Product Information

Insectra Sf
Protein-free Medium for Insect Cells, with L-Glutamine, with Pluronic™
sterile-filtered
Cat. No. SF9-500ML (500 ml)

General Information

Insectra Sf is a protein- and animal component–free medium developed to meet the specific requirements of insect cell expression systems. Developed with a focus on performance, reliability, and regulatory safety, it supports high-density suspension cultures of Sf9, Sf21, and High Five™ cells with exceptional consistency (High Five™ is a registered trademark of Southern Illinois University. No association, sponsorship or affiliation is implied herein.). The formulation supports efficient recombinant protein expression using baculovirus expression vector systems (BEVS) and was particularly developed for subunit and virus like particle (VLP) vaccine production. The ready-to-use medium is formulated with 10 mM L-Glutamine and Pluronic™ to enhance cell protection and performance in suspension systems (Pluronic™ is a registered trademark of BASF Corporation.).

Key benefits:

- Enables ultra-high viable cell densities while maintaining robust growth and viability
- Animal component–free and protein-free formulation supporting downstream processing and sensitive purification workflows
- Compatible with most common insect cell types such as Sf9, Sf21, and High Five™ cells
- Delivers highly efficient protein expression, especially in Baculovirus vector based systems

Product Specifications

Appearance	Clear, yellow solution
Specifications	• Serum-free • Animal component-free • Protein-free
Components	• 10 mM L-Glutamine • 11 g/L Glucose • 1 g/L Pluronic™
Storage and Shelf Life	+2°C to +8°C; protected from light. Please refer to the label for expiry date.
Shipping Conditions	Ambient

Instructions for Use

General Culture Conditions

Temperature	27.0 °C, humidified environment
CO_2	0.0%
Culture vessel	Shake flask
Shaking rate	110-130 rpm
Inoculation cell concentration	0.8 × 1.2^6 viable cells/ml

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Thawing & recovery of frozen cells

1. Transfer 10 ml prewarmed Insectra Sf into a sterile 15 ml reaction tube.
2. Quickly thaw the vial with cells in a +37 °C water bath and proceed immediately after thawing with the following steps.
3. Transfer the cells into the prewarmed Insectra Sf medium and mix gently.
4. Centrifuge at 190 × g for 5 min and discard supernatant.
5. Carefully resuspend cells in fresh Insectra Sf medium to 0.8–1.2 × 10^6 cells/ml in a 125 mL shake flask.
6. Incubate at +27 °C and 110–130 rpm on an orbital shaker.
7. Passage at least twice before experimental proceeding to ensure recovery and adaptation.

Adaptation from serum-containing cultures

Option 1: Without previous adaptation

1. Expand the culture in serum-containing standard medium.
2. Centrifuge a sufficient number of cells for inoculation of suspension culture with 0.8–1.2 × 10^6 cells/ml at 190 × g for 5 minutes.

Option 2: Stepwise adaptation from serum-containing cultures

1. Subculture cells into 6.25 ml of supplemented Insectra Sf medium mixed with 18.75 ml of the original medium (1:4 ratio). Subculture cells when confluency reaches 70 –90%.
2. Once consistent cell growth with high viability has been achieved, passage cells into fresh medium with an increased concentration of Insectra Sf. Perform adaptation using media composition indicated below.
3. Continue to monitor and passage cells until consistent growth with high viability is achieved. After several passages in 100% new medium, the culture is adapted.

Step	Ratio	Volume Insectra Sf (ml)	Volume Original Medium (ml)
1	1:4	6.25	18.75
2	1:2	12.5	12.5
3	3:4	18.75	6.25
4	9:10	22.5	2.5
5	1:1	25	0

Subculturing of cells

1. Ensure culture is in mid-log phase with viability > 90%.
2. Determine the required volume of culture and prewarmed Insectra Sf medium to reach a seeding density of 0.8–1.2 × 10^6 viable cells/ml.

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3. Inoculate the number of cells into a sterile shake flask with Insectra Sf and inoculate on an orbital shaker.
4. Passage cells every 48 hours using the same procedure.
5. For optimal performance, maintain continuous passage for ≥ 2 cycles before experimental use.

Crypreservation of cells

1. Prepare fresh cryopreservation medium by mixing 45% fresh Insectra Sf, 45% conditioned Insectra Sf (harvest from the culture), and 10% DMSO or use the FreezeMe Two Cryopreservation Medium (Cat. No. FM2-F).
2. Harvest cells in mid-log phase with viability > 90% by centrifuging at 190 × g for 5 min.
3. Resuspend pellet in cryopreservation medium to 2.5–3.5 × 10^7 viable cells/ml and aliquot in 1 ml units into cryovials.
4. Freeze using a controlled-rate freezing method (–1 °C/min recommended).
5. Transfer to liquid nitrogen for long-term storage.

Precautions and Disclaimer

This product is for research use and further manufacturing only.

Help Needed?

If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).