

## Insect Cell Expression

Baculovirus mediated insect cell expression systems produce proteins that contain most of the post-translational modification found in mammalian proteins, often critical for protein stability and function. These systems are preferred in cases that require production of multiple batches of biologically functional protein within a few months.

### Licensed cell lines:

- Sf9 (*Spodoptera frugiperda*)
- Tni (*Trichoplusia ni*)

### Services:

- Recombinant baculovirus production
- Baculovirus titer determination
- Expression optimization: 50 mL and 100 mL
- Pilot scale protein production and yield determination: 1-2 L
- Scale-up protein production: up to 60 L culture volume

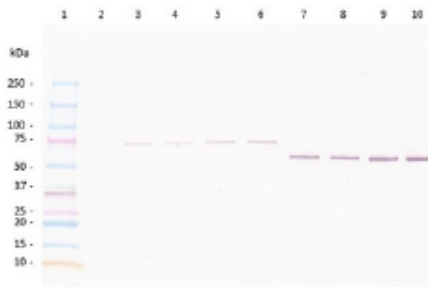
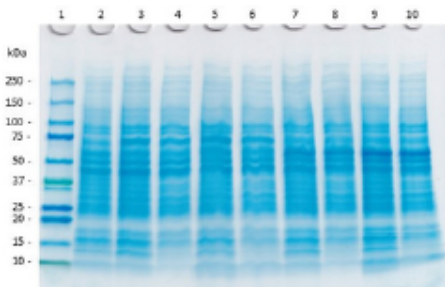
### Scalability:

Shake flask culture format from optimization to scale-up ensures reliable scalability and reproducibility.

### Expression Optimization:

Expression screening includes a multiplicity of infection (MOI) time course in Sf9 or Tni cells to achieve optimal levels of recombinant protein expression.

### Expression time course:



1. MW ladder + GST-tagged control (250 ng)
2. Sf9 negative control total cell lysate
3. GST-POI (589-1043) 47 hpi Sf9 total cell lysate
4. GST-POI (589-1043) 47 hpi Sf9 soluble cell lysate
5. GST-POI (589-1043) 68 hpi Sf9 total cell lysate
6. GST-POI (589-1043) 68 hpi Sf9 soluble cell lysate
7. GST-POI (698-1043) 47 hpi Sf9 total cell lysate
8. GST-POI (698-1043) 47 hpi Sf9 soluble cell lysate
9. GST-POI (698-1043) 68 hpi Sf9 total cell lysate
10. GST-POI (698-1043) 68 hpi Sf9 soluble cell lysate

### Getting Started

Construct generation  
(Bac-to-bac compatible)

### Baculovirus Generation

Bacmid isolation and verification, production of high-titer P2 baculovirus stock

### Baculovirus Titer Determination

Plate-based flow cytometry assay

### Expression Screening

50 mL shake flask culture, optimization of cell line, MOI, and time of harvest

### Pilot Scale

1 - 4 L shake flask culture

### Production Scale

Up to 60 L shake flask culture