product or the use of this product by the customer or any third party based upon breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. SAFC Biosciences expressly disclaims any warranty against claims by any third party by way of infringement or the like. THIS PRODUCT IS INTENDED FOR PURPOSES DESCRIBED ONLY AND IS NOT INTENDED FOR ANY HUMAN OR THERAPEUTIC USE.

Additional Terms and Conditions are contained in the product Catalog, a copy of which is available upon request.

© 2006 SAFC Biosciences, Inc.

Issued December 2006 P51411  
1203 0905 1005 0406 0906

#### United States

SAFC Biosciences, Inc.  
13804 W. 107th Street  
Lenexa, Kansas 66215  
USA  
Phone +1 913-469-5580  
Toll free-USA 1 800-255-6032  
Fax +1 913-469-5584  
E-mail info-na@sial.com

#### Europe

SAFC Biosciences Ltd.  
Smeaton Road, West Portway  
Andover, Hampshire SP10 3LF  
UNITED KINGDOM  
Phone +44 (0)1264-333311  
Fax +44 (0)1264-332412  
E-mail info-eu@sial.com

#### Asia Pacific

SAFC Biosciences Pty. Ltd.  
18-20 Export Drive  
Brooklyn, Victoria 3025  
AUSTRALIA  
Phone +61 (0)3-9362-4500  
Toll free-AUS 1 800-200-404  
Fax +61 (0)3-9315-1656  
E-mail info-ap@sial.com

[www.safcbiosciences.com](http://www.safcbiosciences.com)