

# Custom Baculovirus Service



## 1. Baculovirus Expression Full Service

<b>Catalog No.:</b>	<b>BCS-10001</b>
<b>Timeline:</b>	3-4 weeks
<b>Required Materials:</b>	20 µg of recombinant baculovirus transfer plasmid containing gene of interest.
<b>Deliverables:</b>	<p>Phase 1: 3 cell pellets for evaluation of baculovirus to be used;</p> <p>Phase 2: 18 sets of cell pellets (including 6 negative controls) and media for evaluation of insect host and expression conditions;</p> <p>Phase 3: 500 ml of high-titer recombinant baculovirus stock solution ready to express the protein of interest.</p>

## Service Description

Project Stage	Description
Phase 1 <i>Generation, Identification, and Evaluation of Baculovirus Recombinants</i>	Cotransfection of recombinant baculovirus transfer vector containing gene of interest with 3 different linearized Baculovirus DNAs. Recombinant clones will be identified and amplified. The customer will receive 3 cell pellets derived from the amplification for evaluation. The customer will choose the best recombinant baculovirus for the protein expression.
Phase 2 <i>Expression Optimization</i>	Amplification of the selected recombinant baculovirus stock to a high-titer stock of more than $1 \times 10^8$ pfu per ml. The high-titer recombinant baculovirus stock will be used to infect three insect cell lines (Sf21, Sf9, and T.ni) with or without booster virus and cells are harvested at two different time points. The customer will choose the best insect host and infection conditions.
Phase 3 <i>Amplification of High-titer Recombinant Baculovirus Stock</i>	Amplification of the selected recombinant baculovirus and titer determination of the final high-titer stock by end-point dilution. The customer will receive 500 ml of high-titer recombinant baculovirus stock as final product.

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## 2. Baculovirus Expression Basic Service

**Catalog No.:** BCS-10002

Timeline: 2-3 weeks

Required Materials: 20 µg of recombinant baculovirus transfer plasmid containing gene of interest.

Deliverables: Phase 1: 3 cell pellets for evaluation of baculovirus to be used;  
Phase 2: 30 ml of high-titer recombinant baculovirus stock solution ready to express the protein of interest.

### Service Description

Project Stage	Description
Phase 1 <i>Generation, Identification, and Evaluation of Baculovirus Recombinants</i>	Cotransfection of recombinant baculovirus transfer vector containing gene of interest with 3 different linearized Baculovirus DNAs. Recombinant clones will be identified and amplified. The customer will receive 3 cell pellets derived from the amplification for evaluation. The customer will choose the best recombinant baculovirus for the protein expression
Phase 2 <i>Amplification of High-titer Recombinant Baculovirus Stock</i>	Amplification of the selected recombinant baculovirus and titer determination of the final high-titer stock by end-point dilution. The customer will receive 30 ml of high-titer recombinant baculovirus stock as final product.

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## 3. Subcloning into Baculovirus Transfer Vector

**Catalog No.:** BCS-10006

Timeline: 2-3 weeks

Required Material: 5 µg of plasmid containing gene of interest.  
Complete vector sequence or map.

Deliverables: 20 µg of ready-to-use recombinant baculovirus transfer plasmid containing the gene of interest

### Service Description

- Isolating the gene of interest from a supplied vector and subcloning it into a baculovirus transfer vector;
- Verification of recombinant baculovirus transfer vector by restriction mapping and sequencing of junctions;
- Preparation and purification of recombinant vector suitable for co- transfection with baculovirus DNA.

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## 4. Amplification of Recombinant Baculovirus Stock

<b>Catalog No.:</b>	<b>BCS-10003</b>
Timeline:	2 weeks
Required Materials:	At least 5 ml of recombinant baculovirus stock.
Deliverables:	Specified quantity (in ml) of high-titer recombinant baculovirus stock solution ready to express the protein of interest.

### Service Description

- Amplification of the chosen recombinant baculovirus;
- Titration of final high-titer stock by end point dilution

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## 5. Baculovirus Expression Optimization

<b>Catalog No.:</b>	<b>BCS-10004</b>
Timeline:	2 weeks
Required Materials:	At least 5-10 ml of recombinant baculovirus stock.
Deliverables:	18 sets of cell pellets and media for evaluation of protein yield.

### Service Description

- Amplification of the chosen recombinant baculovirus to a high-titer stock of more than  $1 \times 10^8$  pfu per ml;
- Infection of three insect cell lines (Sf21, Sf9, and T.ni) using the high-titer stock and with or without booster virus;
- Cells are harvested at two different time points.

**Table: Conditions for Expression Optimization**

<b>Cell Lines Used</b>	Sf9, T.ni, Sf21
<b>Booster Virus</b>	Presence and Absence
<b>MOI</b>	10
<b>Time Points</b>	72 hours and 96 hours

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## 6. Baculovirus Protein Production

<b>Catalog No.:</b>	<b>BCS-10005</b>
Timeline:	2 weeks (1 - 5 liters), 4 weeks (5 - 20 liters), 8 weeks (20 liters and above)
Required Materials:	At least 100 ml of high-titer ( $>10^8$ pfu) recombinant baculovirus stock for each liter of culture. Optimized protein expression conditions are determined by previous evaluation project.
Deliverables:	Cell pellets ready for protein purification or in the case of a secreted recombinant protein, the customer will receive the supernatant

### Service Description

- Amplification of recombinant baculovirus stock for protein production;
- Expression of recombinant protein under optimized conditions.

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**Contact our Custom Service Representative today to schedule your project:**

Phone: 1-866-672-4436 (US Toll-free) OR 1-858-457-5423 ext. 805

Fax: 1-858-362-2030

E-mail: [custom@orbigen.com](mailto:custom@orbigen.com)

**European customers please contact BioCarta Europe GmbH:**

Phone: +49-40- 525703-0

Fax: +49-40-525703-77

E-mail: [info.europe@biocarta.com](mailto:info.europe@biocarta.com)