

pNiFty-Luc

An NF- κ B-inducible reporter plasmid selectable with Ampicillin

Catalog code: pnifty-luc

For research use only

Version 20L03-MM

PRODUCT INFORMATION

Content:

- 20 μ g of pNiFty-Luc provided as lyophilized DNA

Storage and stability:

- Product is shipped at room temperature.
- Lyophilized DNA should be stored at -20°C.
- Resuspended DNA should be stored at -20°C and is stable for 1 year.

Quality control:

Plasmid construct has been confirmed by restriction analysis and sequencing been verified.

GENERAL PRODUCT USE

pNiFty, a family of reporter plasmids expressing a reporter gene under the control of a minimal promoter inducible by different transcription factors, either individually or in combination. pNiFty plasmids are composed of a reporter gene, encoding secreted alkaline phosphatase (SEAP) or Luc (luciferase), which expression is controlled by an NF- κ B-inducible ELAM-1 composite promoter. pNiFty is selectable in *E. coli* only with ampicillin.

PLASMID FEATURES

- **NF- κ B5-ELAM** is an engineered ELAM promoter combining five NF- κ B sites (GGGGACTTCC) with the proximal ELAM promoter¹. In the absence of NF- κ B, the promoter displays no or very little activity. Induction by NF- κ B activates the promoter resulting in the expression of the Luc gene at levels similar to those obtained with a strong promoter such as CMV or EF1.
- **Luc:** The firefly Luc gene encodes luciferase, an enzyme which interacts with D-luciferin as a chemiluminescent substrate to produce light emission peaking at 560 nm. This reaction can be measured and detected simply, rapidly and with good sensitivity by means of a luminescence-measuring instrument.
- **Ori** is a minimal *E. coli* origin of replication with the same activity as the longer Ori.
- **Amp:** The ampicillin resistance gene allows amplification of the plasmid in bacteria.
- **SV40 pAn:** The Simian Virus 40 late polyadenylation signal enables efficient cleavage and polyadenylation reactions resulting in high levels of steady-state mRNA.

1. Schindler U. & Baichwal V., 1994. Three NF-kappa B binding sites in the human E-selectin gene required for maximal tumor necrosis factor alpha-induced expression. Mol Cell Biol. 14(9):5820-31.

METHODS

Plasmid resuspension

Quickly spin the tube containing the lyophilized plasmid to pellet the DNA. To obtain a plasmid solution at 1 μ g/ μ l, resuspend the DNA in 20 μ l of sterile H₂O. Store resuspended plasmid at -20 °C.

Plasmid amplification and cloning

Plasmid amplification and cloning can be performed in *E. coli* GT116 or in other commonly used laboratory *E. coli* strains, such as DH5 α .

Ampicillin usage

Ampicillin (not provided) can be used for *E. coli* at 50-100 μ g/ml in liquid or solid media.

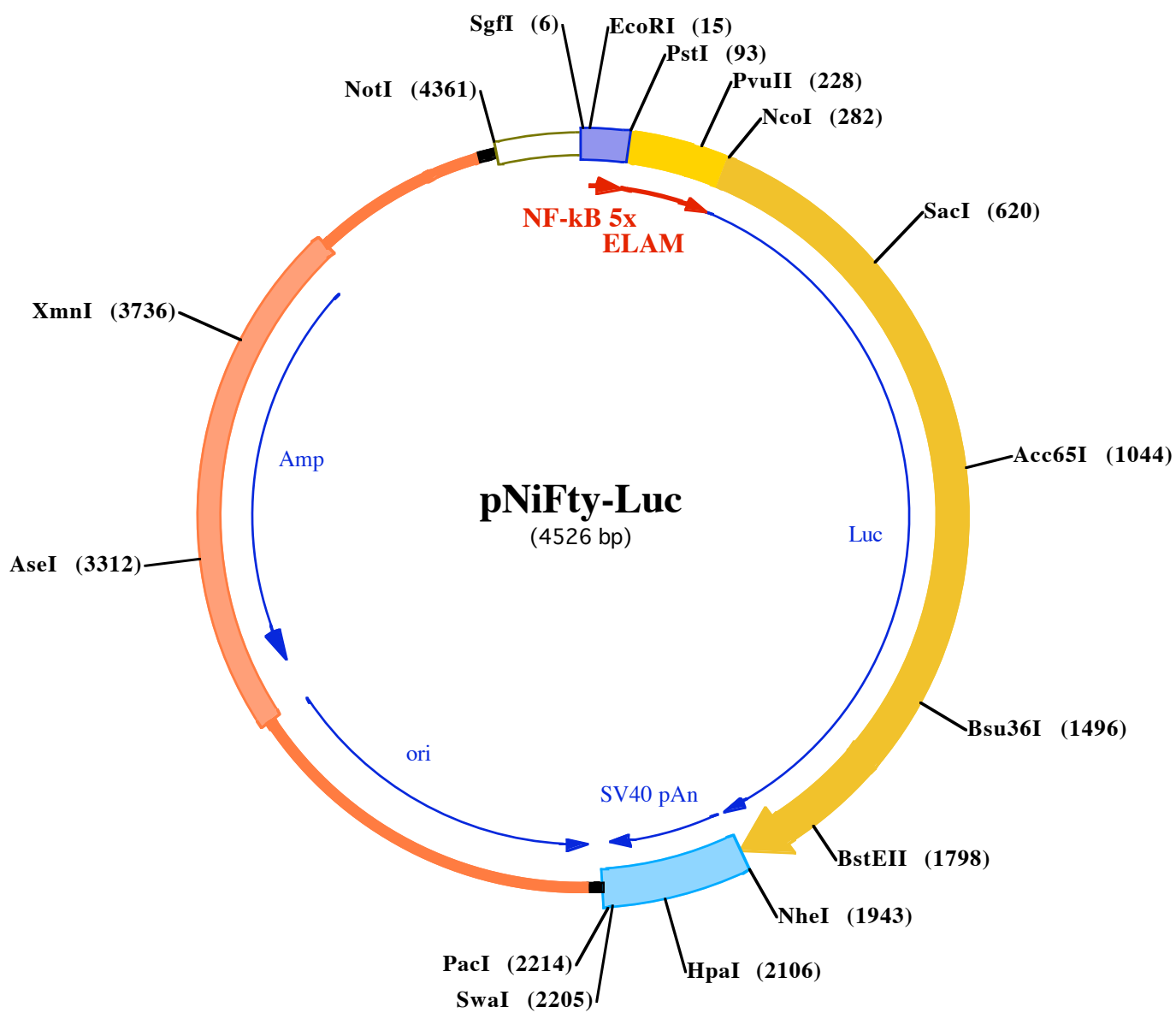
RELATED PRODUCTS

Product	Catalog Code
pNiFty-SEAP	pNiFty-seap

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Hong Kong: +852 3-622-34-80
E-mail: info@invivogen.com





AseI (3312)

3301 **TCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTGT**
209 **I**u**M**e**t**Trp**A**s**P**l**I**e**L**e**u**G**I**n**G**l**n**Arg**S**e**r**Al**a**Le**u**Th**r**Le**u**Le**u**G**I**u**G**l**y**Th**r**Le**u**Le**u**L**y**sArg**L**e**u**Th**r**Th**r**Al**a**M**e**tAl**a**Val**P**ro**M**e**t**Th**r**Th**r**As
3401 **CACGCTCGTCGTTTTGGTATGGCTTCATTCAGCTCCGGTTC**CA**A**C**G**AT**CA**AG**G**CG**AG**TT**AC**AT**G**AT**CC**CC**CA**T**G**TT**GT**G**CA**AAAA**AG**CG**GT**TA**GC**TC**CT**
176 **p**Arg**G**l**u**As**P**As**N**P**ro**l**I**eAl**a**Gl**u**As**n**Le**u**G**I**u**P**ro**G**l**u**Tr**p**Arg**Asp**Le**u**Arg**Th**rVal**H**i**s**As**P**Gl**y**Me**t**As**n**Hi**s**Le**u**P**he**Al**a**Th**r**Le**u**G**I**u**L**ys
3501 **CGGTCC**CC**G**AT**CG**TT**GT**C**AGA**AG**TA**AG**TT**G**CC**CG**AG**TT**AT**CA**CT**CA**TG**TT**AT**G**GC**AG**CA**CT**GC**ATA**ATT**CT**CT**ACT**GT**CA**TG**CC**AT**CC**G**TA**AG**A
143 **P**ro**G**l**y**Gl**y**l**I**e**Th**r**Th**rLe**u**Le**u**Le**u**As**n**Al**a**Al**a**Th**r**As**n**As**P**S**e**r**M**e**t**Th**r**l**I**eAl**a**Al**a**S**e**r**C**ys**L**e**u**G**I**u**Arg**Val**Th**r**M**e**t**Gl**y**As**P**Th**r**Le**u**H
3601 **TGCTTT**CT**GT**G**ACT**GG**TG**AG**TACT**CA**AC**CA**AG**TC**ATT**CT**G**AG**AAT**AG**TGT**AT**G**CG**G**CG**ACC**AG**TT**G**CT**CT**TG**CC**CG**CG**TCA**AT**AC**GG**GATA**AT**AC**CG
109 **i**s**L**ys**G**l**u**Th**r**Val**P**ro**S**e**r**T**y**r**G**l**u**Val**L**e**u**As**P**As**n**G**I**n**S**e**r**T**y**r**H**i**s**l**I**e**Arg**Arg**G**l**y**Le**u**G**I**n**G**l**u**G**I**n**G**l**y**Al**a**As**P**l**I**e**Arg**S**e**r**L**e**u**Val**Al**

XmnI (3736)

3701 **CGCCACATAGCAGAACTTTAAAAGTGCTCATCATTGGAAAACGTTCTTCGGGGCGAAAACTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTA**
76 **a**Gl**y**C**ys**Le**u**Le**u**Val**L**ys**P**he**Th**r**S**e**r****M**e**t****M**e**t**P**ro**P**he**Arg**G**l**u**G**I**u**P**ro**Arg**P**he**S**e**r**G**l**u**Le**u**l**I**e**L**ys**G**l**y**S**e**r**As**n**L**e**u**As**P**Le**u**G**I**u**l**I**e**T**y**r
3801 **ACCCACTCGTGACCCAAC**T**G**AT**CT**T**C**AG**CA**T**CT**TT**ACT**TT**C**ACC**AG**CG**TT**CT**GG**GT**G**AG**CA**AAAA**C**AG**GA**AG**G**CA**AA**AT**G**CC**G**CA**AAAA**AG**GGA**TA
43 **G**l**y**Val**Arg**Al**a**Gl**y**Le**u**G**I**n**Asp**Gl**u**Al**a**As**P**L**ys**Val**L**ys**Val**Le**u**Th**r**Gl**u**P**ro**Hi**s**Al**a**P**he**Val**P**ro**L**e**u**C**ys**P**he**Al**a**Al**a**P**he**P**he**P**ro**l**I**e**L**
3901 **AGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAGCATTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAAT**
9 **eu**Al**a**Val**Arg**P**he**Hi**s**G**I**n**I**e**S**e**r****M**e**t**
4001 **GTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCGAAAAAGTGCCACCTGACGTCTAAGAAACCATTATTATCATGACATTAACCTATAA**
4101 **AAATAGCGTATCACGAGGCCCTTTCGTCTCGCGCTTTCGGTATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTG**
4201 **TAAGCGGATGCCGGGAGCAGACAAGCCGTCAGGGCGCTCAGCGGGTGTGGCGGGGTGTCGGGGCTGGCTTA**ACT**AT**G**CG**G**CA**T**C**AG**AG**C**AG**ATT**GT**AC

NotI (4361)

4301 **TGAGAGTGCACCATATGGATCTCGATAACAAAAACCCCGCCCCGGCGGGTTTTTTTGTAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGT**
4401 **GTGTTGGTTTTTTGTGTAATCGTAAC**TA**AC**AT**AC**G**CT**CT**CC**AT**CA**AAAA**CA**AA**AC**GA**AA**CA**AA**CA**AA**CT**AG**CA**AA**AT**AG**G**CT**GT**CC**CC**AG**T**G**CA**AG**T**G**C
4501 **AGTGCCAGAACATTTCTCTATCGAA**