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Product Information

MegaCell™

Product Codes **M 3942, M 4192, M 4067, M 4317, M 3817**

Product Description

MegaCell™ is a line of versatile media, formulated to significantly reduce the amount of serum required for cultivating mammalian cells *in vitro*. Each is a multi-purpose medium that has proven useful in reducing serum requirements for a wide variety of cell lines and applications. Each has been shown effective as a basal formulation for the growth and maintenance of adherent or suspension cell lines.

When supplemented with 3% fetal bovine serum (FBS), MegaCell supports proliferative rates and maximal cell densities comparable, and in some cases superior, to the conventional basal formulation supplemented with 10% fetal bovine serum. Relatively non-fastidious cell lines may be maintained in long-term culture with even greater serum reduction. The versatility of these media in the propagation of various cell types makes them the optimal choice for many cell culture applications.

Precautions and Disclaimer

For R&D use only. Not for drug, household or other uses. MSDS is available upon request or at www.sigma-aldrich.com.

Components

Each MegaCell medium is based on a standard published basal formulation further supplemented with buffers and sodium pyruvate. Sodium selenite, rh-Insulin, human transferrin, and fatty acids have been added to allow for serum reduction. These media do not contain glutamine.

MegaCell DME (Product Code M3942) contains 4,500 mg/L D-glucose, sodium pyruvate and other supplements. MegaCell DME: F-12 (Product Code M 4192), MegaCell MEM (Product Code M4067), MegaCell MEM:F-12 (Product Code M4317), MegaCell RPMI (Product Code M3817) all contain sodium pyruvate and other supplements.

Preparation Instructions

These media are supplied as a sterile 1X liquids and do not contain glutamine. Prior to use, they should be supplemented with 4 mM glutamine (20.0 ml/L of 200 mM liquid; Product Code G7513 or 0.584g/L of powder; Product Code G 6392).

Storage/Stability

For optimal performance, all cell culture media should be stored at 2 – 8 °C in the dark prior to use. Product label bears expiration date.

Procedure

Adaptation to MegaCell

Converting to MegaCell is easy. For most applications, no weaning procedures are necessary to attain at least a 50% reduction in serum supplementation. The conversion can be made by transferring cells into reduced serum-supplemented medium following normal subculture procedures. The optimal serum supplementation for each specific application should be determined based on the expected performance characteristics (e.g., growth promotion, secondary metabolite production, etc.). Extended use in the maintenance of cell lines has shown no loss of viability or growth rate.

Most cells routinely cultured in serum-supplemented medium may be directly transferred into the MegaCell formulations with a minimum of 50% reduction in serum. Our research has established that supplementation with FBS may be reduced when using MegaCell, to 3% for a number of cell lines, including HFN, MDBK, MRC-5, SP2/0 and WI-38, while maintaining growth rates comparable to basal media at higher serum supplementation levels. MegaCell media supplemented with calf serum and adult bovine serum have also demonstrated impressive results. Application data are available upon request.

Product Profile

Appearance	Clear solution
pH at RT	7.3 ± 0.3
Osmolality [mOsm/kg H_2O]	280-310 (Product Code M3942) 320-350 (Product Code M4192) 305-335 (Product Code M4067) 320-350 (Product Code M4317) 280-320 (Product Code M3817)
Sterility	Negative by USP
Endotoxin	≤ 2.0 EU/ml
Amino Acid Analysis by HPLC	Consistent with formula
Key Element Analysis by ICAP	Consistent with formula

BIOLOGICAL PERFORMANCE CHARACTERISTICS

Biological performance is assessed using an appropriate cell line(s).

Sigma-Aldrich uses the MegaCell trademark pursuant to an agreement with Cortex Biochem, Inc.

Revision date: April 2005