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Technical Data Sheet

Production Name: MSEP-01

Brief Introduction

MSEP-01 is an animal-derived component-free (ADCF) cell supplement that designed for reducing the usage of fetal bovine serum (FBS). By adding to culture medium, it can substitute up to 80% FBS usage without cell adaption. It's suitable to grow different types of mammalian cell under low FBS environment over multiple passages, including myoblasts, fibroblasts, and epithelial cell. MSEP-01, extracted from edible plants, is ethical-friendly and has lower risk of infectious pathogen contamination. Currently, serum-free formulations typically have low performance across cell types and its expense is too high for scale in cultivated meat. Furthermore, MSEP-01 has synergetic effect with ITS supplement to enhance the cell proliferation, though ITS supplement is widely used to reduce the FBS consumption. MSEP-01 is a cost-saving, high performance, versatility across cell types and adaption-free cell supplement.

Application

Cell Culture Medium Supplement
Fetal Bovine Serum Reduction
Complete Medium Formulation

Instruction to Use

Reconstituting MSEP-01 with basal media intended to use. Incubate at 37 °C for 30 minutes to dissolve MSEP-01 completely. Gently pipetting to homogenize MSEP-01 solution before use. It's normal if precipitation appeared in MSEP-01 solution after long term storage.

Description

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

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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-01 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

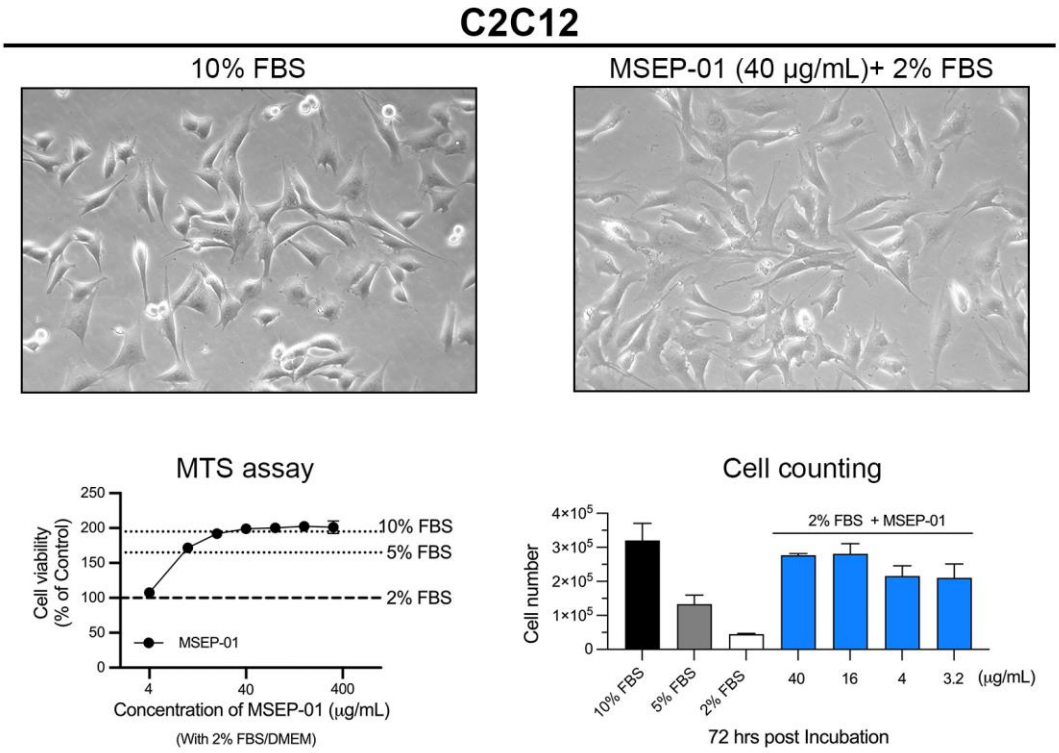

Figure 1. Comparable cell growth profiles between 10% FBS and 2% FBS + MSEP-01 supplement in DMEM after 72 hours incubation in C2C12 cell (myoblast cell line).

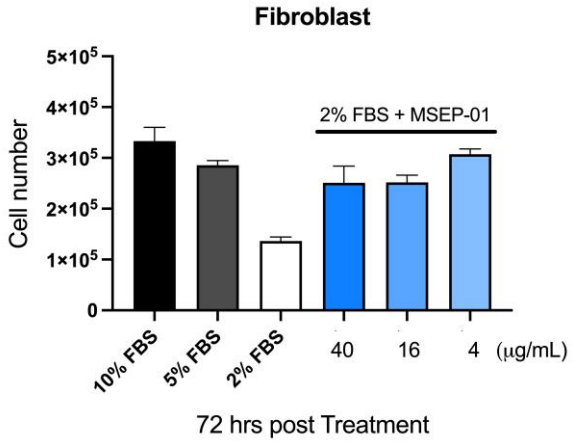

Figure 2. Comparable cell growth profiles between 5% FBS and 2% FBS + MSEP-01 supplement in DMEM after 72 hours incubation in fibroblast culture.

Synergetic Effect with other Cell Supplement

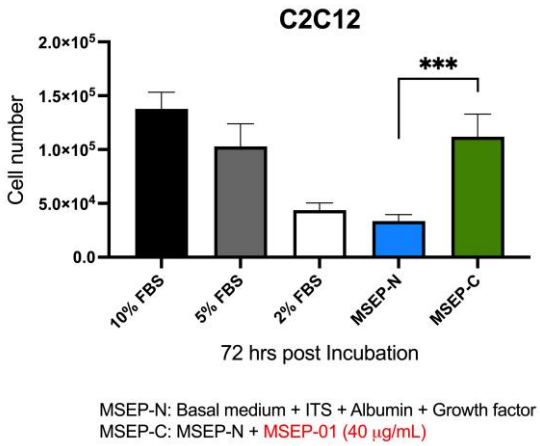

Figure 3. MSEP has synergetic effect with ITS supplement and other growth factors to boost the cell proliferation.