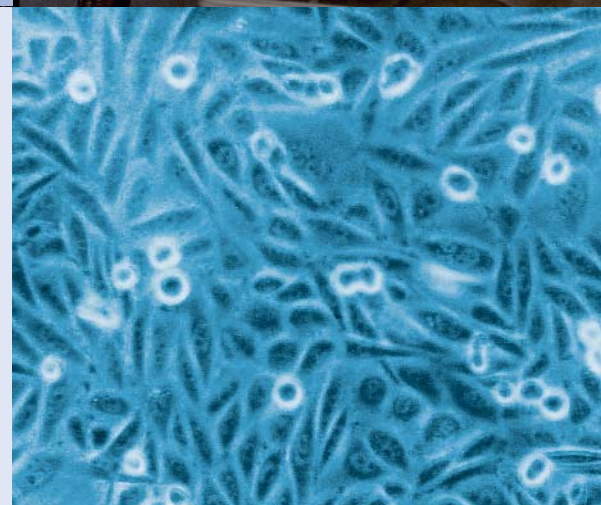


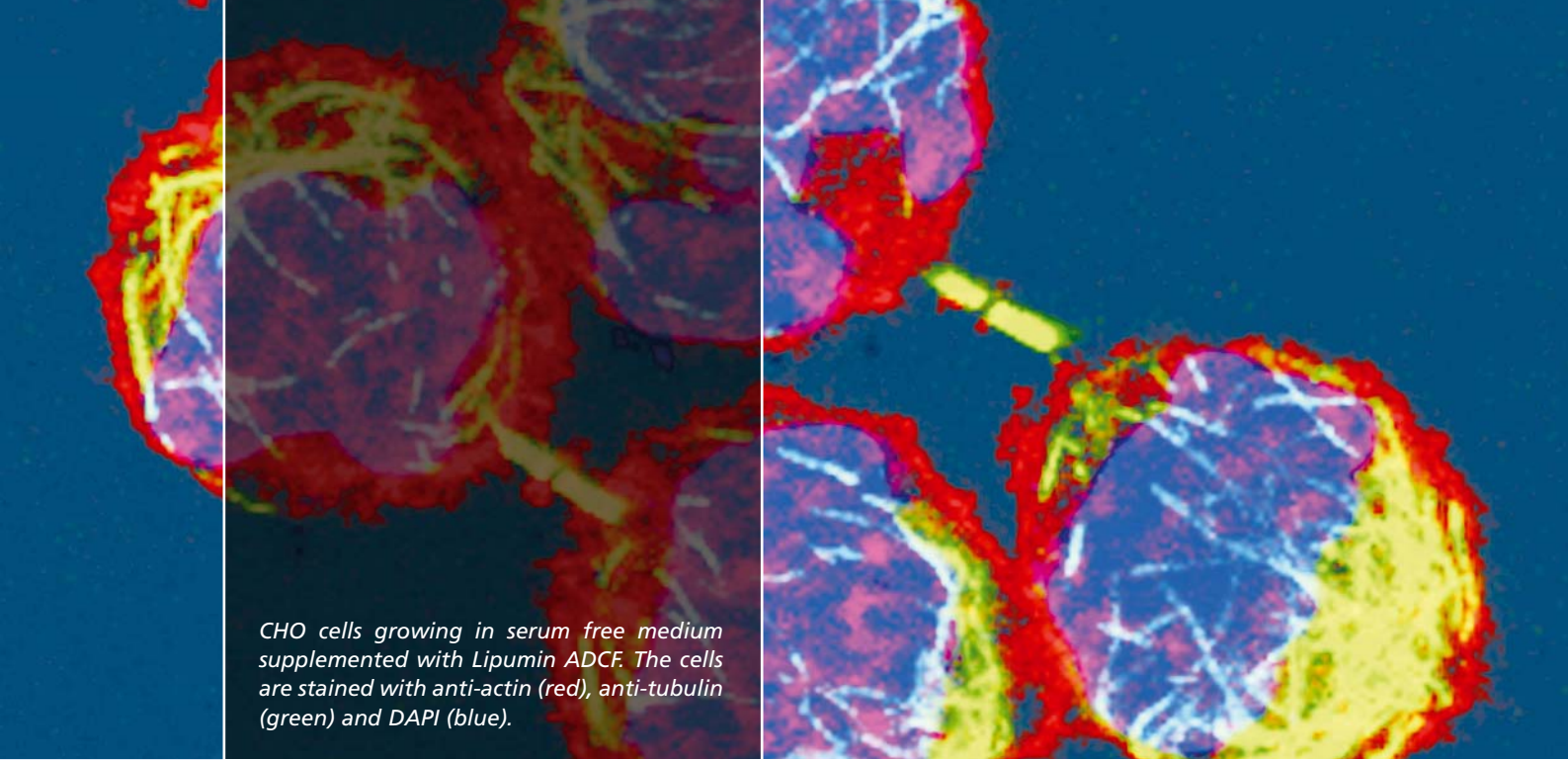


# Lipumin ADCF

THE ULTIMATE GROWTH ADDITIVE  
FOR IMPROVED PRODUCTION YIELDS



**PAA**  
THE CELL CULTURE COMPANY



CHO cells growing in serum free medium supplemented with Lipumin ADCF. The cells are stained with anti-actin (red), anti-tubulin (green) and DAPI (blue).

# Lipumin ADCF – For Highest Expression Rates

## Lipumin ADCF – an Animal Derived Component Free Growth Supplement

Lipumin ADCF is an animal derived component free growth supplement optimized for several cell types, e.g. CHO, MDCK, Vero and Hybridoma. The unique and chemically defined composition supports the production and activity of recombinant proteins, monoclonal antibodies and viruses for vaccine production in bioreactors. Due to the low protein content of Lipumin ADCF downstream purification is simplified. Extensive studies have been performed comparing cell proliferation in serum free and serum containing cell systems with and without Lipumin.

## Lipumin ADCF in serum free cell culture

In the biopharmaceutical industry the **CHO cell** is used extensively for recombinant protein and antibody production under serum free conditions. To show the effect of Lipumin in cell proliferation CHO suspension cells have been cultivated in serum free CHO media with and without addition of Lipumin ADCF (Fig. 1).

A further study compares **Hybridoma cells** cultivated in serum free media with and without the supplementation of 10% Lipumin ADCF (Fig. 2). Comparison of the growth rates shows a significant increase of hybridoma cell proliferation after addition of Lipumin ADCF to the serum free medium.

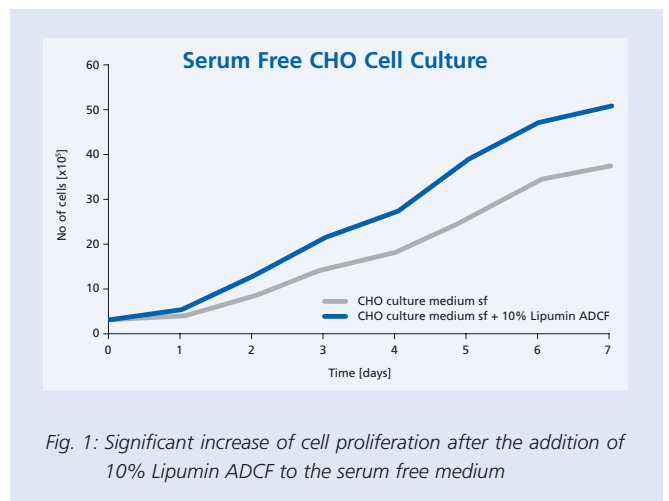


Fig. 1: Significant increase of cell proliferation after the addition of 10% Lipumin ADCF to the serum free medium

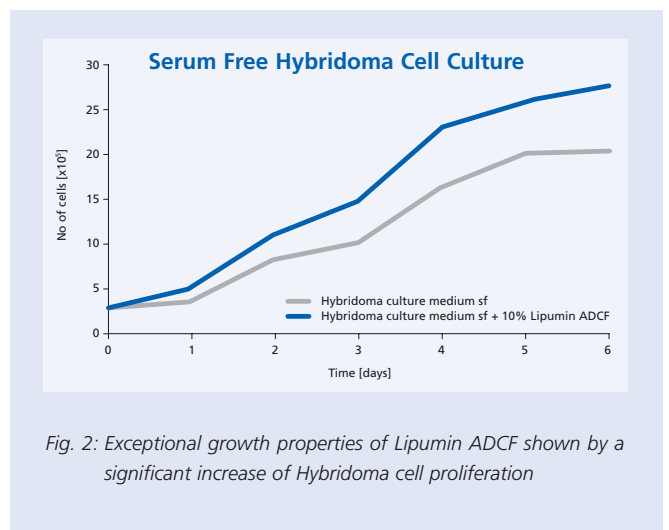


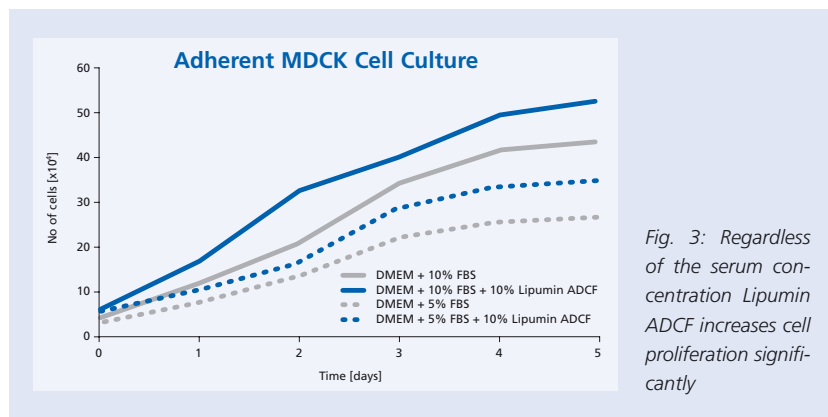
Fig. 2: Exceptional growth properties of Lipumin ADCF shown by a significant increase of Hybridoma cell proliferation



### Lipumin ADCF as enhancer in serum containing media

Current manufacturing processes of veterinary vaccines often rely on the use of serum supplemented medium. Lipumin ADCF is designed to improve cell proliferation and high titer virus production when added to the culture system. To show the outstanding increase of the production yield, studies with Madin Darby Canine Kidney (**MDCK**) cells have been performed.

MDCK cells were grown in serum containing media (5% or 10% FBS) in 75cm<sup>2</sup> tissue flasks. 5 flasks for each medium composition were counted on day 0 – 5. It has been found that the addition of Lipumin ADCF resulted in a significant increase in cell proliferation (Fig. 3).



### Lipumin ADCF – the universal growth enhancement supplement

Lipumin shows its exceptional growth promoting properties in different cell types. Cell proliferation and production yield are significantly increased independent of the culture medium and the use of serum. No time consuming adaptation to your cell system is necessary.

### Safety Aspects

Due to existing guidelines in biopharmaceutical industry it is highly recommended to use animal derived component free cell systems for production of recombinant proteins for further human applications. The ingredients used as nutrient mixture for cells during production should be traceable, defined and comply with all safety requirements released by regulatory authorities. Due to its chemically defined composition Lipumin ADCF meets all demands of the biopharmaceutical industry.

### Application

- > Small and large scale fermentation
- > Recombinant protein production
- > Vaccine production

### Features

- > Increased production yield
- > Applicable for all cell culture media
- > No adaptation necessary
- > Chemically defined
- > ADCF – animal derived component free
- > Tested on CHO, MDCK, Vero and Hybridoma cells
- > No safety issues

### Order Information

<b>Lipumin ADCF</b>	<b>F11-014</b>	<b>100 ml</b>
	<b>F15-014</b>	<b>500 ml</b>

For more information  
[www.paa.com/lipumin\\_adcf.html](http://www.paa.com/lipumin_adcf.html)



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