

<b>MAM-PF<sup>®</sup> 2</b> <b>Mammalian Artificial Medium – Protein and Animal Component free</b>	
<b>MAM-PF<sup>®</sup> 2 w/o L-Gln, with Phenolred</b> <b>Cat. No: 10-02F25</b>	<b>MAM-PF<sup>®</sup> 2 w/o L-Gln, w/o Phenolred</b> <b>Cat. No: 10-02F24-I</b>

**Without L-glutamine.**

**NOTE: Add L-glutamine before use (see instructions below)**

**Storage: 2 to 8°C, in the dark**

#### **Intended Use**

Protein-free, defined medium for the high cell density cultivation of a variety of cell lines as CHO (Chinese Hamster Ovary) cells or BHK (Baby Hamster Kidney) cells and the high level expression of recombinant proteins. All components are sourced from **non-animal origins** to meet the quality demands of manufacturing end-users. MAM-PF<sup>®</sup>2 is produced under cGMP to meet biopharmaceutical and industrial manufacturing requirements.

#### **Features**

Chemically defined media. Formulated without L-glutamine to avoid problems associated with L-glutamine degradation, including ammonia accumulation.

Available with a minimal amount of Phenol red (10-02F25) to facilitate downstream processing steps, or without Phenolred (10-02F24)

#### **Introduction**

CHO and BHK cells are the most widely used mammalian cells for the expression of a variety of recombinant proteins. Serum-free culture represents an advance over serum supplemented culture as the greater definition facilitates purification and downstream processing of expressed products. Most of the commercially available serum-free media contain various undefined proteins and/or protein hydrolysates. A completely defined formulation is therefore a major advantage over both serum supplemented and serum-free systems. The absence of animal derived components is desirable from a regulatory standpoint and also eliminates concerns about consistency and availability. MAM-PF<sup>®</sup>2 media are chemically defined and are optimised for the growth of Chinese hamster ovary (CHO) or BHK cells and expression of recombinant proteins in suspension culture. L-glutamine (0.6-2 mM) has to be added by the end user prior to use. Growth characteristics and expression kinetics for expression of a glycosylated protein and SEAP (Secreted alkaline Phosphatase) using various protein free media is shown in Fig 1. and Fig 2.

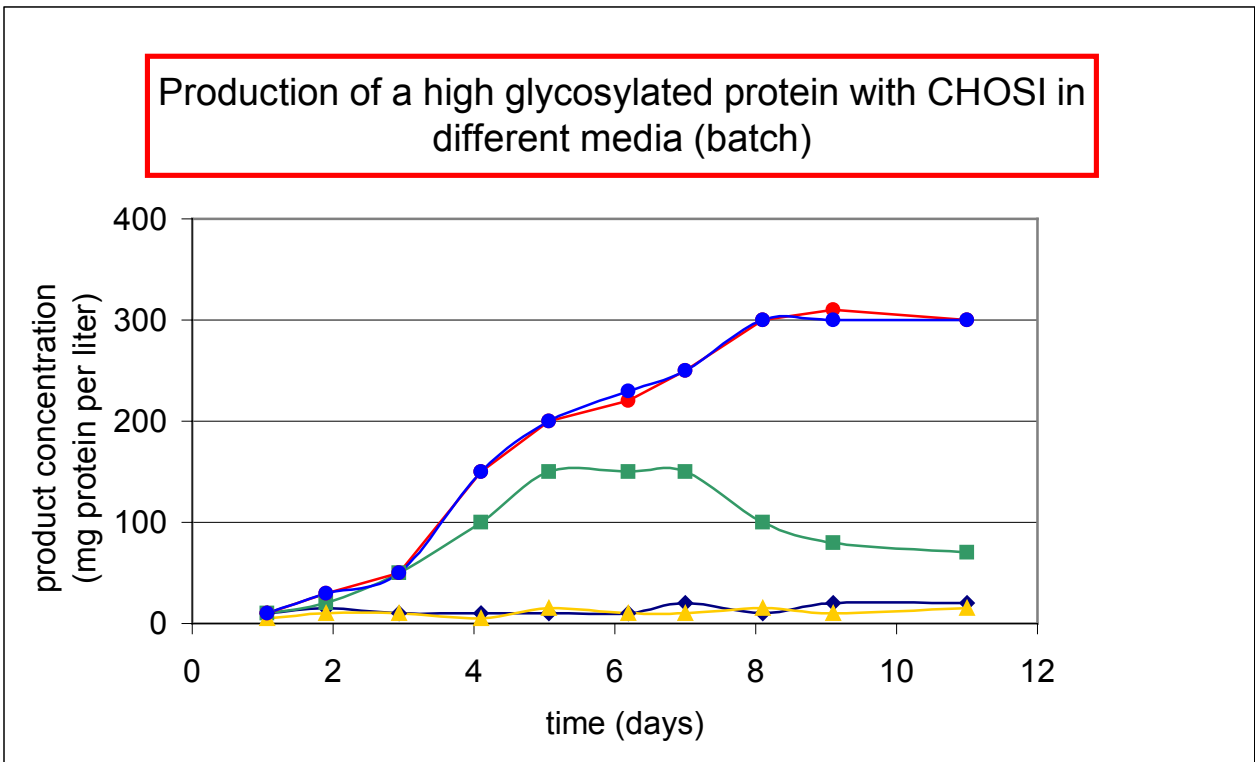
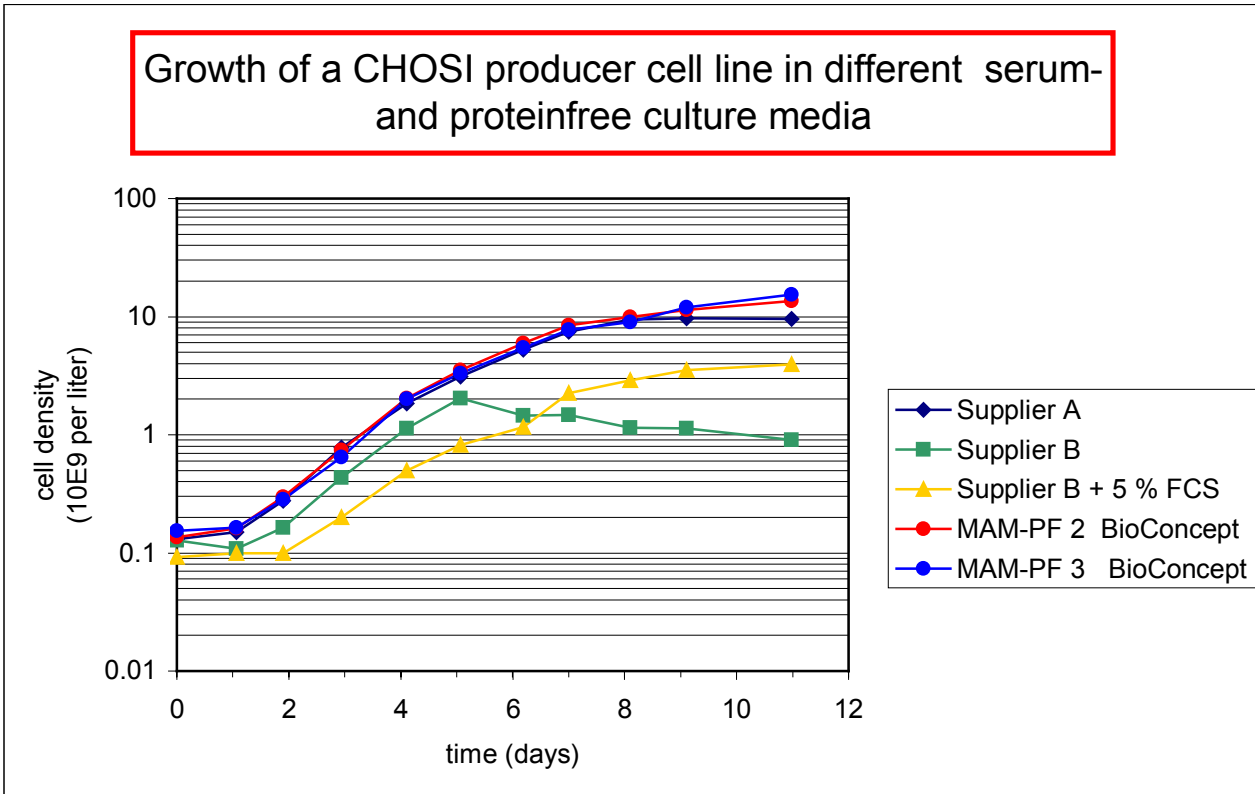
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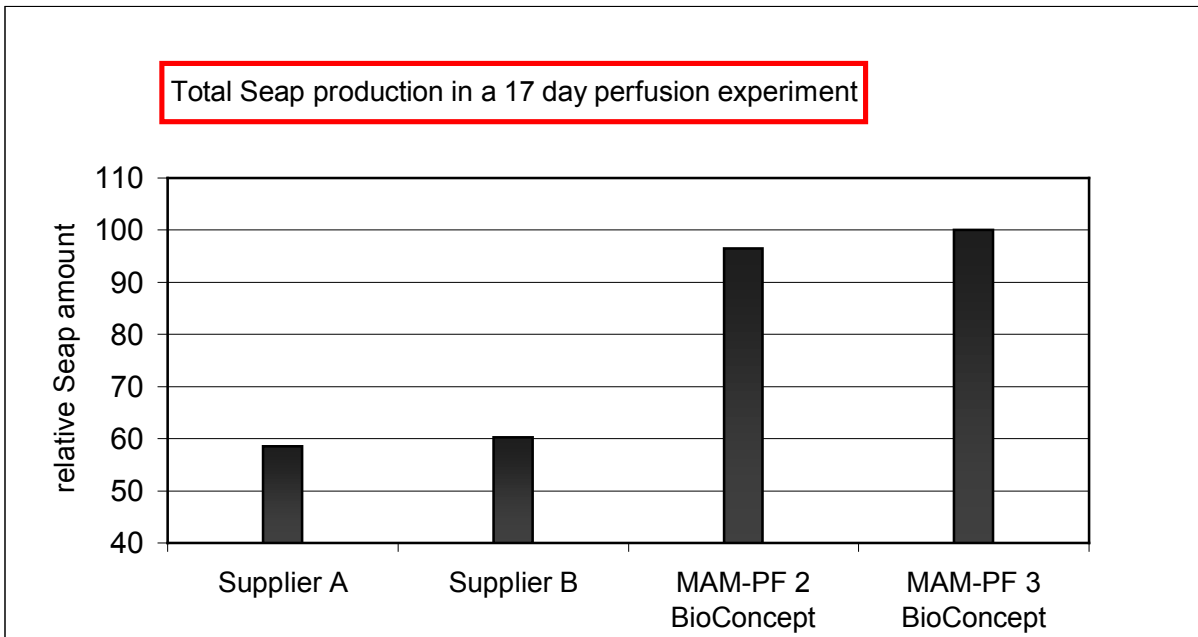
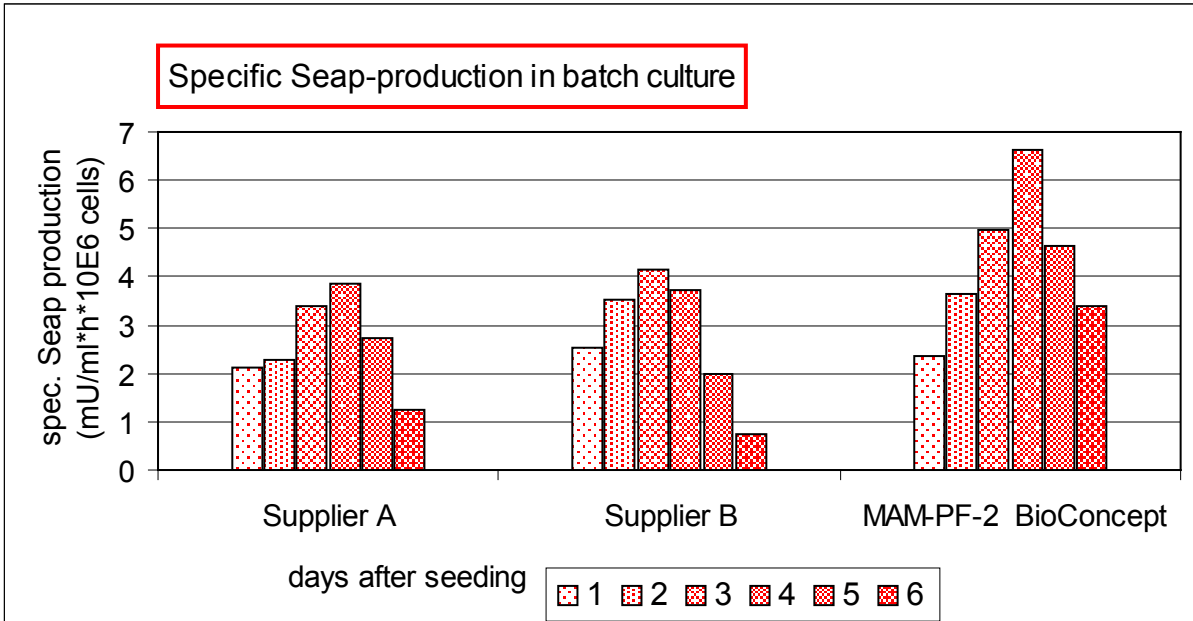
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**Fig.1 Growth and production of CHOSI producer cell line**



**Fig 2. Production of SEAP (Secreted alkaline Phosphatase) in CHO cell line**



## Instructions for Use

### Glutamin

MAM-PF<sup>®</sup> 2 media require supplementation with L-glutamine (0.6 – 2 mM = 3 –10 ml/l of 200 mM solution) and (if needed in your system) 0.1% Pluronic prior to use.

### Physical Conditions

Standard physical conditions for CHO or BHK cells grown in MAM-PF<sup>®</sup> 2 media are 37°C in a humidified atmosphere of 5-10% CO<sub>2</sub> in air. Cultures can be kept in T- flasks, spinner flasks (rpm will vary with impeller design) and a wide range of bioreactors (perfusion and batch systems). MAM-PF<sup>®</sup> 2 is a rich medium for routine maintenance of cell lines and protein production in batch systems. Avoid overexposure of medium to light.

For best result use a cell line preadapted to serum and protein free growth, e.g. the Chinese hamster ovary cell line CHOSI or SF-BHK from EugeneX Biotechnologies GmbH (info@eugenex.com).

### Adaptation of cell lines to MAM-PF<sup>®</sup> 2 media

The adaptation medium MAM-PF<sup>®</sup> 1 was developed to support cultivation of cells at low densities occurring at the adaptation phase to serum and protein free growth. Adaptation of producer cell lines is not recommended because any change of the medium can cause chromosomal rearrangements that can alter the behaviour and productivity of the population.

In collaboration with BioConcept EugeneX Biotechnologies GmbH offers an adaptation service for cell lines to serum and protein free media.

### Transfection, Cloning and Selection

Beside cultivation and production also establishment of producer cell lines can be performed in the chemical defined MAM-PF<sup>®</sup> media. Absence of serum enables a wide range of efficient selection and amplification systems.

In collaboration with BioConcept EugeneX Biotechnologies GmbH offers a cell line development service for generation of high producer clones under completely defined conditions. Please inquire for detailed information.