

# Technical Data Sheet

## Production Name: MSEP-EX

### Brief Introduction

MSEP-EX is an animal-derived component-free (ADCF) cell supplement that designed for reducing the usage of fetal bovine serum (FBS) and human platelet lysate (hPL). By adding to culture medium, it can substitute up to 80% serum usage without cell adaption. It's suitable to grow different types of mammalian cell under low serum environment over multiple passages, including myoblasts, fibroblasts epithelial cell and mesenchymal stem cell. Second, MSEP-EX can serve as booster in chemical defined medium to promote the protein production in cell culture. Furthermore, MSEP-EX also enhance virus production in different cell culture system. MSEP-EX, extracted from edible plants, is ethical-friendly and has lower risk of infectious pathogen contamination from animal source. MSEP-EX is a cost-saving, high performance, versatility across cell types and adaption-free cell supplement for biologic production.

### Application

Biologics Production  
Virus Production  
Cell Culture Medium Supplement  
Animal Serum Reduction

### Instruction to Use

Reconstituting MSEP-EX with basal media intended to use. Incubate at 37 °C for 30 minutes to dissolve MSEP-EX completely. Gently pipetting to homogenize MSEP-EX solution before use. It's normal if precipitation appeared in MSEP-EX solution after long term storage.

### Description

Source	Plant-based extracts
Form	Lyophilized powder
Color	Light yellow to pale white
Solubility	About 6 mg/mL in sterile water
(Turbidity)	Slight cloudy in water solution

**Preparation and Storage**

Reconstitution	Reconstitute in sterile basal media intended to use with indicated volume. (Recommend Final Conc. : 4 mg/mL)
Working Conc.	4 to 40 ug/mL of MSEP-EX as supplement in culture medium is recommended
Shipping	Shipped at ambient temperature.
Stability and Storage	2 years, below 35 °C as lyophilized powder 2 weeks, 2 to 8 °C under sterile conditions after reconstitution

**Functional Profile**

**Promote Cell Proliferation**

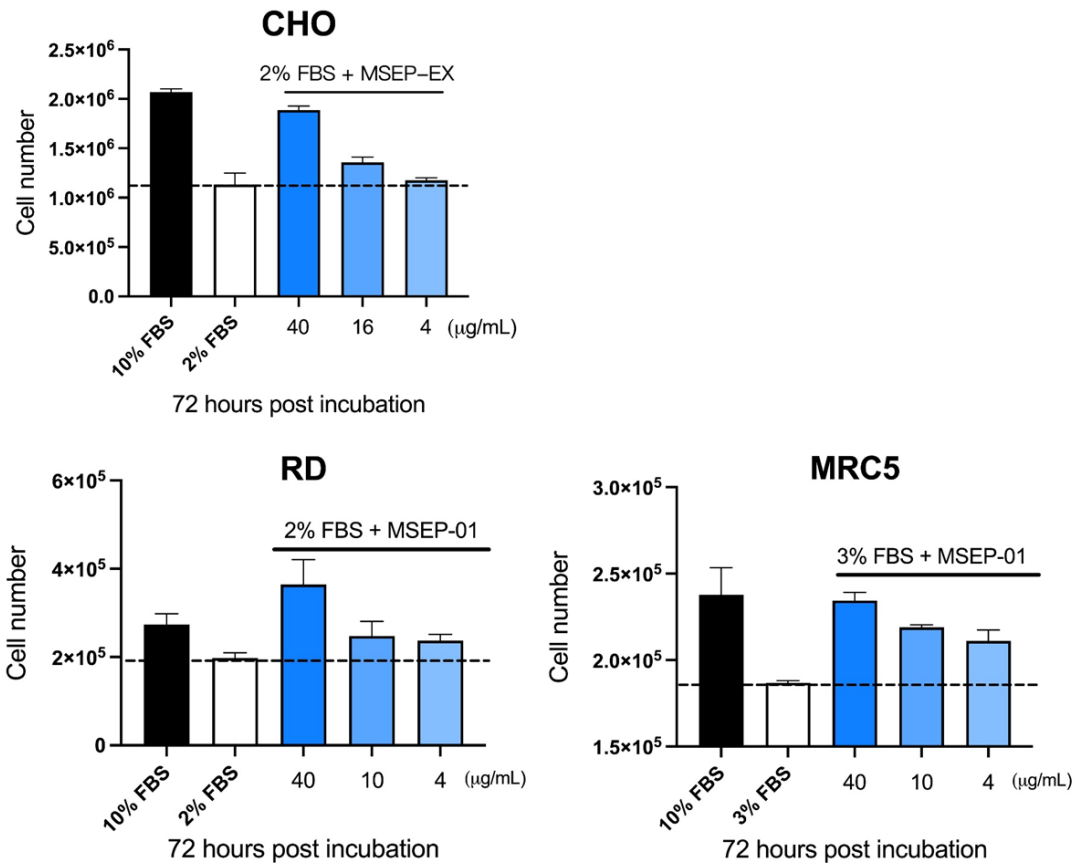


Figure 1. Comparable cell growth profiles between 10% FBS and 2-3% FBS + MSEP-EX supplement in DMEM are measured after 72 hours incubation in different cell culture.

## Boost Protein Production

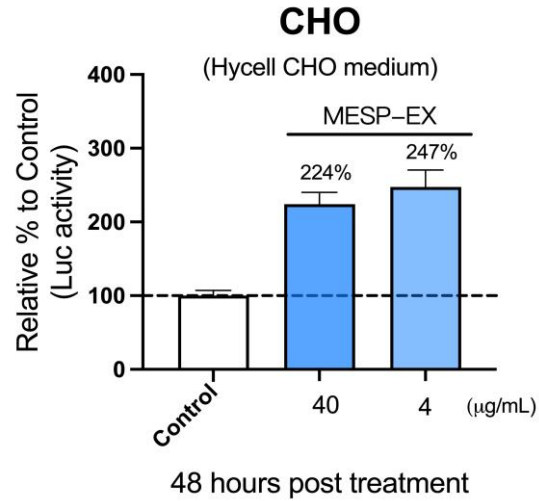


Figure 2. Higher yield of protein production in chemical defined medium with MESP-EX supplement are measured in CHO cell culture.

## Enhance Virus Production

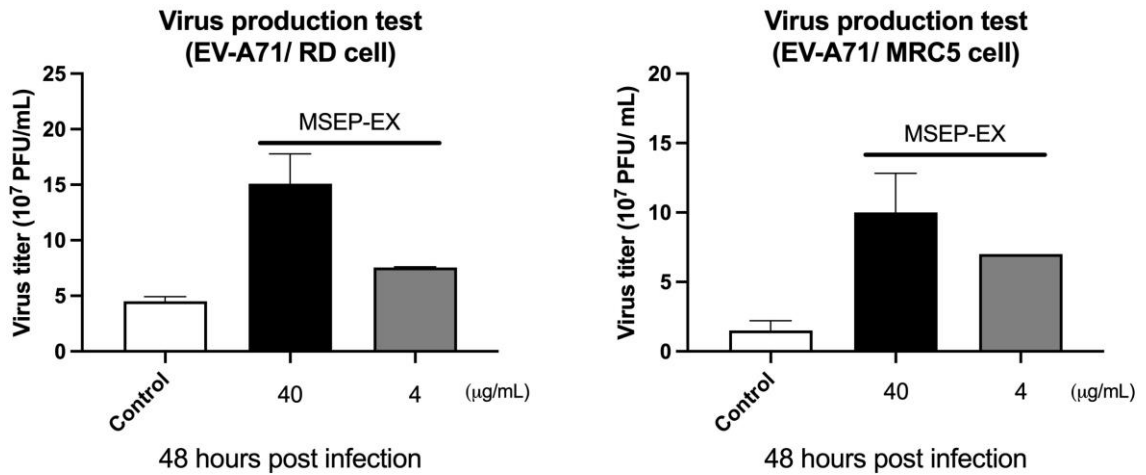


Figure 3. Higher yield of virus production with MSEP-EX supplement are measured in different cell culture.

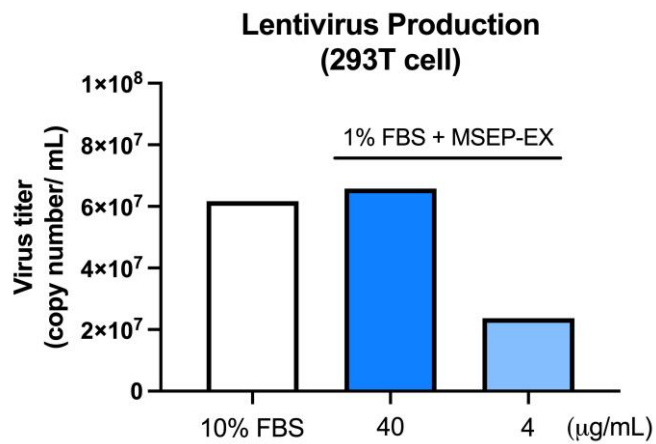


Figure 4. Comparable lentivirus production between 10% FBS and 1% FBS + MSEP-EX supplement in DMEM after 48 hours incubation in HEK293T cell system.

## Stem cell culture

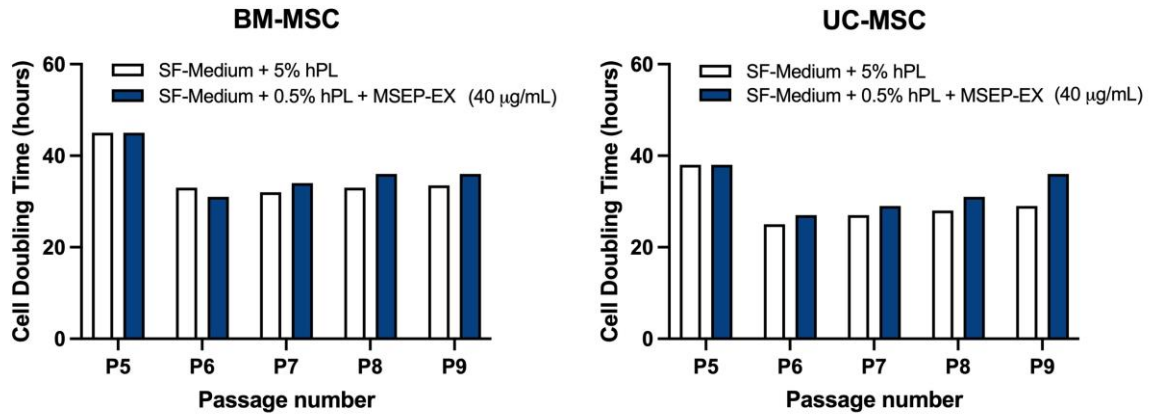


Figure 5. Comparable cell double time in 1% MSEP-EX supplement group in both BM-MSC and UC-MSC cell culture.