

BD Creator™ BacPAK9 Shuttle Vectors

Easy preparation of baculoviral shuttle constructs via Cre-*loxP* recombination

- BD Creator™ cloning is fast and efficient
- Vectors for native expression of proteins under optimal folding conditions
- Tagged expression vector provides easy purification with BD TALON™ Resins

Do you need to express your protein in a baculoviral system, use vectors that eliminate complicated subcloning procedures and let you proceed directly to expression in the shortest time possible? Our new **pLP-BacPAK9** and **pLP-BacPAK9-6xHN** Vectors do just that. These BacPAK9 Shuttle Vectors are BD Creator™ Acceptor Vectors that provide efficient subcloning and compatibility with Baculoviral expression systems like our BD BacPAK™ Baculovirus Expression System (#K1601-1) and BD Biosciences Pharmingen's Baculo-Gold™ Expression System.

BD Creator™ technology ensures high-efficiency cloning

These vectors act as BD Creator Acceptor Vectors because they contain the *loxP* sequence from the P1 bacteriophage (1), instead of a multiple cloning site. In BD Creator cloning, Cre Recombinase transfers a gene of interest from any BD Creator Donor Vector into any BD Creator Acceptor Vector in just 15 minutes without restriction digestion or ligation (1). This method of subcloning is extremely efficient (Figure 1).

Quickly focus on protein expression

After transferring your gene of interest to the expression cassette of the shuttle vector, you can express the protein as part of the Baculoviral genome (Figure 2). The



Figure 1. Efficient BD Creator™ transfer of EGFP gene from Donor Vector to pLP-BacPAK9-6xHN Acceptor Vector. Lane 1: 1-kb molecular weight marker. Lane 2: pLP-BacPAK9-6xHN Acceptor Vector digested with *Aat* II. Lane 3: Donor Vector digested with *Aat* II. Lanes 4–11: recombinants from Cre reaction digested with *Aat* II. Seven out of eight recombinants contain the correct insert.

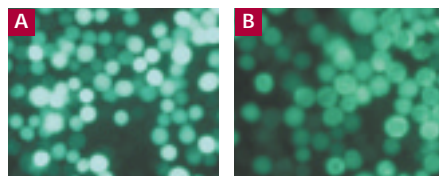


Figure 2. Expression of Enhanced Green Fluorescent Protein (EGFP) and 6xHN-tagged EGFP from BacPAK9 Shuttle Vector constructs in *Spodoptera frugiperda* (Sf21) cells. pLP-BacPAK9 and pLP-BacPAK9-6xHN were used to generate pLP-BacPAK9-EGFP and pLP-BacPAK9-6xHN-EGFP respectively by rapid transfer of the EGFP gene from a Donor Vector. These recombinant vectors were then used to make virus using our BD BacPAK™ Baculoviral Expression System (K1601-1). **Panel A.** Shown above are Sf21 cells infected with recombinant virus. pLP-BacPAK9-EGFP. **Panel B.** pLP-BacPAK9-6xHN-EGFP.

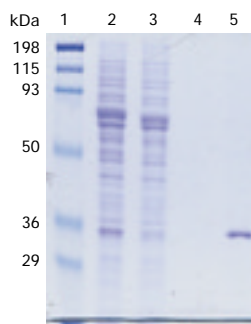


Figure 3. Purification of 6xHN-tagged EGFP from baculovirus using BD TALON™ Resin. Lane 1: markers. Lane 2: soluble lysate from Sf21 cells. Lane 3: flowthrough. Lane 4: wash with 5 mM imidazole. Lane 5: elution with 150 mM imidazole. Lysis, wash, and elution buffers all contain 20 mM Tris, pH 8.0 and 100 mM NaCl. The theoretical MW of 6xHN-EGFP is 31.2 kDa.

AcMNPV sequences flanking the *loxP* site promote recombination with baculoviral DNA to transfer the expression cassette to the polyhedrin locus of the baculoviral genome. The BD BacPAK Baculoviral Expression System has special features that promote high recombination efficiency as well as high yields of protein for a eukaryotic system (see inset).

Easy purification of 6xHN-tagged proteins with BD TALON™ Resins

You can express a protein bearing a 6xHN tag with pLP-BacPAK9-6xHN. Once this protein is expressed, it can be easily purified using BD TALON™ Resin, our patented cobalt-based immobilized metal affinity resin. (Figure 3).

Product	Size	Cat. #
pLP-BacPAK9 Acceptor Vector	20 µg	6211-1
pLP-BacPAK9-6xHN Acceptor Vector	20 µg	6212-1

NEW!

Related Products

- BD BacPAK™ Baculovirus Expression System (#K1601-1)
- BD BacPAK™ Baculovirus Rapid Titer Kit (#K1599-1)
- BD Creator™ pDNR Cloning Kit (#K1670-1)
- Cre Recombinase (#8480-1)
- BD TALON™ Metal Affinity Resin (#8901)
- BD TALON™ Superflow Resin (#8908)
- BD TALONspin™ Columns (#8902)
- BD TALON™ CellThru Resin (#8910)
- BD TALON™ CellThru Disposable Columns (#8914)
- BD TALON™ Purification Kit (#K1253-1)
- BD TALON™ 2-ml Disposable Gravity Columns (#K8903-1)
- BD TALON™ Buffer Kit (#K1252-1)

Reference

1. Sauer, B. (1994) *Curr. Opin. Biotechnol.* 5:521–527.

BD BacPAK™ Expression System Features

- High yield compared to mammalian expression systems
- Greater similarity to naturally occurring protein due to the eukaryotic folding conditions
- High recombination efficiency due to the design of the BacPAK6 Viral DNA