

flashBAC™ Compatible Vectors



This table provides a summary of different baculovirus transfer vectors that have been produced by many laboratories over the past 30 years. These include vectors with polyhedrin promoters, p10 promoters, p6.9 promoters and gp64 promoters. Although the complete sequences of some of these vectors are not available we have indicated the restriction enzyme cloning sites. The vectors listed are all compatible with *flashBAC*™ or BacPAK6.

Type (locus)	Vector (Size)	Promoter(s)	Features within Cloning Sites	Additional Features/Notes
Single Promoter (polyhedrin)	pVL1392 (9.6 kbp)	<i>polyhedrin</i>	<i>Bgl</i> II, <i>Pst</i> I, <i>Not</i> I, <i>Eag</i> I, <i>EcoR</i> I, <i>Xba</i> I, <i>Sma</i> I, <i>BamH</i> I	
	pVL1393 (9.6kbp)	<i>polyhedrin</i>	<i>BamH</i> I, <i>Sma</i> I, <i>Xba</i> I, <i>EcoR</i> I, <i>Not</i> I, <i>Eag</i> I, <i>Pst</i> I, <i>Bgl</i> II	
	pAcG1 (8.5 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH</i> I, <i>Sma</i> I, <i>EcoR</i> I	
	pAcG2 (8.5 kbp)	<i>polyhedrin</i>	ATG, GST, Thrombin cleavage- <i>BamH</i> I, <i>Sma</i> I, <i>EcoR</i> I	
	pAcG3X (8.5 kbp)	<i>polyhedrin</i>	ATG, GST, Factor Xa cleavage, <i>BamH</i> I, <i>Sma</i> I, <i>EcoR</i> I	
	pAcGHILT-A (8.7 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH</i> I-6x His tag, Protein kinase A site, Thrombin cleavage- <i>Nde</i> I, <i>EcoR</i> I, <i>Stu</i> I, <i>Nco</i> I, <i>Sac</i> I, <i>Not</i> I, <i>Sse8387</i> I, <i>Pst</i> I, <i>Kpn</i> I, <i>Sma</i> I, <i>Bgl</i> II	

	pAcGHLT-B (8.7 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH I</i> , 6x His tag-Protein kinase A site, Thrombin cleavage- <i>Xho I</i> , <i>EcoR I</i> , <i>Stu I</i> , <i>Nco I</i> , <i>Sac I</i> , <i>Not I</i> , <i>Sse8387 I</i> , <i>Pst I</i> , <i>Kpn I</i> , <i>Sma I</i> , <i>Bgl II</i>	
	pAcGHLT-C (8.7 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH I</i> , 6x His tag-Protein kinase A site, Thrombin cleavage, <i>Nde I</i> , <i>Xho I</i> , <i>EcoR I</i> , <i>Stu I</i> , <i>Nco I</i> , <i>Sac I</i> , <i>Not I</i> , <i>Sse8387I</i> , <i>Pst I</i> , <i>Kpn I</i> , <i>Sma I</i> , <i>Bgl II</i>	
	pAcGP67-A (9.8 kbp)	<i>polyhedrin</i>	ATG, GP64 signal sequence, <i>BamH I</i> , <i>Sma I</i> , <i>Xba I</i> , <i>EcoR I</i> , <i>Not I</i> , <i>Eag I</i> , <i>Pst I</i> , <i>Bgl II</i> , <i>Ppum I</i>	A, B and C represent three different reading frames and also contain slightly different restriction sites.
	pAcGP67-B (9.8 kbp)	<i>polyhedrin</i>	ATG, GP64 signal sequence, <i>BamH I</i> , <i>Sma I</i> , <i>Nco I</i> , <i>EcoR I</i> , <i>Not I</i> , <i>Eag I</i> , <i>Pst I</i> , <i>Bgl II</i>	
	pAcGP67-C (9.8 kbp)	<i>polyhedrin</i>	ATG, GP64 signal sequence, <i>BamH I</i> , <i>Sma I</i> , <i>Nco I</i> , <i>EcoR I</i> , <i>Not I</i> , <i>Eag I</i> , <i>Pst I</i> , <i>Bgl II</i> , <i>Ppum I</i>	
	pAcHLT-A (8.1 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH I</i> , 6x His tag, Protein kinase A site-Thrombin cleavage, <i>Nde I</i> , <i>EcoR I</i> , <i>Stu I</i> , <i>Nco I</i> , <i>Sac I</i> , <i>Not I</i> , <i>Sse8387 I</i> , <i>Pst I</i> , <i>Kpn I</i> , <i>Sma I</i> , <i>Bgl II</i>	A, B and C represent three different reading frames and also contain slightly different restriction sites.
	pAcHLT-B (8.1 kbp)	<i>polyhedrin</i>	ATG, GST, <i>BamH I</i> , 6x His tag, Protein kinase A site, Thrombin cleavage- <i>Xho I</i> , <i>EcoR I</i> , <i>Stu I</i> , <i>Nco I</i> , <i>Sac I</i> , <i>Not I</i> , <i>Sse8387 I</i> , <i>Pst I</i> , <i>Kpn I</i> , <i>Sma I</i> , <i>Bgl II</i>	
	pAcHLT-C (8.1 kbp)	<i>polyhedrin</i>	ATG, GST, 6x His tag, Protein kinase A site, Thrombin cleavage site, <i>Nde I</i> , <i>Xho I</i> , <i>EcoR I</i> , <i>Stu I</i> , <i>Nco I</i> , <i>Sac I</i> , <i>Not I</i> , <i>Sse8387 I</i> , <i>Pst I</i> , <i>Kpn I</i> , <i>Sma I</i> , <i>Bgl II</i>	
	pBAC-1 (5.3 kbp)	<i>polyhedrin</i>	<i>BamH I</i> , <i>Stu I</i> , <i>EcoR I</i> , <i>Sac I</i> , <i>Hind III</i> , <i>Eag I</i> , <i>Not I</i> , <i>Ava I</i> , <i>Xho I</i> , 6x His tag, <i>Sty I</i> , <i>Avr II</i> , <i>Bpu 1102</i> , <i>Sph I</i>	

	pBacgus-1 (7.4 kbp)	<i>polyhedrin</i>	<i>Bam</i> HI, <i>Stu</i> I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Ava</i> I, <i>Xho</i> I, 6x His tag, <i>Sty</i> I, <i>Avr</i> II, <i>Bpu</i> 1102, <i>Sph</i> I	B-glucuronidase under p6.9 promoter control to monitor recombinant virus production.
	pBAC-2cp (5.4 kbp)	<i>polyhedrin</i>	<i>Nco</i> I, 6x His tag, <i>Sac</i> II, thrombin cleavage site, S tag, <i>Pf</i> IM I, <i>Nhe</i> I, enterokinase cleavage site, LIC site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I	A Ligation-Independent Cloning (LIC) version of the vector is available for directional cloning PCR products.
	pBacgus-2cp (7.6 kbp)	<i>polyhedrin</i>	<i>Nco</i> I, 6x His tag, <i>Sac</i> II, thrombin cleavage site, S tag, <i>Pf</i> M I, <i>Nhe</i> I, enterokinase cleavage site, LIC site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I	Ligation-Independent Cloning (LIC) version of the vector is available for directional cloning PCR products. B-glucuronidase under p6.9 promoter control to monitor recombinant virus production A.
	pBAC-3 (5.5 kbp)	<i>polyhedrin</i>	Gp64 signal peptide, <i>Nco</i> I, 6 x His tag, <i>Sac</i> II, thrombin cleavage site, S tag, <i>Pf</i> IM I, <i>Nhe</i> I, enterokinase cleavage site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6 x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I	
	pBAC-5 (5.5 kbp)	<i>gp64</i>	<i>Nco</i> I, 6x His tag, <i>Sac</i> II, Thrombin cleavage site, S tag, <i>Pf</i> IM I*, <i>Nhe</i> I, enterokinase cleavage site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I	Has early/late gp64 promoter but no signal peptide coding region.

* within S tag

	pBACgus-5 (7.7 kbp)	<i>gp64</i>	<i>Nco</i> I, 6x His tag, <i>Sac</i> II, Thrombin cleavage site, S tag, <i>Pf</i> IM I*, <i>Nhe</i> I, enterokinase cleavage site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I * within S tag	B-glucuronidase under p6.9 promoter control to monitor recombinant virus production. Has early/late gp64 promoter but no signal peptide coding region.
	pBAC-6 (5.6 kbp)	<i>gp64</i>	GP64 signal sequence, <i>Nco</i> I, 6x His tag, <i>Sac</i> II, Thrombin cleavage site, S tag, <i>Pf</i> IM I*, <i>Nhe</i> I, enterokinase cleavage site, <i>Sma</i> I, <i>Srf</i> I, <i>Bse</i> R I, <i>Stu</i> I, <i>Bam</i> H I, <i>Eco</i> R I, <i>Sac</i> I, <i>Hind</i> III, <i>Eag</i> I, <i>Not</i> I, <i>Xho</i> I, 6x His tag, <i>Avr</i> II, <i>Bpu</i> 1102 I, <i>Sph</i> I. * within S tag	Has early/late gp64 promoter and signal peptide coding region.
	pAcSecG2T (8.6 kbp)	<i>polyhedrin</i>	ATG, GP64 signal sequence, GST, Thrombin cleavage site, <i>Bam</i> H I, <i>Sma</i> I, <i>Eco</i> R I	
	pAcSG2 (5.5 kbp)	<i>polyhedrin</i>	<i>Xho</i> I, <i>Eco</i> R I, <i>Stu</i> I, <i>Nco</i> I, ATG, <i>Sac</i> I, <i>Not</i> I, <i>Eag</i> I, <i>Sse</i> 8387 I, <i>Pst</i> I, <i>Kpn</i> I, <i>Sma</i> I, <i>Bgl</i> II	ATG codon for fusion proteins.
Multiple Promoter (<i>polyhedrin</i>)	pAcUW21 (9.2 kbp)	<i>polyhedrin</i> <i>p10</i>	See note <i>Pac</i> I, <i>Bgl</i> II, <i>Eco</i> R I	Polyhedrin gene intact; foreign gene expression from p10 promoter.
	pAcUW51 (5.8 kbp)	<i>polyhedrin</i> <i>p10</i>	<i>Bam</i> H I <i>Bgl</i> II, <i>Eco</i> R I	Dual expression vector from <i>polyhedrin</i> and p10 promoters.

	pAcAB3 (10.1 kbp)	p10 polyhedrin p10	Sma I, BamH I Xba I, Stu I Bgl II, Esp I	Triple expression vector from polyhedrin and 2 x p10 promoters.
	pAcDB3 (6.0 kbp)	p10 polyhedrin p10	Sma I, BamH I Xba I, Stu I Bgl II, EcoR I	Triple expression vector from polyhedrin and 2 x p10 promoters. Smaller version of pAcAB3.
	pAcAB4 (10.2 kbp)	polyhedrin p10 polyhedron p10	BamH I Sma I Xba I, Stu I Bgl II, EcoR I, Esp I	Quadruple expression vector from 2 x polyhedrin and 2x p10 promoters.
	pBAC4x-1 (5.9 kbp)	p10 polyhedrin p10 polyhedrin	Bgl II, EcoR I, Bsu36 I Xba I, Stu I Sma I, Spe I BamH I, Hind III, Eag I, Not I, Xho I 6x His tag, Sty I, Bpu1102 I, Sph I	Quadruple expression vector from 2 x polyhedrin and 2 x p10 promoters.

	pBACgus4x-1 (8.1 kbp)	p10 polyhedrin p10 polyhedrin	Bgl II, EcoR I, Bsu36 I Xba I, Stu I Sma I, Spe I BamH I, Hind III, Eag I, Not I, Xho I 6x His tag, Sty I, Bpu1102 I, Sph I	Quadruple expression vector from 2 x polyhedrin and 2x p10 promoters. B-glucuronidase under p6.9 promoter control to monitor recombinant virus production.
	pBACgus-6 (7.7 kbp)	gp64	GP64 signal sequence, Nco I, 6x His tag, Sac II, Thrombin cleavage site, S tag, PflM I*, Nhe I, enterokinase cleavage site, Sma I, Srf I, BseR I, Stu I, BamH I, EcoR I, Sac I, Hind III, Eag I, Not I, Xho I, 6x His tag, Avr II, Bpu1102 I, Sph I * within S tag	Has early/late gp64 promoter and signal peptide coding region. B-glucuronidase under p6.9 promoter control to monitor recombinant virus production.
	pBACsurf-1 (9.4 kbp)	polyhedrin	Spe I, gp64 signal sequence, Pst I, Kpn I, Sma I, gp64 coding region	Designed for incorporating target proteins on the virion surface by utilizing gp64 signal sequence and membrane anchor region.
	pUCDM (3.0 kbp)	polyhedrin p10	BamH I, Rsr II, BssH II, Stu I, Sal I, Sac I, Xba I, Pst I Bbs I, Sma I, Xma I, Xho I, Nhe I, Nsi I, Sph I	BstZ 171, Spe I, Cla I, Nru I sites between pol and p10 promoters for insertion of expression modules from pFBDM or reinsertion in this vector. Pol and p10 multicloning sites are flanked by Avr II and Pme I sites respectively.
	pTriEx-3 (5.1 kbp)	CMV immediate/early T7lac p10	Nco I, EcoR V, Sma I, Ecl136 II, Sac I, BamH I, EcoR I, Bgl II, BssH II, Asc I, Pst I, Sse8387 I, Kpn I, PinA I, Nsp V, Hind III, Eag I, Not I, Pvu II, Bst1107 I, Pml I, Xho I, Dra III, Bsu36 I	Suitable for the expression of a single recombinant plasmid in <i>E.coli</i> , insect and vertebrate systems by utilising one of three promoters (T7lac, p10 and CMV respectively).

Single Promoter (Basic/p6.9)	pAcMP2 (9.8 kbp)	<i>Basic (p6.9)</i>	<i>Pst I, Not I, Eag I, EcoR I, Xba I, BamH I</i>	<i>p6.9</i> promoter provides late gene expression.
	pAcMP3 (9.8 kbp)		<i>BamH I, Xba I, EcoR I, Not I, Eag I, Pst I, Bgl II</i>	
Multiple Promoter (chitinase/cathepsin)	pFBDM (5.3 kbp)	<i>polyhedrin</i>	<i>BamH I, Rsr II, BssH II, EcoR I, Stu I, Sal I, Sac I, Not I, BstB I, Xba I, Pst I, Hind III</i>	Polyhedrin and p10 multicloning sites are flanked by <i>Avr II</i> and <i>Pme I</i> sites respectively.
		<i>p10</i>	<i>Bbs I, Sma I, Xma I, Xho I, Nhe I, Nsi I, Sph I, Kpn I</i>	
Single Promoter (p10)	pAcUW1 (4.6 kbp)	<i>p10</i>	<i>Bgl II, Hind III</i>	
Multiple Promoter (p10)	pAcUW42 (7.1 kbp)	<i>p10</i>	<i>Bgl II, Pst I, Not I, Xba I, Kpn I, Sma I</i>	
		<i>polyhedrin</i>	<i>BamH I</i>	
	pAcUW43 (7.1 kbp)	<i>p10</i>	<i>Sma I, Kpn I, Xba I, Not I, Pst I, Bgl II</i>	
		<i>polyhedrin</i>	<i>BamH I</i>	