



**canvax**

Accelerating your Molecular Biology Discoveries

## // 2016-2017

DNA Cloning  
Mammalian & Bacterial Expression Vectors  
GPCR ORF Clones  
Cell Based Assay & Molecule Detection Kits  
Nucleic Acid Purification Kits  
PCR Essentials  
Recombinant Proteins  
Buffers & Reagents





## Our passion:

### Total customer satisfaction

Canvax has aligned its corporate culture, people, processes and work methodologies towards total customer satisfaction. All our products are rigorously tested for all its detailed applications to ensure that they meet or exceed our published performance specifications. We will only earn your loyalty and trust by consistently delivering reliable, cost-effective and easy-to-use products, accurate technical information and best-in-class Customer Service.

Our experienced staff tests each product lot prior to stocking and then re-test on a defined schedule while the lot remains in stock. In addition, **our professional team monitors the performance of our products every day by using them in Canvax's R&D activities.**

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# Our commitments

We try harder! Canvax's 26 employees work very hard to satisfy your research needs and help you achieve your goals, thanks to our:



## Best quality innovative products

Our products are developed from our advanced R&D and follows a rigorous validation process, ensuring the most accurate, reliable and easy-to-use performance.



## Accurate and trusted information

All catalog descriptions, features, advantages, applications, quality controls and other information are accurate, guaranteed and covered by Canvax.



## Best-in-class Technical Support

Your doubts will be answered by the same scientists who are used to daily work to produce, validate and research with our products, providing you a fast and expert answer.



## Cost-effective solutions

As Scientists, we understand the importance of reducing your reagents costs, time and sample expenditures, offering you important price savings and promotions.





## About us

For 15 years, Canvax has been an original manufacturer and supplier of the most innovative solutions, services, kits and R&D Reagents inside the Molecular Biology field. Thanks to our reliable, cost-effective and easy-to-use products, we enable our worldwide customers to improve its laboratory productivity and accelerate their discoveries.

Based in Córdoba (Spain), since its foundation Canvax has focused on R&D of multiplex high throughput platforms (HTS) for Drug discovery and Diagnostic applied biosensors. Over a decade later, Canvax is a worldwide leading expert in Molecular Biology and GPCR expression in heterologous cells, with important patents and exclusive know-how. Canvax prides itself to be the first company to obtain an unprecedented milestone that will revolutionize the Diagnostics sector:

**Canvax established stable high-level expression of odour GPCRs into heterologous cell lines in 2014.**

With several awards as relevant Innovative Company, Canvax markets all its unmatched know-how, exclusive expertise and worldwide leading R&D knowledge through its original manufactured innovative solutions, kits and R&D Reagents within the Molecular Biology.



INNOVATIVESME

Valoración DICI 31/12/2018



# Our R&D

Thanks to our sustained commitment to R&D, exclusive patents and unmatched know-how, Canvax has prominent outcomes within the following business areas: Drug Discovery, Nutraceuticals, Biosensors and Molecular Nose.




## Drug Discovery

Canvax has built a unique ecosystem of Excellency for Drug Discovery and development, to cover unmet clinical needs in disorders such as cancer and Central Nervous System diseases. It is supported by a worldwide expert network in disease target validation, screening of novel molecular libraries against both kinases and GPCRs, medicinal chemistry, *in vitro* and *in vivo* studies, ADME and toxicology studies.

One patented lead molecule, Bozinib, is already in preclinical research and has shown promising properties as anti cancer agent, specifically

against cancer stem cells, the resistant core of cancers. Three more programs are ready to enter the Drug discovery phase using Canvax's exclusive screening patented platform, FRIDA<sub>GPCR</sub>, a robust cell based homogenous assay validated for cancer and Central Nervous System GPCRs.

FRIDA<sub>GPCR</sub> screening technology allows us to outline a diversified pipeline of innovative drugs.

INDICATION	DISCOVERY	PRECLINICAL	CLINICAL STAGES
Cancer			
Psoriasis			
Parkinson			

## Nutraceuticals

Canvax, in collaboration with IMIBIC (Córdoba, Spain), have developed a patented formulation from a vegetal source that ameliorates significantly Oxidative Stress in an animal model of Multiple Sclerosis. In addition, Canvax's Scientists have developed a process that improves 14-fold the yield of the active molecule, when compared with the best industrial process used today and such process is also being patented.

Canvax is carrying the Human Proof-of-Concept (PoC) of the value of the product as a functional ingredient. It is expected to begin commercialisation by late 2017.

INDICATION	DISCOVERY	PRECLINICAL	CLINICAL STAGES
Multiple Sclerosis			
Metabolic syndrome			

## Immunoenzymatic Biosensors and Molecular Nose

All our original know-how obtained in GPCRs Expression during the development of the HTS FRIDA platform has allowed us a prestigious entry in a great scientific and technical innovative field as is Odorant Receptors. First described in 1991, this large family of molecules (approx. 300 in Humans and 1,000 in dogs and rats) has been difficult to express in heterologous cells, until Canvax achieved stable high-level expression of odour GPCRs into heterologous cell lines in 2014, aiming to develop a Molecular Nose with important applications in the Pharmaceutical industry as a Biosensor for the detection of cancer and other diseases, in the fragrance industry to establish a molecular brand of a perfume, and even in the identification of individuals by their smell.

According to Immunoenzymatic Biosensors, Canvax are developing Multiplex assay methods compatible with a wide range of proteins. Although Multiplex tests are available for molecules against which antibodies are highly specific (e.g. Interleukins), it couldn't be extended to the entire market of molecules that are detected by Monoplex Immunoenzymatic methods. In this area, we are focused in the development of better assay surfaces, methods to coat them with orientated antibodies and more sensitive systems already in development.

Do you have something interesting to offer us?  
write us to [info@canvaxbiotech.com](mailto:info@canvaxbiotech.com)

## Grants & Funders





# How to use this catalog

## Description of icons

### Ordering:



**FS**

Free sample available upon request (just in some countries)



**ST**

Product is on stock and it will be dispatched as soon as possible



**SI**

The components of the vector/kit are available to ordering individually



**BULK**

Bulk quantities and custom formulations available upon request

### Shipped in:



**DI**

Dry Ice



**GP**

Gel Pack



**AT**

Ambient Temperature

### Other icons:



**RE**

Recombinant Protein

### Storage:



**-80° C**

Store the product at -80° C in a non-frost free freezer



**-20° C**

Store the product at -20° C in a non-frost free freezer



**4° C**

Store the product at 4° C



**RT**

Store the product in a dry place at Room Temperature

### Additional info:



**FAQS**

Available Frequent Asked Question section about this product in our website



**TIPS**

Available Expert Tips & Tricks section of this product in our website

## Product use limitation

All products are developed, designed and sold exclusively for research purposes and *in vitro* use only. The products were not tested for use in diagnostics or for Drug development, nor is it suitable for administration to Humans or animals. Please, for more info please visit [lifescience.canvaxbiotech.com](https://lifescience.canvaxbiotech.com) for Material Safety Data Sheet of each product.

# Ordering & Support info

## ORDERING

### Distributors

To get more info about Canvax's reliable, cost-effective and easy-to-use innovative tools in your region, place an order or quotation, please visit the complete list of our worldwide distributors at [distributors.canvaxbio.com](https://distributors.canvaxbio.com)

If you are not able to find a distributor in your area, you can order products from the nearest distributor or directly from Canvax:



[quotes.canvaxbio.com](https://quotes.canvaxbio.com)



[info@canvaxbio.com](mailto:info@canvaxbio.com)

## TECHNICAL SUPPORT

### Ask a scientist

Our Customer and Technical Support is provided by the same Senior Scientists who develop the products, already familiar with the manufacture, validation and research work with the products. Thanks to this important fact, Canvax offers best-in-class Customer Service, providing to our customers an expert answer in average time of 2 hours\*.

If you need further help, please do not hesitate to contact your local distributor or Canvax at:

[support.canvaxbio.com](https://support.canvaxbio.com)

\*When the customer contact us directly, on working days and hours.





## Website

Additionally to all the information presented in this catalog, you could find at [canvaxbio.com](http://canvaxbio.com) the most up-to-date information about our:

- ✓ Product Brochures
- ✓ Manuals
- ✓ MSDS
- ✓ New releases
- ✓ New products
- ✓ Discounts and exclusive offers
- ✓ FAQs

**Any doubt?**

**Visit the Expert tips & tricks**  
section of our website to  
solve your doubts.

**Tell us what you think**  
Review our products.  
**It's really easy!**

As a valued customer, we would appreciate to know what you think about our products' price, performance, information or even presentation and listen about your own experiences regarding those Canvax's products you have bought. It provides us a valuable feedback to help us to improve our service to you and to other customers and analyse its performance.

**Join our newsletter:**  
Be the first to know our  
latest news and promotions.





# 1. DNA Cloning

Blunt-end DNA Cloning Kits

TA DNA Cloning Kits

Universal DNA Cloning Kits

Chemically competent cells

Mutagenesis

Other compounds



# DNA Cloning

## pSpark® DNA Cloning Vectors Selection Guide:

	pSpark®							
Features	I	II	III	IV	V	Done	TA	TA Done
Catalog Number	C0001	C0002	C0003	C0004	C0005	C0006	C0020	C0021
Page	12	14	14	15	15	16	16	17
Blunt-End Cloning	✓	✓	✓	✓	✓	✓		
TA Cloning							✓	✓
Advanced MCS	✓		✓	✓	✓			
Classic MCS		✓					✓	
Done MCS						✓		✓
Ampicillin Resistance	✓	✓	✓	✓	✓	✓	✓	✓
Amp/Kanamycin Resistance			✓					
High copy number (pUC origin)	✓	✓	✓	✓		✓	✓	✓
Low copy number (pBR322 origin)					✓			
Advantages								
Cloning without Toxic genes	✓	✓	✓			✓	✓	✓
Cloning of unstable fragments				✓	✓			
kb cloning limit	✓	✓	✓	✓	✓	✓	✓	✓
Less initial insert amount needed	✓	✓	✓	✓	✓	✓	✓	✓
Extremely high cloning efficiency	✓	✓	✓	✓	✓	✓	✓	✓
Flexibility and free protocol	✓	✓	✓	✓	✓	✓	✓	✓
Very low background	✓	✓	✓	✓	✓	✓	✓	✓
High stability with no cloning bias	✓	✓	✓	✓	✓	✓	✓	✓

# Blunt-end DNA Cloning Kits

## pSpark® I

For highly efficient, accurate and robust general cloning from PCR High Fidelity fragments, without the use of toxic genes



### Ordering info:

Cat No.	Size
C0001-S	10 rxn
C0001	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® I (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

- FastPANGA™ Long PCR DNA Polymerase (p.106)
- CVX5a™ Chemically Competent cells (p.18)
- Custom cloning services (p.140)
- CleanEasy™ PCR Purification Kit (p.91)
- PickMutant™ Site-directed Mutagenesis Kit (p.19)
- FastPANGA™ High Fidelity DNA Pol. (p.105)
- Ampicillin (p.126)
- ITPG (p.19)
- X-Gal (p.19)

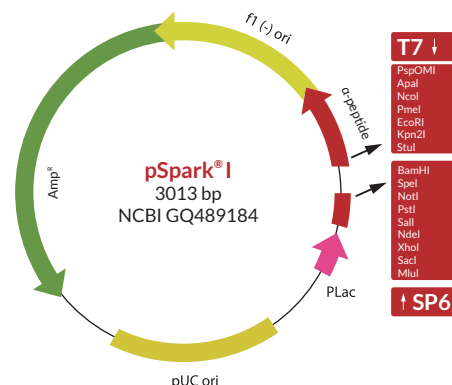
### Description:

pSpark® I is a highly efficient, accurate and easy-to-use DNA cloning system based on a novel breakthrough technology to generate blunt vectors with a highly cloning efficiency.

The vector is prepared by digestion of pSpark® at EcoRV site before treating both ends to prevent vector self-ligation. The end treatment is supported by a exclusive know-how that guarantees a higher cloning efficiency than just dephosphorylated vector.

### Advantages & Features:

- ✓ **Unprecedented high cloning efficiency:**  
> 2,500 positive colonies expected under optimal conditions.
- ✓ **Easy-to-use:** eliminate recombinant screening due to its <1% background, avoiding "suicide" strategies from toxic genes.
- ✓ **Time-saving protocol:** no hidden steps such as phosphorylation, just ligation after PCR and transformation.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Powerful:** clone from < 1 ng/kb, obtain 5x more positive colonies using 10x less DNA insert.
- ✓ **Compatible with blue/white screening.**
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Sensitive:** clone from 50 bp insert to up to 14 kb with just 5ng per kb of insert.
- ✓ **Eliminates positive selection vector.**
- ✓ **High cost-saving:** reduces your cloning costs as no expensive phosphorylated primers are needed.
- ✓ **Robust for every DNA size:** just 6.7 ng per kb of insert needed for optimal ligation.



### Applications:

- ✓ General cloning.
- ✓ Cloning of High Fidelity PCR amplified products.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.

### Quality control:

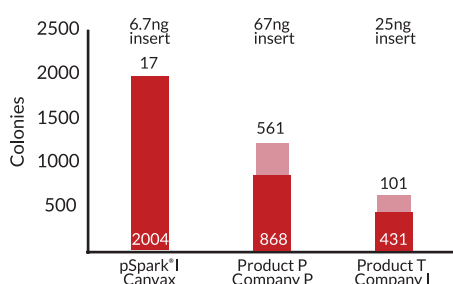
- ✓ Functionally test using 1.0 kb PCR fragment.



## Comparison with other popular vectors:

In 2016, Canvax conducted a rigorous study where the efficiency of all pSpark® Blunt-end DNA Cloning systems were analyzed in comparison other popular cloning systems, developed almost two decades ago. In this catalog the results of pSpark® I compared to Product P and Product T are presented. If you want to review the full white paper, please visit [pspark.canvaxbio.com](http://pspark.canvaxbio.com)

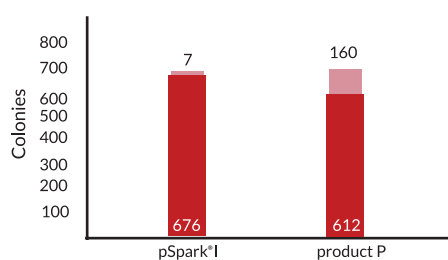
**Figure 1.1: Efficiency and background**



Cloning efficiency of pSpark® I over other popular cloning systems. The cells used had a cloning efficiency of  $2 \times 10^7$  cfu/μg.

As shown in the previous figure, the background for pSpark® I is 0.8%, while in other cases, it is 40% and 20%, respectively. On the other hand, pSpark® I has an efficiency of 300 cfu/μg of DNA Insert, while other products have 13 cfu/μg and 17 cfu/μg of DNA, respectively.

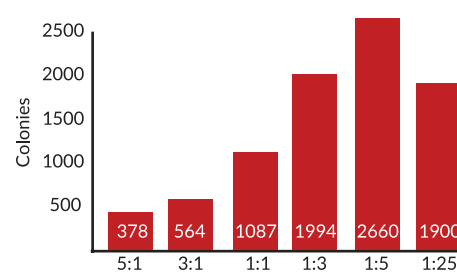
**Figure 1.2: Robust and versatile**



Cloning efficiency using pSpark® I with blend polymerase. The 1 kb-insert was amplified with FastPANGEA™ High Fidelity DNA Polymerase MasterMix for cloning with pSpark® I and with blend polymerase to clone with Company P. Competent cells had a cloning efficiency of  $2 \times 10^7$  cfu/μg.

Despite the similarity of the results, it is important to highlight that PCR products, obtained with a mix of both DNA polymerases, contain a mixture of molecules with blunt ends and molecules with adenine at the 3' ends in a proportion of 30% and 70%, respectively. Therefore, pSpark® I is more robust and versatile than Product P.

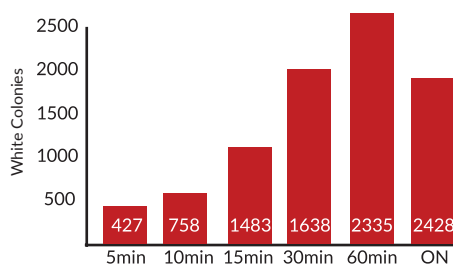
**Figure 1.3: Insert amount**



Number of positive white colonies obtained after ligation with different ratios of pSpark® I vector:insert. The amount of vector was the same in all cases, varying the amount of insert to achieve the vector: insert ratio identified. The background was less than 1%. Competent cells had an efficiency of  $2 \times 10^7$  cfu/μg.

As is described, it allows obtaining a high number of colonies even using < 1 ng of insert as in the 5:1 vector: insert ratio.

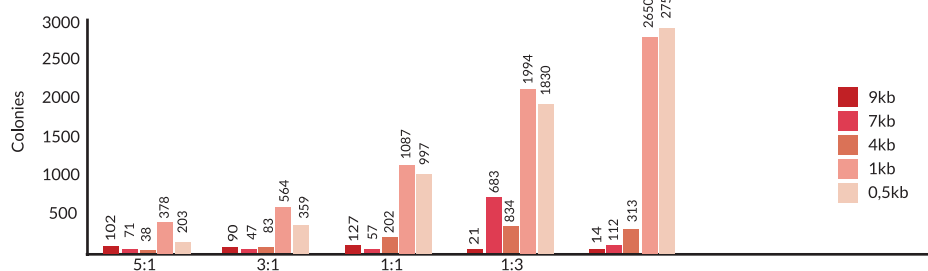
**Figure 1.4: Ligation Time**



pSpark® I ligation-determined efficiency in response to different ligation times. Competent cells used had an efficiency of  $2 \times 10^7$  cfu/μg. Is possible to use pSpark® using almost any lab protocol, ligation temperature ( example: 25°C-RT, 22°C, 16° or 4°C ), and it could even tolerate some changes depending on the needs of each cloning task or laboratory resources.

It is necessary to emphasize that with only 5-10 minutes of ligation time, >400-700 positive colonies and a background <1% are obtained.

**Figure 1.5: Insert size**



Efficiency of cloning pSpark® I inserts of different sizes using different vector: insert ratios. Inserts were used 0.5 kb, 1kb, 4kb, 7kb and 9kb in the ratios indicated below. Competent cells were  $2 \times 10^7$  cfu/μg DNA. Background was always below 1%.

As is shown, the vector: insert relationship 1:5 is the best with >2,000 positive colonies for inserts equal or < 1kb.

## pSpark® II

For highly efficient, accurate and easy general cloning with classical MCS, without the use of toxic genes

### Ordering info:

Cat No.	Size
C0002-S	10 rxn
C0002	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® II (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

- FastPANGEA™ Long PCR DNA Polymerase (p.106)
- CVX5α™ Chemically Competent cells (p.18)
- CleanEasy™ PCR Purification kit (p.91)
- Custom Cloning services (p.140)
- BrightMAX™ DNA Ladders (p.116)
- Ampicillin (p.126)
- ITPG (p.19)
- X-Gal (p.19)

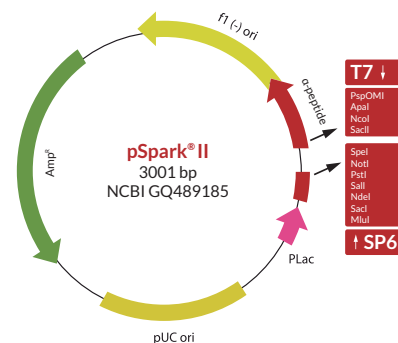
### Description:

pSpark® II is a highly efficient, accurate and easy-to-use DNA cloning system based on a breakthrough technology for cloning blunt ended DNA generated by PCR with a proofreading or High Fidelity DNA Polymerases.

The vector is prepared by digestion of pSpark® II at EcoRV site before treating both ends to prevent vector self-ligation. The end treatment is supported by an exclusive know-how that guarantees a higher cloning efficiency than just dephosphorylated vector.

### Advantages & Features:

- ✓ **Unprecedented high cloning efficiency:** > 2,500 positive colonies expected under optimal conditions.
- ✓ **Great sensitivity:** over hundreds positive colonies with few nanograms of insert.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Time-saving protocol:** no hidden steps such as phosphorylation, just ligation after PCR and transformation.
- ✓ **Powerful:** clone from < 1 ng/kb to up to 14 kb, obtain 4x more positive colonies using 3x less DNA insert.
- ✓ **Easy-to-use:** eliminate recombinant screening due to its <1% background, avoiding "suicide" strategies from toxic genes.
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Flexible:** ligation time from 10 minutes to overnight.
- ✓ **Robust for every DNA size:** just 6.7 ng per kb of insert needed for optimal ligation.
- ✓ **High cost-saving:** reduces your cloning costs as no expensive phosphorylated primers are needed.
- ✓ **Eliminates positive selection vector.**



### Applications:

- ✓ General cloning.
- ✓ Clone PCR fragments included in a low amount.
- ✓ Cloning of PCR products amplified with High Fidelity Polymerases.
- ✓ Cloning of PCR fragments generated with blend polymerases.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.

### Quality control:

- ✓ Functionally test using 1.0 kb PCR fragment.

### Comparison with other vectors:

- ✓ Please visit page 13 to review it.

## pSpark® III

For highly efficient, accurate and easy cloning with Ampicillin and Kanamycin resistance cassettes, without the use of toxic genes

### Ordering info:

Cat No.	Size
C0003-S	10 rxn
C0003	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® III (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

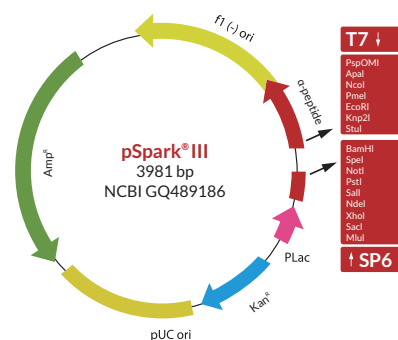
- FastPANGEA™ Long PCR DNA Polymerase (p.106)
- CVX5α™ Chemically Competent cells (p.18)
- CleanEasy™ PCR Purification kit (p.91)
- Custom Cloning services (p.140)
- PickMutant™ Site-directed Mutagenesis Kit (p.19)
- FastPANGEA™ High Fidelity DNA Pol. (p.105)
- ITPG (p.19)
- X-Gal (p.19)
- Ampicillin (p.126)
- Kanamycin (p.126)

### Description:

pSpark® III is a highly efficient, accurate and easy-to-use DNA cloning system that combines Ampicillin and Kanamycin resistance. Ideal for cloning PCR products amplified from any plasmid vector without the need to gel-purify bands to eliminate the background due to the template vector used for PCR.

### Advantages & Features:

- ✓ **Unprecedented high cloning efficiency:** > 2,500 positive colonies expected under optimal conditions.
- ✓ **Time-saving protocol:** no hidden steps such as phosphorylation, just ligation after PCR and transformation.
- ✓ **Powerful:** obtain 5x more positive colonies using 10x less DNA insert.
- ✓ **Easy-to-use:** eliminate recombinant screening due to its <1% background, avoiding "suicide" strategies from toxic genes.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Sensitive:** clone from 50 bp insert to up to 14 kb with just 5ng per kb of insert.
- ✓ **High cost-saving:** reduces your cloning costs as no expensive phosphorylated primers are needed.
- ✓ **Eliminates positive selection vector.**



### Applications:

- ✓ Cloning directly from PCR using plasmid cloned genes as template.
- ✓ Unpurified PCR cloning.
- ✓ Cloning of high fidelity PCR amplified products.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.

### Quality control:

- ✓ Functional test using a 1.0 kb PCR fragment.

### Comparison with other vectors :

- ✓ Please visit page 13 to review it.



## pSpark® IV

For highly efficient, stable and powerful cloning under transcription-free conditions

### Ordering info:

Cat No.	Size
C0004-S	10 rxn
C0004	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® IV (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

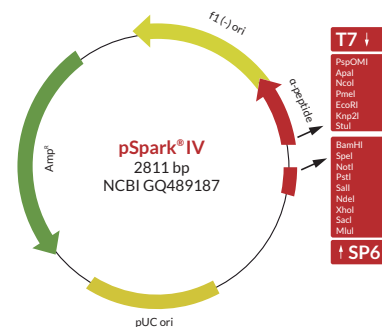
- FastPANGEA™ Long PCR DNA Polymerase (p.106)
- CVX5α™ Chemically Competent cells (p.18)
- CleanEasy™ PCR Purification kit (p.91)
- Custom Cloning services (p.140)
- BrightMAX™ DNA Ladders (p.116)
- ITPG (p.19)
- X-Gal (p.19)
- Ampicillin (p.126)

### Description:

pSpark® IV is a highly efficient, accurate and easy-to-use DNA cloning system that exploit its very low background feature for the expression of toxic genes under transcription-free conditions. In this vector, the *lac* promoter has been eliminated and therefore blue/white screening is not allowed (alpha-peptide coding region remains and you can find blue colony). The vector is ideal for cloning genes that produce toxic polypeptides by transcription/translation.

### Advantages & Features:

- ✓ **Unprecedented high cloning efficiency:** > 2,500 positive colonies expected under optimal conditions.
- ✓ **Transcription-free.**
- ✓ **Easy-to-use:** eliminate screening of recombinants due to its <1% background.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Time-saving protocol:** avoids any step required after PCR, just 19 minutes from PCR to plating.
- ✓ **Powerful:** obtain 5x more positive colonies using 10x less DNA insert.
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Sensitive:** clone from 50 bp insert to up to 14 kb with just 5ng per kb of insert.
- ✓ **Cost avoidance:** removes expensive primer phosphorylation use.
- ✓ **Eliminates positive selection vector.**



### Applications:

- ✓ Cloning of high fidelity PCR amplified products.
- ✓ Production of ssDNA.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.
- ✓ Cloning of toxic genes.

### Quality control:

- ✓ Functional test using a 1.0 kb PCR fragment.

### Comparison with other vectors :

- ✓ Please visit page 13 for a review.

## pSpark® V

For highly efficient, accurate and easy cloning with pBR322 and transcription-free conditions

### Ordering info:

Cat No.	Size
C0005-S	10 rxn
C0005	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® V (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

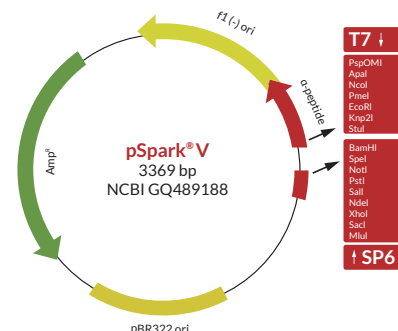
- FastPANGEA™ Long PCR DNA Polymerase (p.106)
- CVX5α™ Chemically Competent cells (p.18)
- CleanEasy™ PCR Purification kit (p.91)
- Custom Cloning services (p.140)
- ITPG (p.19)
- X-Gal (p.19)
- Ampicillin (p.126)

### Description:

pSpark® V is a highly efficient, accurate and easy-to-use DNA cloning system developed with low copy number, as a help for cloning of inserts with the higher kb. This low copy variant is also transcription-free, for the most demanding cloning tasks. In this vector, the *lac* promoter has been eliminated and therefore blue/white screening is not allowed (alpha-peptide coding region has been truncated).

### Advantages & Features:

- ✓ **Unprecedented high cloning efficiency:** > 2,500 positive colonies expected under optimal conditions.
- ✓ **Transcription-free.**
- ✓ **Easy-to-use:** eliminate screening of recombinants due to its <1% background.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Time-saving protocol:** avoids any step required after PCR, just 19 minutes from PCR to plating.
- ✓ **Powerful:** obtain 5x more positive colonies using 10x less DNA insert.
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Sensitive:** clone from 50 bp insert to up to 14 kb with just 5ng per kb of insert.
- ✓ **Optimized:** truncated alpha-peptide coding region.
- ✓ **Cost avoidance:** removes expensive primer phosphorylation use.
- ✓ **Eliminates positive selection vector.**



### Applications:

- ✓ Cloning of toxic genes.
- ✓ Cloning of unstable genes, for example genes with repeated sequences.
- ✓ Cloning of high fidelity PCR amplified products.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.

### Quality control:

- ✓ Functional test using a 1.0 kb PCR fragment.

### Comparison with other vectors :

- ✓ Please visit page 13 for a review.

## pSpark® Done

For highly efficient, accurate and easy cloning of PCR fragments with EcoRI and NotI flanking the insertion site

### Ordering info:

Cat No.	Size
C0006-S	10 rxn
C0006	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® Done (20 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 150 µL PEG 6000 (10x)
- 5 µL Insert Control 1 kb (20 ng/µL)



### Related Products:

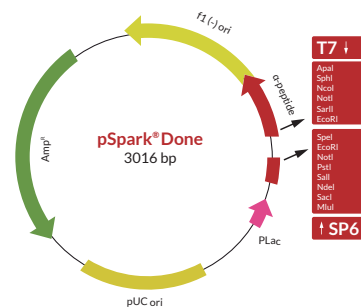
- FastPANGEA™ Long PCR DNA Polymerase (p.106)
- CVX5a™ Chemically Competent cells (p.18)
- CleanEasy™ PCR Purification kit (p.91)
- Custom Cloning services (p.140)
- FastPANGEA™ High Fidelity DNA Polymerase (p.105)
- ITPG (p.19)
- X-Gal (p.19)
- Ampicillin (p.126)

### Description:

pSpark® Done is a highly efficient, accurate and easy-to-use DNA cloning system designed for cloning of blunt ended DNA with very high efficiency. The MCS of the pSpark® Done vector incorporates sequences on either side of the insert that are recognized by the restriction enzymes NotI and EcoRI. This allows the insert DNA to be removed with a single restriction digest using either of these enzymes.

### Advantages & Features:

- ✓ **Optimized:** recognition sites for NotI and EcoRI either side of the insert of cloning point.
- ✓ **Flexible:** allows removing the desired insert DNA with others restriction digestion.
- ✓ **Unprecedented efficiency:** > 2,500 positive colonies expected under optimal conditions.
- ✓ **Easy-to-use:** eliminate screening of recombinants due to its <1% background.
- ✓ **Time-saving protocol:** avoids any step required after PCR, just 19 minutes from PCR to plating.
- ✓ **Powerful:** obtain 5x more positive colonies using 10x less DNA insert.
- ✓ **High stability:** eliminates cloning bias or pitfalls.
- ✓ **Great versatility:** compatible with any protocol, proofreading polymerase, competent cells, ligation time or primers.
- ✓ **Sensitive:** clone from 50 bp insert to up to 14 kb with just 5ng per kb of insert.
- ✓ **Eliminates positive selection vector.**
- ✓ **Cost avoidance:** removes expensive primer phosphorylation use.
- ✓ **Robust for every DNA size:** just 6.7 ng per kb of insert needed for optimal ligation.



### Applications:

- ✓ Cloning of high fidelity PCR amplified products.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.
- ✓ One restriction enzyme allows gene fragment excision.

### Quality control:

- ✓ Functionally test using 1.0 kb PCR fragment.

### Comparison with other vectors :

- ✓ Please visit page 13 to review it.

## TA DNA Cloning Kits

### pSpark® TA

For efficient, stable and easy cloning of non-proofreading PCR fragments or PCR from blend enzymes



### Ordering info:

Cat No.	Size
C0020-S	10 rxn
C0020	20 rxn

### Includes for 20 rxn:

- 20 µL pSpark® TA DNA Cloning vectors (50 ng/µL)
- 20 µL T4 DNA Ligase (5U/Weiss)
- 200 µL T4 DNA Ligase Buffer (5x)
- 5 µL Insert Control 600 bp (30 ng/µL)



### Description:

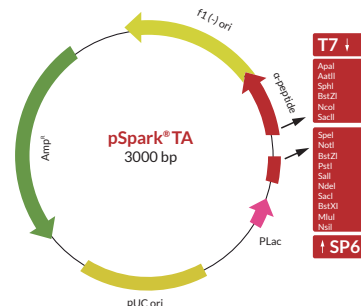
pSpark® TA is efficient, stable and easy-to-use DNA cloning vector based on an optimized TA technology for cloning single 3'-adenine overhanging DNA. The vectors are prepared by digestion of pSpark® TA at EcoRV site and the subsequent addition of a single thymidine at each 3'-end to allow cloning Taq DNA Polymerase amplified DNA fragments. Its exclusive procedure offers greater efficiency and less background of blue colonies than the others TA vectors.

### Advantages & Features:

- ✓ **Efficient:** >600 white positive colonies expected under optimal conditions.
- ✓ **Easy-to-use:** eliminate screening of recombinants due to its <4% background.
- ✓ **High stability:** vector without cloning bias due to transcription of toxic genes.
- ✓ **Fast protocol:** ligation time from 60 minutes to overnight.
- ✓ **Compatible:** with direct cloning of PCR products.
- ✓ **Great versatility.**
- ✓ **Cost avoidance:** removes primer phosphorylation.

### Applications:

- ✓ Cloning of non-proofreading PCR fragments.
- ✓ Production of ssDNA.
- ✓ Blue/white screening for recombinants.
- ✓ *In vitro* transcription from T7/SP6 dual-opposed promoters.



### Quality control:

- ✓ Functional test using a 600 bpPCR fragment.

### Related Products:

- TruePure™ dNTPs (p.115)
- Horse-Power™ Taq DNA Polymerase (p.102)
- CVX5a™ Chemically Competent cells (p.18)
- Horse-Power™ Red-Taq DNA Polymerase (p.107)
- Horse-Power™ Green-Taq DNA Polymerase (p.107)
- CleanEasy™ PCR Purification kit (p.91)
- ITPG (p.19)
- X-Gal (p.19)
- Ampicillin (p.126)