

# PRODUCTION BOOST ADDITIVE

## INSTRUCTIONS FOR USE

### Product Description

Expression Systems' Production Boost Additive (PBA) is a nutrient supplement designed to increase protein expression by supporting the increased needs of insect cells infected by recombinant baculovirus. PBA is a serum-free, animal-free formulation that complements ESF 921 and ESF AF insect cell culture media and extends the late and very-late expression period of production by maintaining high culture viability. For Research Use or Further Manufacturing. Not for diagnostic use or direct administration into humans or animals.

Product	Catalog Number	Volume	Storage	Recommended Use By Date
Production Boost Additive	95-006-100	100 milliliter	2°C to 8°C, protected from light	12 months from Date of Manufacture
	95-006-01	1 Liter		
	Custom	Inquire for Custom Fill Volumes		

### Important Information

PBA is a nutrient boost that is designed to increase protein expression by extending the duration of the expression time period. PBA inhibits virus uptake and spread therefore it is important to add PBA AFTER the establishment of the baculovirus infection. Harvest of the culture should be delayed when using PBA as increased protein expression is seen with the extended productive period of the culture.

### Culture Conditions

**Media:** ESF 921 or ESF AF

**Cell Line(s):** Sf9, Sf21, Tni, S2

**Culture Type:** Suspension or adherent

**Recommended Culture Vessels:** Shake flasks or spinner bottle

**Temperature Range:** 27°C to 28°C

**Incubator Atmosphere:** Non-humidified, non-CO<sub>2</sub> atmosphere. Ensure proper gas exchange and minimize exposure of cultures to light.

### General Guidelines

	Seed Density	Infection	PBA Addition	Time of Harvest
Sf9 Cells Low MOI	1-4 x10 <sup>6</sup> /mL	18-24 hours after seed	1-10% 24-36 hours post infection	72-96 hours post infection
Sf9 Cells High MOI	1-4 x10 <sup>6</sup> /mL	18-24 hours after seed	1-10% 6-12 hours post infection	48-72 hours post infection
Tni Cells Low MOI	1-2 x10 <sup>6</sup> /mL	18-24 hours after seed	1-10% 24-36 hours post infection	72-96 hours post infection
Tni Cells High MOI	1-2 x10 <sup>6</sup> /mL	18-24 hours after seed	1-10% 6-12 hours post infection	48-72 hours post infection

It is recommended to perform a PBA titration to determine the optimal amount to add after establishment of infection. A time course should be performed in order to determine the optimal time of harvest. In general, PBA extends the productive life of the culture about 24 hours.

### Safety Information

Read the Safety Data Sheets (SDS) and follow the handling instructions. Wear appropriate protective eyewear, clothing and gloves.

### High MOI Expression

- Determine viable cell count.
- Seed culture vessel as recommended for your cell line. Culture overnight.
- Infect culture using an MOI of 3.
- Add PBA 6-12 hours post infection. It is suggested to infect early in the day in order to add PBA at 6-12 hours post infection.
- A titration may be performed to determine optimal amount of PBA to add. 5% volume to volume is generally used.
- Observe cell viability over the course of infection. Viability will be maintained approximately 24 hours longer than in cultures without PBA.
- Harvest culture as indicated by the extended viability. Increased production will be seen as a consequence of additional time for culture to produce your protein of interest.

### Low MOI Expression

- Determine viable cell count.
- Seed culture vessel as recommended for your cell line. Culture overnight.
- Infect culture using an MOI of 0.1.
- Add PBA 24-36 hours post infection. It is important to wait until the second round of infection is established before adding PBA.
- A titration may be performed to determine optimal amount of PBA to add. 5% volume to volume is generally used.
- Observe cell viability over the course of infection. Viability will be maintained approximately 24 hours longer than in cultures without PBA.
- Harvest culture as indicated by the extended viability. Increased production will be seen as a consequence of additional time for culture to produce your protein of interest.







### **S2 Expression**

1. Determine viable cell count.
2. Seed culture vessel as recommended for your cell line. Culture overnight.
3. Induce or transfect culture.
4. Add PBA 6-12 hours post induction/transfection.
5. A titration may be performed to determine optimal amount of PBA to add. 5% volume to volume is generally used.
6. Sample for expression daily to determine optimal harvest timepoint.

### **Related Products**

Product	Catalog Number
ESF 921	96-001
ESF AF	99-300
Adapted Sf9 Cells	94-001 or 94-006
Adapted Sf21 Cells	94-003 or 94-010
Adapted Tni Cells	94-002 or 94-011
Adapted S2 Cells	94-005 or 94-012
BestBac™ Linearized DNA	91-001 or 91-002
Transfection Medium	95-020

### **Legend of Labeling Symbols**

Symbol	Interpretation
	Catalog Number
	Lot Number
	Manufacturer
	Temperature Limitation
	Date of Manufacture
	Instruction for Use

### **Important Licensing Information**

This product may be covered by one or more Limited Use Label Licenses. By use of this product, you accept the terms and conditions of all applicable Limited Use Label Licenses.

### **Limited Product Warranty**

Expression Systems LLC warrants that this product meets its specifications, as stated in our product brochures and certificates. This warranty lasts from the time we deliver the consumable until either the consumable's shelf life, when the product has been handled and stored in accordance with this IFU.

For technical assistance or documentation, such as Certificates of Analysis or Safety Data Sheets, email [support@expressionsystems.com](mailto:support@expressionsystems.com)

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