Broad Host Range Vectors pBBR122 and pBHR1

Product Information Sheet
 # PBBR01 & PBBR02

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SUMMARY

shipped at RT; store at 4 °C

For research use only

Product

Broad-host-range vectors pBBR122 and pBHR1 suitable for

- cloning and gene expression in bacteria other than *E. coli* (mainly Gram-negative)
- changing bacterial hosts
- studies of broad-host-range replicons
- studies of Gram-negative bacteria

Description

pBBR122 broad-host-range vector, not mobilizable
The plasmid pBBR122 is a cloning vector with very broad-host-range maintenance properties. Unlike other broad-host-range vectors, it replicates at medium copy numbers and has a small size (5307 bp). This greatly facilitates genetic studies of a wide variety of Gram-negative bacteria and makes pBBR122 particularly interesting for studies of broad-host-range replicons. Being a versatile expression vector, it stably replicates in all Gram-negative organisms tried so far under standard growth conditions (see list below) using appropriate selective pressure.
pBBR122 carries a nonfunctional copy of the mobilization gene (mob'). Therefore it is neither mobilizable nor conjugative. For cloning and selection there are two resistance genes placed within the vector, kan (kanamycin resistance) and cm (chloramphenicol resistance). The rep gene is essential for replication.

pBBR122 was derived from pBBR1, which was isolated from *Bordetella bronchiseptica* S87 (Antoine & Locht, 1992; Renauld-Mongénie et al., 1996). It is compatible with other broad-host-range vectors, since it does not belong to the broad-host-range incompatibility groups IncP, IncQ or IncW.

pBHR1 broad-host-range vector, mobilizable
By removing a frame shift in the mob' gene of pBBR122, the gene function was restored and the mobilizable vector pBHR1 was created. All other features of this vector are similar to pBBR122 described above.

Host bacteria suited for pBBR122 and pBHR1:

- *Aeromonas caviae*
- *Aeromonas hydrophila*
- *Acetobacter xylinum*
- *Aeromonas veronii biovar sobria*
- *Agrobacterium tumefaciens*
- *Alcaligenes eutrophus*
- *Azorizobium caulinodans*
- *Bartonella bacilifonis*
- *Bordetella spp*
- *Brucela spp*
- *Caulobacter crescentus*
- *Escherichia coli*
- *Hyphomicrobium denitrificans*
- *Hyphomicrobium facilis*
- *Methylobacilus glyocogenes*
- *Methylbacterium extorquens*
- *Methylophilus methylotrophus*
- *Pseudomonas syringae*
- *Pseudomonas (Burkholderia) solanacearum*
- *Paracoccus denitrificans*
- *Pseudomonas fluorescens*
- *Pseudomonas putida*
- *Rhizobium meliloti*
- *Rhizobium leguminosarum*
- *Rhodobacter sphaeroides*
- *Salmonela typhimurium*
- *Vibrio cholerae*
- *Xanthomonas campestris*
- *and potentially many more!*

Quality Warranty

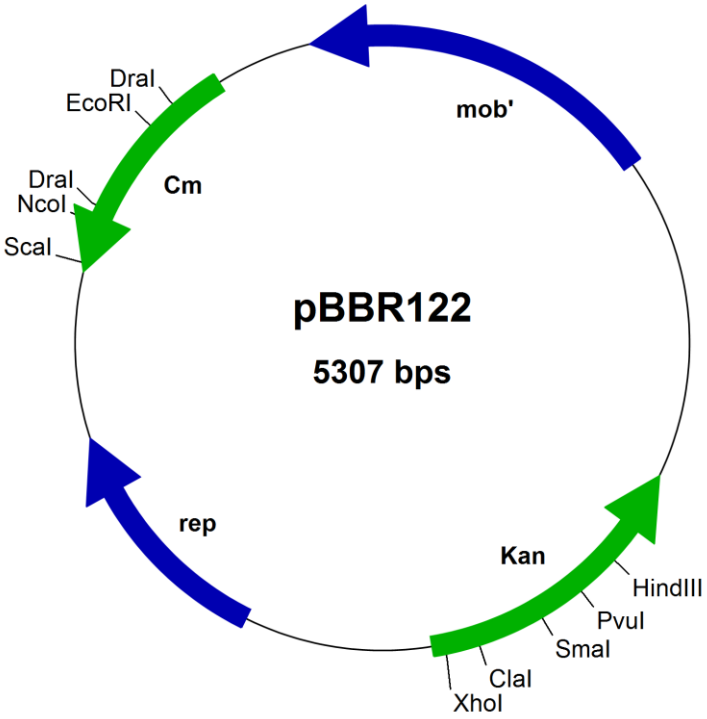
DNA concentration and purity was checked by UV spectrophotometry. All restriction sites specified in the vector map were checked by sequencing.

References

Antonie, R. & Locht, C., *Mol. Microbiol*. 6, 13 (1992) 1785-1799.
Elzer, P.H. *et al*., *Plasmid* 33 (1995) 51-57.
Kovach, M.E. *et al*., *Bio Techniques* 16, 5 (1994) 800-802.
Kovach, M.E. *et al*., *Gene* 166 (1995) 175-176.
Renauld-Mongénie, G. *et al*., *Bacteriol*. 178 (1996) 1053-1060.

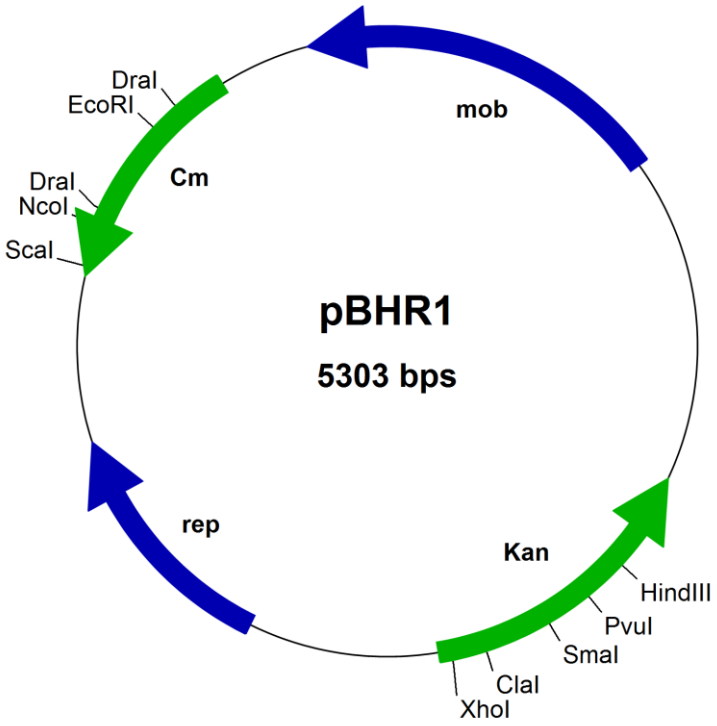
The vector pBBR122 has been developed by Dr. Camille Locht, Inst. Pasteur, France. The vector pBHR1 has been developed by the Laboratoire de Génétique des Procaryotes: Dr. Michael Faelen, Philippe Gabant and Cédric Szpirer. It is commercialized under non-exclusive license granted by the Université Libre de Bruxelles, Belgium.

Vector Map pBBR122



	Type	Start	End	Name	Description
	Gene	803	5106	mob’	non functional
	Selectable Genetic Marker	2516	1701	Kan	Kanamycin resistance
	Gene	3042	3716	rep	Replication gene
	Selectable Genetic Marker	4834	4175	Cm	Chloramphenicol resistance

Vector Map pBHR1



	Type	Start	End	Name	Description
	Gene	799	5083	mob	Mobilization gene
	Selectable Genetic Marker	2512	1697	Kan	Kanamycin resistance
	Gene	3038	3712	rep	Replication gene
	Selectable Genetic Marker	4830	4171	Cm	Chloramphenicol resistance

Order Information, Shipping and Storage

Order#	Product	Amount
PBBR01	pBBR122 Broad Host Range Vector, lyophilized DNA	5 µg
PBBR02	pBHR1 vector DNA (mobilizable), lyophilized	5 µg
shipped at room temperature (RT); store at 4 °C. Once the DNA has been dissolved in sterile water or buffer we recommend storage at -20°C		