

pT7-SBP[™]-1 Expression VectorProduct Number **P 3746**

Storage Temperature –20 °C

Product Information**TECHNICAL BULLETIN****Product Description**

The pT7-SBP[™]-1 expression vector is a 4907 bp *Escherichia coli* expression vector used for cloning and cytoplasmic expression of a properly inserted open reading frame as a C-terminal SBP fusion protein containing the 38 amino acid Streptavidin Binding Peptide (SBP) tag.¹ This vector requires the use of *E. coli* cells containing the DE3 lysogen as a source of the T7 polymerase,² such as BL21(DE3) cells (Product Numbers B 8683, B 8933, or B 9058).

pT7-SBP-1 may be used in conjunction with the Director[™] Universal Cloning System (Product Number RDC-1) for a simple, rapid and universal method to directionally clone PCR products. The MCS has been optimized for use of the well-validated *Hind* III/*Bgl* II pair of 5' overhang producing restriction enzymes often used in the Director Universal Cloning System. The SBP tag may be detected using Streptavidin-AP conjugate (Product Number S 2890) or Streptavidin-HRP (Product Number S 5512) and the fusion may also be purified using Streptavidin-Agarose (Product Number S 1638). Sigma offers a wide selection of streptavidin products; please visit www.sigma-aldrich.com for a complete listing of antibody conjugates, resins, and affinity capture plates.

The following table provides map positions to key features in the pT7-SBP-1 vector. Sequence verification of the MCS and C-terminal junction can be performed using the C-24 primer (Product Number P 7957). The sequence 5'-CTATCATGCCATACCGCGAAAGG-3', available from Sigma-Genosys, is recommended for sequencing through the N-terminal junction.

pT7-SBP-1 Features

Feature	Map Position
pT7 Promoter	79-98
<i>lacO</i>	99-118
Recommended 5' primer sequence binding site	31-53
Ribosomal Binding Site	150-155
SBP tag	194-313
MCS	162-193
C-24 Sequencing Primer Binding Site	336-359
T1/T2 terminator	367-737
β-lactamase (amp ^r)	836-1693
pBR322 ori	1901-2020
f1 ori	2684-3147
<i>lacI</i>	3825-4907

Reagents

- pT7-SBP-1 Expression Vector, 10 µg, E 0780, 0.5 mg/ml in 10 mM Tris-HCl, pH 8.0, 1 mM EDTA.
- pT7-SBP-1+BAP Control Vector, 1 µg, C 0364, 0.05 mg/ml in 10 mM Tris-HCl, pH 8.0, 1 mM EDTA.

Precautions and Disclaimer

For R&D use only. Not for drug, household or other uses. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

This product ships on dry ice and storage at –20 °C is recommended.

References

1. Keefe, A. D., et al., *Protein Expr. Purif.*, **23**, 440-446 (2001).
2. Studier, F. W., et al., *Methods Enzymol.* **185**, 60-89 (1990).

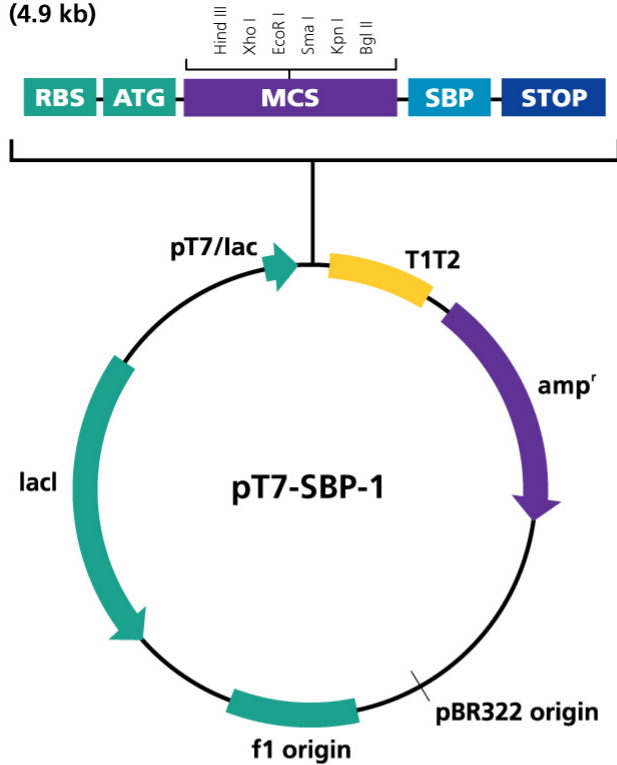
Academic and Non-Profit Laboratory Assurance Letter

The T7 system is based on technology developed at Brookhaven National Laboratory under contract with the U.S. Department of Energy and is the subject of patent applications assigned to Brookhaven Science Associates, LLC. (BSA). BSA will grant a non-exclusive license for the use of this technology, including the enclosed material, based upon the following assurances:

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2. No materials that contain the cloned copy of T7 gene 1, the gene for T7 RNA polymerase, may be distributed further to third parties outside of your laboratory, unless the recipient receives a copy of this license and agrees to be bound by its terms. This limitation applies to strains of BL21(DE3), BL21(DE3)pLysS, and BL21(DE3pLysE, and any derivatives you may make of them.

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pT7-SBP-1 (4.9 kb)



Multiple Cloning Site
(pT7-SBP-1)

	Hind III	Xho I	EcoR I	Sma I	Kpn I	Bgl II
Met	AAT GAA	GCT TCT	CGA GAA	TTC CCG	GGT ACC	AGA TCT
	TTA CTT	CGA AGA	GCT GCT	CTT AAG	GGC CCA	TGG TCT

SBP Sequence																		
Met	Asp	Glu	Lys	Thr	Thr	Gly	Trp	Arg	Gly	Gly	His	Val	Val	Glu	Gly	Leu	Ala	Gly
ATG	GAC	GAA	AAA	ACC	ACC	GGT	TGG	CGT	GGT	GGT	CAC	GTT	GTT	GAA	GGT	CTG	GCT	GGT
TAC	CTG	CTT	TTT	TGG	TGG	CCA	ACC	GCA	CCA	CCA	GTG	CAA	CAA	CTT	CCA	GAC	CGA	CCA

SBP Sequence																			
Glu	Leu	Glu	Gln	Leu	Arg	Ala	Arg	Leu	Glu	His	His	Pro	Gln	Gly	Gln	Arg	Glu	Pro	STOP
GAA	CTG	GAA	CAG	CTG	CGT	GCT	CGT	CTG	GAA	CAC	CAC	CCG	CAG	GGT	CAG	CGT	GAA	CCG	TAA
CTT	GAC	CTT	GTC	GAC	GCA	CGA	GCA	GAC	CTT	GTG	GTG	GGC	GTC	CCA	GTC	GCA	CTT	GGC	ATT

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