

Insect Cell Expression

Baculovirus mediated insect cell expression systems produce proteins that contain most of the post-translational modification found in mammalian proteins that are 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. Proteos leverages their extensive experience and knowledge to optimize these systems for maximum protein yield and quality.

Licensed cell lines:

- Sf9 (*Spodoptera frugiperda*)
- T.ni (*Trichoplusia ni*)

Services:

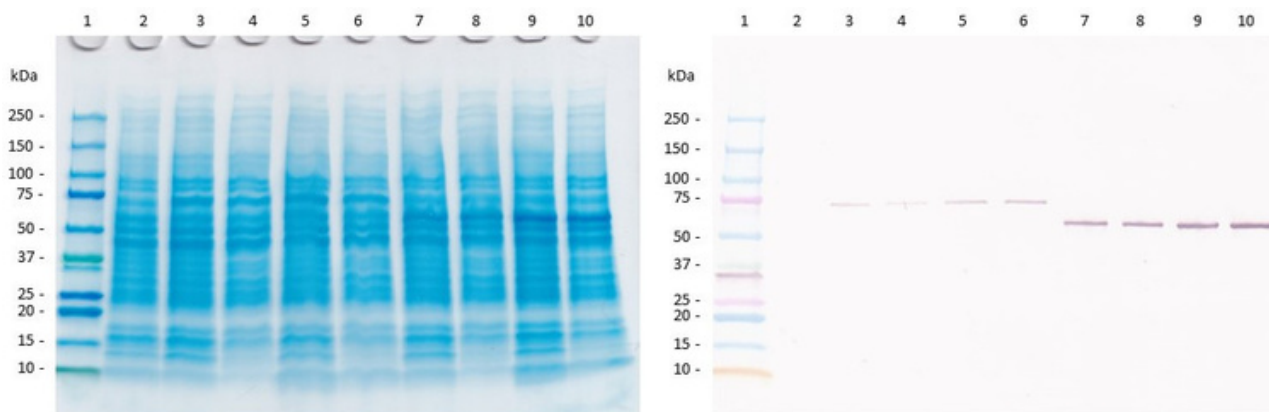
- Recombinant baculovirus production
- Baculovirus titer determination
- Expression optimization: 50 mL and 100 mL
- Pilot scale protein production and yield determination: 1-2 L
- Scale-up protein production: up to 60 L culture volume

Scalability:

Proteos employs shake flask culture format from optimization to scale-up resulting in reliable scalability and reproducibility.

Expression optimization:

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



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 design, preparation of insect cell transfer vector

BACULOVIRUS GENERATION

Bacmid isolation, Sf9 transfection to produce P1 baculovirus, amplification and production of high-titer P2 baculovirus stock

EXPRESSION OPTIMIZATION

50 - 100 mL shake flask culture, optimization of cell line, MOI, and time of harvest, ideal for testing multiple protein targets in parallel

PILOT SCALE

Sf9 or Tni cells, 1 - 4 L shake flask culture, ideal for process verification

PRODUCTION SCALE

Sf9 or Tni cells, 5 - 60 L shake flask culture