

## pET302/NT-His

PVT0368 2ug

Lot no 1901093

Store at -20°C

Expiry date June.2020

### pET302/NT-His Information

Promoter: T7/lac

Replicon: ColE1 ori, F1 ori

Terminator: T7 Terminator

Plasmid classification: Escherichia coli vector; PET series expression plasmid

Plasmid size: 5712bp

Plasmid Tags: N-6 \* His

Prokaryotic resistance: ampicillin Amp

Clone strain: DH5 alpha

Culture conditions: 37, aerobic, LB

Expression host: BL21 (DE3)

Culture conditions: 37, aerobic, LB

Induction: IPTG or lactose and its analogues

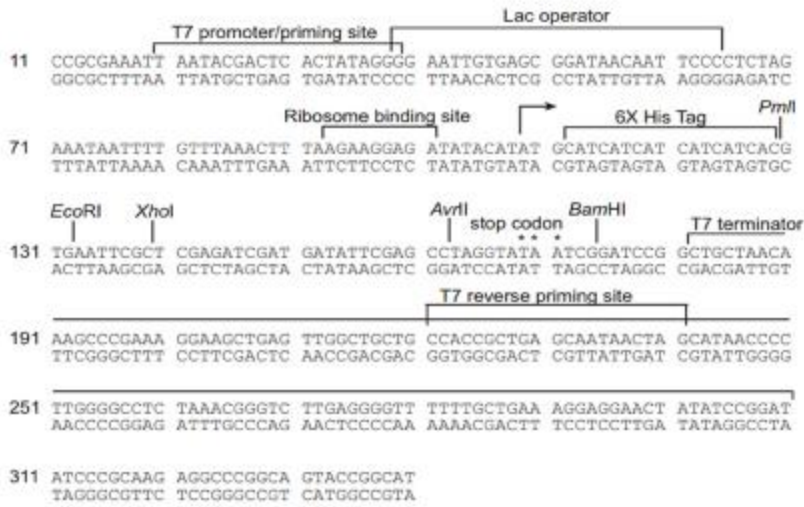
Primers for 5'sequencing: T7:TAATACGACTCACTATAGGG

Primers for 3'sequencing: T7-ter:TGCTAGTTATTGCTCAGCGG

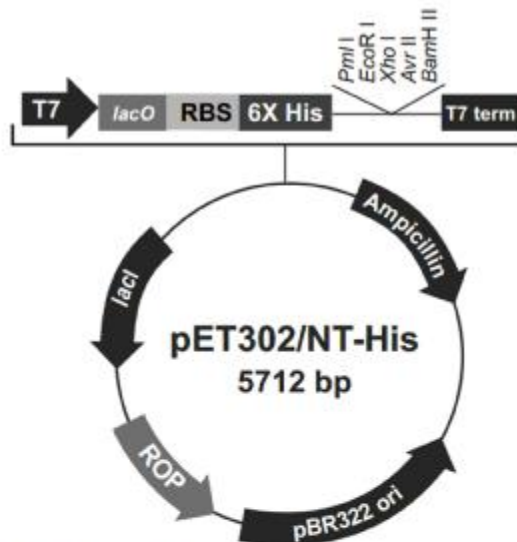
### pET302/NT-His Description

The Champion pET302/NT-His and pET303/CT-His Vector Kit is designed for cloning a gene of interest via restriction enzyme(s) and ligase (REaL) and subsequent high-level expression from the strong bacteriophage T7 promoter. In addition to the T7 promoter, each vector contains only the necessary functional elements and an N- or C-terminal 6xHis tag (pET302/NT-His and pET303/CT-His, respectively) for convenient purification and detection (Figure 1). Expression levels obtained from these vectors may be higher than those obtained from another suppliers pET vector (Figure 2). To

maximize expression, use with MagicMedia E. coli Expression Medium.



pET302/NT-His Map



Comments for pET302 NT-His  
5712 nucleotides

- T7 promoter: bases 20-36
- T7 promoter priming site: bases 20-39
- lac operator (*lacO*): bases 39-63
- Ribosome binding site (RBS): bases 93-101
- 6X His Tag: bases 112-129
- T7 transcription termination region: bases 182-310
- T7 reverse priming site: bases 221-241
- bla* promoter: bases 615-719
- Ampicillin (*bla*) resistance gene: bases 714-1574
- pBR322 origin: bases 1785-2516 (c)
- ROP ORF: bases 2760-2951 (c)
- lacI* ORF: bases 4263-5375 (c)

(c) = complementary strand

pET302/NT-His Sequences

LOCUS Exported 5712 bp ds-DNA circular SYN 11-AUG-2015

DEFINITION synthetic circular DNA

ACCESSION .

VERSION .

KEYWORDS Untitled

SOURCE synthetic DNA construct

ORGANISM synthetic DNA construct

REFERENCE 1 (bases 1 to 5712)

AUTHORS .

TITLE Direct Submission

JOURNAL Exported 2015-8-11 from SnapGene Viewer 2.8.0

FEATURES Location/Qualifiers

source 1..5712

/organism="synthetic DNA construct"

/mol\_type="other DNA"

promoter 20..38

/note="T7 promoter"

/note="promoter for bacteriophage T7 RNA polymerase"

protein\_bind 39..63

/bound\_moiety="lac repressor encoded by lacI"

/note="lac operator"

/note="The lac repressor binds to the lac operator to

inhibit transcription in E. coli. This inhibition can be

relieved by adding lactose or

isopropyl-beta-D-thiogalactopyranoside (IPTG)."

CDS 112..129

/codon\_start=1

/product="6xHis affinity tag"

/note="6xHis"

/translation="HHHHHH"

terminator 238..285

/note="T7 terminator"

/note="transcription terminator for bacteriophage T7 RNA

polymerase"

promoter 609..713

/gene="bla"

/note="AmpR promoter"

CDS 714..1574

/codon\_start=1

/gene="bla"

/product="beta-lactamase"  
/note="AmpR"  
/note="confers resistance to ampicillin, carbenicillin, and related antibiotics"  
/translation="MSIQHFRVALIPFFAAFCLPVFAHPETLVKVKDAEDQLGARVGYI  
ELDLNSGKILESFRPEERFPMMSSTFKVLLCGAVLSRVDAGQEQLGRRRIHYSQNDL  
VEYS  
PVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTIGGPKELTAFLHNMGDHVT  
RLDRW  
EPELNEAIPNDERDTTTPAAMATTLRKLTTGELLASRQQLIDWMEADKVAGP  
LLRSA  
LPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIAEI  
GAS  
LIKHW"  
rep\_origin 1745..2333  
/direction=RIGHT  
/note="ori"  
/note="high-copy-number ColE1/pMB1/pBR322/pUC origin of replication"  
misc\_feature 2519..2658  
/note="bom"  
/note="basis of mobility region from pBR322"  
CDS complement(2760..2951)  
/codon\_start=1  
/gene="rop"  
/product="Rop protein, which maintains plasmids at low copy number"  
/note="rop"  
/translation="MTKQEKALNMARFIRSQTLTLEKLNELDADEQADICESLHDH  
A  
DELYRSCLARFGDDGENL"  
CDS complement(4263..5345)  
/codon\_start=1  
/gene="lacI"  
/product="lac repressor"  
/note="lacI"  
/note="The lac repressor binds to the lac operator to inhibit transcription in E. coli. This inhibition can be relieved by adding lactose or isopropyl-beta-D-thiogalactopyranoside (IPTG)."  
/translation="MKPVTLYDVAEYAGVSYQTVSRVVNQASHVSAKTREKVEAAM  
AEL  
NYIPNRVAQQLAGKQSLIGVATSSLALHAPSQIVAAIKSRADQLGASVVVSMVE

## Manual

---

RSGV

EACKAAVHNLLAQRVSGLIINYPLDDQDAIAVEAACTNVPALFLDVSDQTPINSIIF

SH

EDGTRLGVEHLVALGHQOIALLAGPLSSVSARLRLAGWHKYLTRNOIQPIAEREG

DWSA

MSGFQQTMQMLNEGIVPTAMLVANDQMALGAMRAITESGLRVGADISVVG

DDTEDSSC

YIPPLTTIKQDFRLLGQTSVDRLLQLSQGOAVKGNQLLPVSLVKRKTTLAPNTOTA

SPR

ALADSLMQLARQVSRLESGQ"

promoter complement(5346..5423)

/gene="lacI"

/note="lacI promoter"

ORIGIN

1 gatctcgatc ccgcgaaatt aatcagactc actatagggg aatttgagc ggataacaat  
61 tcccctctag aaataatfff gttaaactt taagaaggag atatacatat gcatcatcat  
121 catcatcagc tgaattcgct cgagatcgat gatattcgag cctaggtata atcggatccg  
181 gctgctaaca aagcccgaaa ggaagctgag ttggctgctg ccaccgctga gcaataacta  
241 gcataacccc ttggggcctc taaacgggctc ttgagggggt ttttgctgaa aggaggaact  
301 atatccggat atcccgaag agggccggca gtaccggcat aaccaagcct atgcctacag  
361 catccagggg gacgggtccg aggatgacga tgagcgcatt gttagattc atacacggtg  
421 cctgactgag ttagcaattt aactgtgata aactaccgca ttaaagctag cttatcgatg  
481 ataagctgct aaacatgaga attaatctt gaagacgaaa gggcctcgtg atacgcctat  
541 ttttataggt taatgcatg ataataatgg tttcttagac gtcaggtggc acttttcggg  
601 gaaatgtgag cgaaccctc atttgtttt ttttctaat acattcaaat atgtatccgc  
661 tcatgagaca ataaccctga taaatgcttc aataatattg aaaaaggaag agtatgagta  
721 tcaacattt ccgtgctgcc cttattcctt ttttgccg attttgcctt cctgtttttg  
781 ctaccaccaga aacgctggtg aaagtaaaag atgctgaaga tcagttgggt gcaccagtg  
841 gttacatcga actggatctc aacagcggta agatccttga gagttttcgc cccgaagaac  
901 gttttccaat gatgagcact ttaaagtgc tgctatgtg cgcggtatta tcccggttg  
961 acgcccggca agagcaactc ggtcggcga tacactattc tcagaatgac ttggttgagt  
1021 actcaccagt cacagaaaag catcttacgg atggcatgac agtaagagaa ttatgcagtg  
1081 ctgccataac catgagtgat aactctgag ccaacttact tctgacaacg atcggaggac  
1141 cgaaggagct aaccgctttt ttgcacaaca tgggggatca tgtaactgc cttgatcgtt  
1201 ggaaccgga gctgaatgaa gccatacaca acgacgagcg tgacaccacg atgcctgcag  
1261 caatggcaac aacgttgccg aaactattaa ctggcgaact acttactcta gcttcccggc  
1321 aacaattaat agactggatg gaggcggata aagttgcagg accacttctg cgctcggccc  
1381 ttccggctgg ctggtttatt gctgataaat ctggagccgg tgagcgtggg tctcgcggta  
1441 tcattgcagc actggggcca gatggaagc cctcccgtat cgtagttatc tacacgacgg  
1501 ggagtcaggc aactatggat gaacgaaata gacagatcgc tgagataggt gcctcactga  
1561 ttaagcattg gtaactgtca gaccaagttt actcatatat actttagatt gatttaaaac  
1621 ttcattttta atttaaaagg atctaggtga agatcctttt tgataatctc atgaccaaaa  
1681 tcccttaacg tgagttttcg ttccactgag cgtcagacc cgtagaaaag atcaaaggat

Nova lifetech Inc.

Add: MNJ 2059 RM 1062 16/F

OMEGA PLAZA 32 DUNDAS ST MONGKOK KI

HONGKONG

Tel:(852)81700345 Email: [sales@lifescience-market.com](mailto:sales@lifescience-market.com)

1741 cttcttgaga tcctttttt ctgctgtaa tctgctgctt gcaaacaaaa aaaccaccgc  
1801 taccagcggg ggtttgttg ccggatcaag agctaccaac tcttttccg aaggttaactg  
1861 gcttcagcag agcgcagata ccaaaactg tccttctagt gtagccgtag ttaggccacc  
1921 acttcaagaa ctctgtagca ccgctacat acctcgtct gctaactctg ttaccagtgg  
1981 ctgctgccag tggcgataag tctgtctta ccgggttga ctcaagacga tagttaccgg  
2041 ataaggcgca gcggtcgggc tgaacggggg gttcgtgcac acagcccagc ttggagcgaa  
2101 cgacctacac cgaactgaga tacctacagc gtgagctatg agaaagcgcc acgcttccc  
2161 aaggagaaaa ggcggacagg tatccggtaa gcggcagggt cggaacagga gagcgcacga  
2221 gggagcttcc agggggaaac gcttggatc tttatagtcc tctcgggtt cgccacctt  
2281 gacttgagcg tcgattttg tcatgctct caggggggag gagcctatgg aaaaacgcca  
2341 gcaacgcggc cttttacgg ttctggcct ttgctggcc tttgctcac atgttcttc  
2401 ctgcttacc cctgattct gtggataacc gtattaccgc ctttgagtga gctgataccg  
2461 ctgcccagc ccgaacgacc gagcgcagcg agtcagttag cgaggaagcg gaagagcgcc  
2521 tgatcggtta ttttctctt acgcatctgt gcggtattc acaccgcaat ggtgactct  
2581 cagtacaatc tgctctgatg ccgcatagtt aagccagtat acactccgct atcgtactg  
2641 gactgggtca tggctgcgcc ccgacaccg ccaacaccg ctgacgcgcc ctgacgggct  
2701 tgtctgctcc cggcatccg ttacagacaa gctgtgaccg tctccgggag ctgcatgtg  
2761 cagaggtttt caccgtatc accgaaacgc gcgaggcagc tgcggtaaag ctcatcagcg  
2821 tggctgtgaa gcgattcaca gatgtctgcc tttcatccg cgtccagctc gttgagttc  
2881 tccagaagcg ttaatgtctg gcttctgata aagcgggcca tgtaagggc ggtttttcc  
2941 tgtttgtca ctgatgctc cgtgtaaggg ggatttctgt tcatgggggt aatgataccg  
3001 atgaaacgag agaggatgct cagatacgg gttactgatg atgaacatgc ccggttactg  
3061 gaacgttgtg agggtaaaca actggcggta tggatgcggc gggaccagag aaaaatcact  
3121 cagggtcaat gccagcgtt cgtaataca gatgtagggt ttccacaggg tagccagcag  
3181 catcctgcga tgcagatccg gaacataatg gtgcaggcg ctgacttccg cgtttccaga  
3241 ctttacgaaa cacggaaacc gaagaccatt catgtgttg ctgagctgc agacgtttg  
3301 cagcagcagt cgcttaccg tctctcgt atcgggtgatt cattctgcta accagtaagg  
3361 caacccgcc agcctagccg ggtctcaac gacaggagca cgatcatgc caccctggc  
3421 caggaccaa cgctgccga gatgcgccg gtgaggctgc tggagatggc ggacgcgatg  
3481 gatatgttct gccagggtt ggtttgcga ttcacagttc tccgcaagaa ttgattggct  
3541 ccaattctg gagtgggaa tccgttagcg aggtgccgc gcttccatt caggtcgagg  
3601 tggcccggct ccatgcaccg cgacgcaacg cggggaggca gacaaggat agggcggcgc  
3661 ctacaatcca tgccaaccg ttcatgtgc tgcggaggc ggcataaatc gccgtgacga  
3721 tcagcggctc aatgatcga gttaggctgg taagagccg gagcgtatct tgaagctgtc  
3781 cctgatggtc gcatctacc tgctggaca gcatggctg caacgcggc atcccgatgc  
3841 cgccggaagc gagaagaatc ataatgggga aggccatcca gctcgcgct cgaacgcca  
3901 gcaagacgta gccagcgcg tccggcgcca tccggcgat aatggcctgc ttctcggca  
3961 aacgtttggt ggcgggacca gtgacgaagg cttgagcagc ggcgtgcaag attccgaata  
4021 ccgcaagcga caggccgatc atcgtcgcg tccagcgaag cgggtcctc cggaaaatga  
4081 cccagagcgc tccggcacc tgcctacga gttgatgat aaagaagaca gtcataagt  
4141 cggcgacgat agtcatgcc cgcgccacc ggaaggagct gactgggtg aaggctctca  
4201 agggcatcgg tcgagatccc ggtgcctaag gagtgagcta acttacatta attgcgttc  
4261 gctcactgcc cgctttccag tccggaaacc tctcgtgcca gctgcattaa tgaatcggcc

4321 aacgcgctgg gagagggcgt ttgcgtattg ggcgccaggg tggttttct ttcaccagt  
4381 gagacgggca acagctgatt gcccttcacc gctggccct gagagagtg cagcaagcg  
4441 tccacgctgg ttgccccag caggcgaaaa tctgtttga tgggtggtta cggcgggata  
4501 taacatgagc tgtcttcggt atcgtcgtat cccactaccg agatatccgc accaacgcgc  
4561 agcccggact cgtaaatggc gcgcattgcg cccagcgcca tctgatcgtt ggcaaccagc  
4621 atcgcagtgg gaacgatgcc ctcatcagc atttgcattg tttgtgaaa accggacatg  
4681 gcactccagt cgcttcccg ttccgctatc ggctgaattt gattgcgagt gagatatta  
4741 tgccagccag ccagacgcag acgcgccgag acagaactta atgggcccgc taacagcgcg  
4801 atttgctggt gacccaatgc gaccagatgc tccagccca gtcgcgtacc gtcttcatgg  
4861 gagaaaataa tactgttgat ggggtgtctg tcagagacat caagaaataa cgccggaaca  
4921 ttagtgacag cagcttcac agcaatggca tctgtgtcat ccagcggata gttaatgatc  
4981 agcccactga cgcgttcgc gagaagattg tgcaccgccg ctttacaggc ttcgacgccg  
5041 cttcgttcta ccatcgacac caccacgctg gcacccagt gatcggcgcg agatttaac  
5101 gccgcgacaa ttgagcagc cgcgtgcagg gccagactgg aggtggcaac gccaatcagc  
5161 aacgactgtt tgcccgccag ttgtgtgcc acgcggttg gaatgtaatt cagctccgcc  
5221 atcgccgctt ccacttttc ccgctttc gcagaaacgt ggctggcctg gttaccacg  
5281 cgggaaacgg tctgataaga gacaccggca tactctgca catcgataa cgttactggt  
5341 ttcacattca ccacctgaa ttgactctt tccgggcgct atcatgcat accgcgaaag  
5401 gttttgcgc attcagatgg gtccgggac tcgacgctt cccttatgcg actctgcat  
5461 taggaagcag cccagtagta ggttgaggcc gttgagcacc gccgccgca ggaatggtgc  
5521 atgcaaggag atggcggcca acagtcccc gccacgggg cctgccacca taccacgcc  
5581 gaaacaagcg ctcatgagcc cgaagtggc agcccgatct tccccatcg tgatgtcggc  
5641 gatataggcg ccagcaaccg cacctgtggc gccggtgatg ccggccacga tgcgtccggc  
5701 gtagaggatc ga

//

### Caution

Product is for research use only!