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LOCUS       Exported                               3956 bp ds-DNA   circular SYN 17-
FEB-2016
DEFINITION  Parental sequencing vector for TOPO(R) TA cloning of PCR
products.
ACCESSION   .
VERSION     .
KEYWORDS    PCR4-TOPO
SOURCE      synthetic DNA construct
  ORGANISM  synthetic DNA construct
REFERENCE   1 (bases 1 to 3956)
  AUTHORS   Invitrogen (Life Technologies)
  TITLE     Direct Submission
  JOURNAL   Exported Wednesday, Feb 17, 2016 from SnapGene 3.0.3
            http://www.snapgene.com
FEATURES             Location/Qualifiers
     source           1..3956
                     /organism="synthetic DNA construct"
                     /lab_host="Escherichia coli"
                     /mol_type="other DNA"
     protein_bind     107..128
  
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        /bound_moiety="E. coli catabolite activator protein"
        /note="CAP binding site"
        /note="CAP binding activates transcription in the
presence
        of cAMP."
        promoter      143..173
                    /note="lac promoter"
                    /note="promoter for the E. coli lac operon"
        protein_bind  181..197
                    /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)."
        primer_bind   205..221
                    /note="M13 rev"
                    /note="common sequencing primer, one of multiple
similar
                    variants"
        CDS           217..498
                    /codon_start=1
                    /gene="lacZ (fragment)"
                    /product="LacZ-alpha fragment of beta-galactosidase"
                    /note="lacZ-alpha"

/translation="MTMITPSSSELTTLTKGTSPAGLNEFALKGEFAAAKFNSPYSESYYN
        SLAVVLQRRDWENPGVTQLNRLAAHPPFASWRNSEEARTDRPSQQLRSL"
        promoter      242..260
                    /note="T3 promoter"
                    /note="promoter for bacteriophage T3 RNA polymerase"
        promoter      329..347
                    /note="T7 promoter"
                    /note="promoter for bacteriophage T7 RNA polymerase"
        primer_bind   354..370
                    /note="M13 fwd"
                    /note="common sequencing primer, one of multiple
similar
                    variants"
        CDS           508..810
                    /codon_start=1
                    /gene="ccdB"
                    /product="CcdB, a bacterial toxin that poisons DNA
gyrase"
                    /note="ccdB"
                    /note="Plasmids containing the ccdB gene cannot be
                    propagated in standard E. coli strains."

/translation="QFKVYTYKRESRYRLFVDVQSDIIDTPGRRMVIPLASARLLSDKV
        SRELYPVVHIGDESWRMMTTDMASVPVSVIGEEVADLSHRENDIKNAINLMFWGI"
        CDS           1159..1953

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/codon_start=1
/gene="aph(3')-II (or nptII)"
/product="aminoglycoside phosphotransferase from
Tn5"

/note="NeoR/KanR"
/note="confers resistance to neomycin, kanamycin,
and G418

(Geneticin(R))"

/translation="MIEQDGLHAGSPAAWVERLFGYDWAQQTIGCSDAAVFRLSAQGRP
VLFVKTDLSGALNELQDEAARLSWLATTGVPCA AVL DVVTEAGRDWLLLGEVPGDLLS
SHLAPA EKVSIMADAMRR LHTLDPATCFD HQAKHRIERARTRMEAGLVDQDDLDEEHQ
GLAPAELFARLKASMPDGEDLVVTHGDA CLPNIMVENGRFSGFIDCGRLGVADRYQDIA
LATRDIAEELGG EWADRFLVLYGIAAPDSQRIAFYRLLDEFF"
CDS complement(2203..3063)
/codon_start=1
/gene="bla"
/product="beta-lactamase"
/note="AmpR"
/note="confers resistance to ampicillin,
carbenicillin, and
related antibiotics"

/translation="MSIQHFRVALI PFFAAFC LPVFAHPETLVKVKDAEDQLGARVGYI
ELDLNSGKILESFRPEERFPM MSTFKVLLCGAVLSRIDAGQEQLGRRIHYSQNDLVEYS
PVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTIGGPKELTAFLHNMGDHVTRLDRW
EPELNEAIPNDERDTTMPVAMATTLR KLLTGELLTLASRQQLIDWMEADKVAGPLL RSA
LPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIAEIGAS
LIKHW"
rep_origin 3187..3775
/direction=RIGHT
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/note="high-copy-number Cole1/pMB1/pBR322/pUC origin
of
replication"
ORIGIN
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tgcagctggc
61 acgacaggtt tcccgactgg aaagcgggca gtgagcgcaa cgcaattaat
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