

Escherichia coli* – *Staphylococcus aureus* Shuttle Vector pCN55, Recombinant in *Escherichia coli

Catalog No. NR-46166

Product Description: NR-46166 is a culture of *Escherichia coli* (*E. coli*) DH5α (RN9880, NRS632) containing the *E. coli*-staphylococcal shuttle vector pCN55. Vector pCN55 contains the *E. coli* ColE1 replication origin and the *Staphylococcus aureus* (*S. aureus*) pT181 *cop-wt-repC* replicon. Vector pCN55 was deposited as resistant to spectinomycin and ampicillin in *E. coli* and resistant to spectinomycin in *S. aureus*.

Lot¹: 63381378

Manufacturing Date: 11MAR2015

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Motility (wet mount)	Gram-negative rods Report results Report results	Gram-negative rods Circular, convex, entire, smooth and cream (Figure 1) Motile
Confirmation of pCN55 Sequence Illumina [®] MiSeq [®] sequence (Figure 2, Table 1)	Report results	Consistent with pCN55 vector description ^{3,4}
Antibiotic Resistance Spectinomycin (encoded by the aminoglycoside adenylyltransferase gene <i>aad9</i>) Ampicillin (encoded by the beta-lactamase gene <i>amp</i>)	<i>aad9</i> sequence present <i>amp</i> sequence present	<i>aad9</i> sequence confirmed <i>amp</i> sequence confirmed
Antibiotic Resistance Ampicillin (100 µg/mL) ²	Resistant (growth)	Growth observed
Purity (post-freeze)⁵	Growth consistent with <i>E. coli</i>	Growth consistent with <i>E. coli</i>
Viability (post-freeze)²	Growth	Growth

¹NR-46166 was produced by inoculation of the deposited material in Luria-Bertani (LB) broth with 100 µg/mL ampicillin and incubated for 24 hours at 37°C in an aerobic atmosphere with shaking at ~ 200 rpm. Broth inoculum was passaged once in LB broth with 100 µg/mL ampicillin for 29 hours at 37°C in an aerobic atmosphere with shaking at ~ 200 rpm to produce this lot.

²20 hours at 37°C in an aerobic atmosphere on LB agar with 100 µg/mL ampicillin

³Illumina[®] MiSeq[®] sequence was analyzed with CLC Genomics Workbench Version 7.0.2.

⁴pCN55 was sequenced and annotated by BEI Resources and is consistent with the vector described in Charpentier, E., et al. "Novel Cassette-Based Shuttle Vector System for Gram-Positive Bacteria." *Appl. Environ. Microbiol.* 70 (2004): 6076-6085. PubMed: 15466553. The BEI Resources vector sequence was deposited into GenBank as NR-46166 (GenBank: KR781474).

⁵Purity of this lot was assessed for 7 days on Tryptic Soy agar with 5% defibrinated sheep blood at 37°C in an aerobic atmosphere

Figure 1: Colony Morphology



Date: 28 JUL 2016

Signature: 
BEI Resources Authentication

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Figure 2: Shuttle Vector pCN55

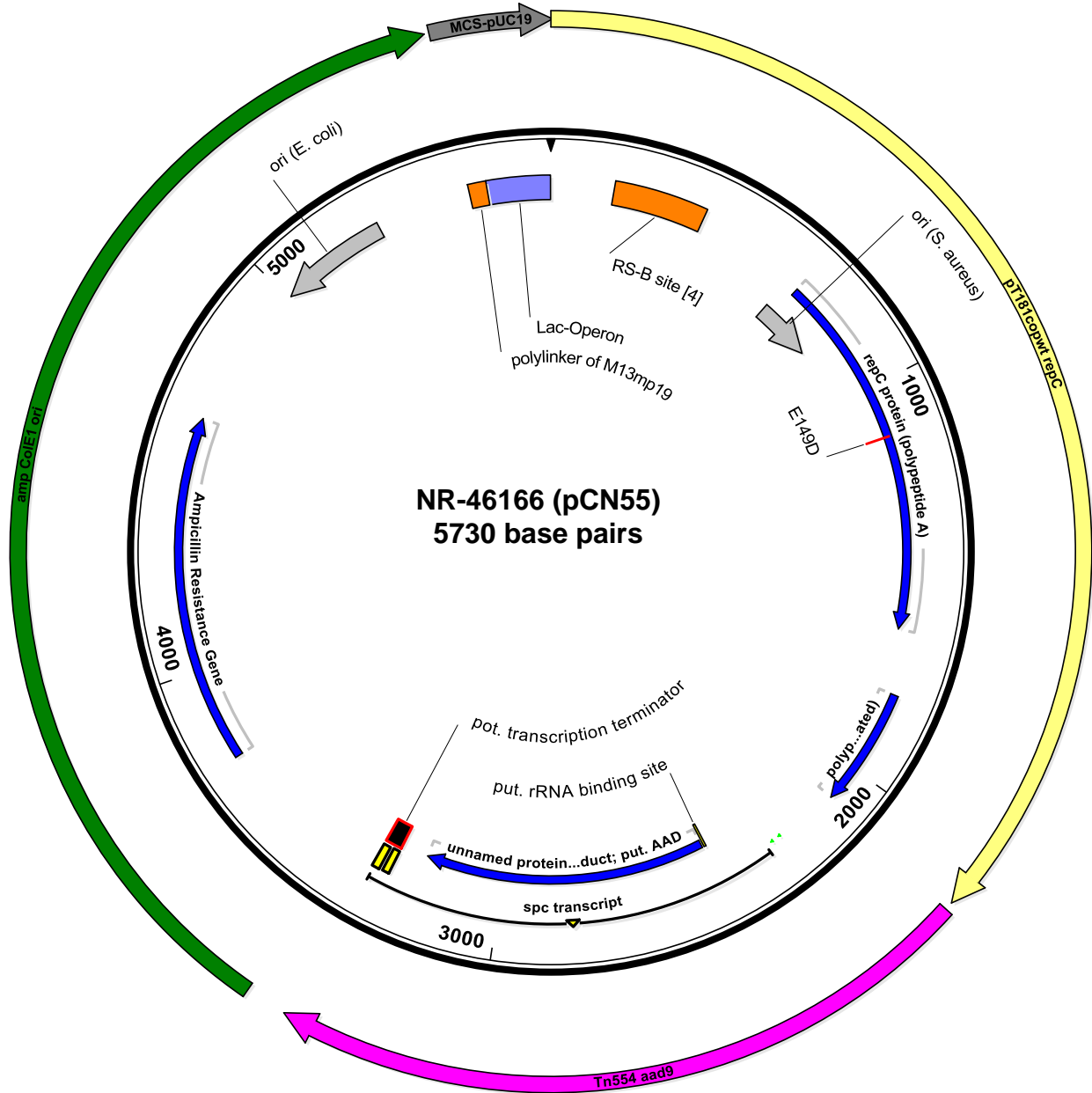


Table 1: Sequence of shuttle vector pCN55

1	CCTTTGCGGA	AAGAGTTAAT	AAGTTAACAG	AAGATGAACC	AAAACTAAAT	50
51	GGTTTAGCAG	GAAACTTAGA	TAAAAAAATG	AATCCAGAAT	TATATTCAGA	100
101	ACAGGAACAG	CAACAAGAAC	AACAAAAGAA	TCAAAAACGA	GATAGAGGTA	150
151	TGCACTTATA	GAACATGCAT	TTATGCCGAG	AAAACTTATT	GGTTGGAATG	200
201	GGCTATGTGT	TAGCTAACTT	GTTAGCGAGT	TGGTTGGACT	TGAATTGGGA	250
251	TTAATCCCAA	GAAAGTACCA	ACTCAACAAC	ACATAAAGCC	CTGTAGGTTT	300
301	CGACCAATAA	GGAAATTGGA	ATAAAGCAAT	AAAAGGAGTT	GAAGAAATGA	350
351	AATTCAGAGA	AGCCTTTGAG	AATTTTATAA	CAAGTAAGTA	TGTACTTGGT	400
401	GTTTTAGTAG	TTTTAACTGT	TTACCAGATA	ATACAAATGC	TTAAATAAAA	450
451	AAAGACTTGA	TCTGATTAGA	CCAAATCTTT	TGATAGTGTT	ATATTAATAA	500
501	CAAAATAAAA	AGGAGTCGCT	CACGCCCTGA	CCAAAGTTTG	TGAACGACAT	550
551	CATTCAAAGA	AAAAAACACT	GAGTTGTTTT	TATAATCTTG	TATATTTAGA	600
601	TATTAACCGA	TATTTAAATA	TACATCAAGA	TATATATTTG	GGTGAGCGAT	650
651	TCCTTAAACG	AAATTGAGAT	TAAGGAGTCG	ATTTTTTATG	TATAAAAACA	700
701	ATCATGCAAA	TCATTCAAAT	CATTTGGAAA	ATCACGATTT	AGACAATTTT	750
751	TCTAAAACCG	GCTACTCTAA	TAGCCGGTTG	GACGCACATA	CTGTGTGCAT	800
801	ATCTGATCCA	AAATTAAGTT	TTGATGCAAT	GACGATCGTT	GGAAATCTCA	850
851	ACCGAGACAA	CGCTCAAGCC	CTTTCTAAAT	TTATGAGTGT	AGAGCCCCAA	900
901	ATAAGACTTT	GGGATATTCT	TCAAACAAAG	TTTAAAGCTA	AAGCACTTCA	950
951	AGAAAAAGTT	TATATTGAAT	ATGACAAAGT	GAAAGCAGAT	AGTTGGGATA	1000
1001	GACGTAATAT	GCGTATTGAA	TTTAATCCAA	ACAAACTTAC	ACGAGATGAA	1050
1051	ATGATTTGGT	TAAAACAAAA	TATAATAAGC	TACATGGAAG	ATGACGGTTT	1100
1101	TACAAGATTA	GATTTAGCCT	TTGATTTTGA	AGATGATTTG	AGTGACTACT	1150
1151	ATGCAATGTC	TGATAAAGCA	GTTAAGAAAA	CTATTTTTTA	TGGTCGTAAT	1200
1201	GGTAAGCCAG	AAACAAAATA	TTTTGGCGTG	AGAGATAGTA	ATAGATTTAT	1250
1251	TAGAATTTAT	AATAAAAAAGC	AAGAACGTAA	AGATAATGCA	GATGCTGAAG	1300
1301	TTATGTCTGA	ACATTTATGG	CGTGTAGAAA	TCGAACTTAA	AAGAGATATG	1350
1351	GTGGATTACT	GGAATGATTG	CTTTAGTGAT	TTACATATCT	TGCAACCAGA	1400
1401	TTGGAAAACT	ATCCAACGCA	CTGCGGATAG	AGCAATAGTT	TTTATGTTAT	1450
1451	TGAGTGATGA	AGAAGAATGG	GGAAAGCTTC	ACAGAAATTC	TAGAACAAAA	1500
1501	TATAAGAATT	TGATAAAAAGA	AATTTGCGCA	GTCGATTTAA	CGGACTTAAT	1550
1551	GAAATCGACT	TTAAAAGCGA	ACGAAAAACA	ATTGCAAAAA	CAAATCGATT	1600
1601	TTTGGCAACA	TGAATTTAAA	TTTTGGAAAT	AGTGTACATA	TTAATATTAC	1650
1651	TGAACAAAAA	TGATATATTT	AAACTATTCT	AATTTAGGAG	GATTTTTTTA	1700
1701	TGAAGTGTCT	ATTTAAAAAT	TTGGGGAATT	TATATGAGGT	GAAAGAATAA	1750
1751	TTTACCCCTA	TAAACTTTAG	TCACCTCAAG	TAAAGAGGTA	AAATTGTTTA	1800
1801	GTTTATATAA	AAAATTTAAA	GGTTTGTTTT	ATAGCGTTTT	ATTTTGGCTT	1850
1851	TGTATTCTTT	CATTTTTTAG	TGTATTAAT	GAAATGGTTT	TAAATGTTTC	1900
1901	TTTACCTGAT	ATTGCAAATC	ATTTTAATAC	TACTCCTGGA	ATTACAAACT	1950
1951	GGGTAAACAC	TGCATATATG	TTAACTTTTT	CGATAGGAAC	AGCAGTATAT	2000
2001	GGAAAATTAT	CTGATTATAT	AAATATAAAA	AAATTGTTAA	TTATTGGTAT	2050
2051	TAGTTTGAGC	TGTCTTGTTT	CATTGATTGC	TTTTATTGGG	CCCACCTAGG	2100
2101	ATCGAATCCC	TTCGTGAGCA	TCAAATAACA	GCAAATGTAG	TCTCAAACC	2150
2151	CAAGAAAAGT	TCTCGTTCGG	AGGAAATCCT	TATTGAAACC	TTAAAAAGAA	2200
2201	GAGTAATGGA	ATTAGAAAAA	GAAAAATAAA	AATTACAGAA	CCAAATTCAA	2250
2251	AAATTATATG	GAGATCTGTA	TAATAAAGAA	TAATTATTAA	TCTGTAGACA	2300
2301	AATTGTGAAA	GGATGTAAT	AAACGCTAAC	GGTCAGCTTT	ATTGAACAGT	2350
2351	AATTTAAGTA	TATGTCCAAT	CTAGGGTAAG	TAAATTGAGT	ATCAATATAA	2400
2401	ACTTTATATG	AACATAATCA	ACGAGGTGAA	ATCATGAGCA	ATTTGATTAA	2450
2451	CGAAAAATA	CCAAATCAAG	CGATTCAAAC	ATTAATAATC	GTAAGAGATT	2500
2501	TATTTGGAAG	TTCAATAGTT	GGAGTATATC	TATTTGGTTC	AGCAGTAAAT	2550
2551	GGTGGTTTAC	GCATTAACAG	CGATGTAGAT	GTTCTAGTCG	TCGTGAATCA	2600

2601	TAGTTTACCT	CAATTAACTC	GAAAAAACT	AACAGAAAGA	CTAATGACTA	2650
2651	TATCAGGAAA	GATTGGAAAT	ACGGATTCTG	TTAGACCACT	TGAAGTTACG	2700
2701	GTTATAAATA	GGAGTGAAGT	TGTCCCTTGG	CAATATCCTC	CAAAAAGAGA	2750
2751	ATTTATATAC	GGTGAGTGGC	TCAGGGGTGA	ATTTGAGAAT	GGACAAATTC	2800
2801	AGGAACCAAG	CTATGATCCT	GATTTGGCTA	TTGTTTTAGC	ACAAGCAAGA	2850
2851	AAGAATAGTA	TTTCTCTATT	TGGTCTGAT	TCTTCAAGTA	TACTTGTCTC	2900
2901	CGTACCTTTG	ACAGATATTC	GAAGAGCAAT	TAAGGATTCT	TTGCCAGAAC	2950
2951	TAATTGAGGG	GATAAAAGGT	GATGAGCGTA	ATGTAATTTT	AACCCTAGCT	3000
3001	CGAATGTGGC	AAACAGTGAC	TACTGGTGAA	ATTACCTCGA	AAGATGTGCG	3050
3051	TGCAGAATGG	GCTATACCTC	TTTTACCTAA	AGAGCATGTA	ACTTTACTGG	3100
3101	ATATAGCTAG	AAAAGGCTAT	CGGGGAGAGT	GTGATGATAA	GTGGGAAGGA	3150
3151	CTATATTCAA	AGGTGAAAGC	ACTCGTTAAG	TATATGAAAA	ATTCTATAGA	3200
3201	AACTTCTCTC	AATTAGGCTA	ATTTTATTGC	AATAACAGGT	GCTTACTTTT	3250
3251	AAAACACTG	ATTTATTGAT	AAATATTGAA	CAATTTTTTG	GAAGAATAAA	3300
3301	GCGTCTCTT	GTGAAATTAG	AGAACGCTTT	ATTACTTTAA	TTTAGTGAAA	3350
3351	CAATTTGTAA	CTATTGAAAA	TAGAAAGAAA	TTGTTCTTGG	ATAGTTTATT	3400
3401	ACCGCGCCT	CGAGCGGCCG	CATAGTTAAG	CCAGCCCCGA	CACCCGCCAA	3450
3451	CACCCGCTGA	CGCGCCCTGA	CGGGCTTGTC	TGCTCCCGGC	ATCCGCTTAC	3500
3501	AGACAAGCTG	TGACCGTCTC	CGGGAGCTGC	ATGTGTCAGA	GGTTTTCCACC	3550
3551	GTCATCACCG	AAACGCGCGA	GACGAAAGGG	CCTCGTGATA	CGCCTATTTT	3600
3601	TATAGGTTAA	TGTCATGATA	ATAATGGTTT	CTTAGACGTC	AGGTGGCACT	3650
3651	TTTCGGGGAA	ATGTGCGCGG	AACCCCTATT	TGTTTTATTTT	TCTAAATACA	3700
3701	TTCAAATATG	TATCCGCTCA	TGAGACAATA	ACCCTGATAA	ATGCTTCAAT	3750
3751	AATATTGAAA	AAGGAAGAGT	ATGAGTATTC	AACATTTCCG	TGTCGCCCTT	3800
3801	ATTCCCTTTT	TTGCGGCATT	TTGCCTTCTT	GTTTTTGCTC	ACCCAGAAAC	3850
3851	GCTGGTGAAA	GTAAAAGATG	CTGAAGATCA	GTTGGGTGCA	CGAGTGGGTT	3900
3901	ACATCGAACT	GGATCTCAAC	AGCGGTAAGA	TCCTTGAGAG	TTTTTCGCC	3950
3951	GAAGAACGTT	TTCCAATGAT	GAGCACTTTT	AAAGTTCTGC	TATGTGGCGC	4000
4001	GGTATTATCC	CGTATTGACG	CCGGGCAAGA	GCAACTCGGT	CGCCGCATAC	4050
4051	ACTATTCTCA	GAATGACTTG	GTTGAGTACT	CACCAGTCAC	AGAAAAGCAT	4100
4101	CTTACGGATG	GCATGACAGT	AAGAGAATTA	TGCAGTGCTG	CCATAACCAT	4150
4151	GAGTGATAAC	ACTGCGGCCA	ACTTACTTCT	GACAACGATC	GGAGGACCGA	4200
4201	AGGAGCTAAC	CGCTTTTTTG	CACAACATGG	GGGATCATGT	AACTCGCCTT	4250
4251	GATCGTTGGG	AACCGGAGCT	GAATGAAGCC	ATACCAAACG	ACGAGCGTGA	4300
4301	CACCACGATG	CCTGTAGCAA	TGGCAACAAC	GTTGCGCAA	CTATTAAGTG	4350
4351	GCGAACTACT	TACTCTAGCT	TCCC GGCAAC	AATTAATAGA	CTGGATGGAG	4400
4401	GCGGATAAAG	TTGCAGGACC	ACTTCTGCGC	TCGGCCCTTC	CGGCTGGCTG	4450
4451	GTTTATTGCT	GATAAATCTG	GAGCCGGTGA	GCGTGGGTCT	CGCGGTATCA	4500
4501	TTGCAGCACT	GGGGCCAGAT	GGTAAGCCCT	CCCGTATCGT	AGTTATCTAC	4550
4551	ACGACGGGGA	GTCAGGCAAC	TATGGATGAA	CGAAATAGAC	AGATCGCTGA	4600
4601	GATAGGTGCC	TCACTGATTA	AGCATTGGTA	ACTGTCAGAC	CAAGTTTACT	4650
4651	CATATATACT	TTAGATTGAT	TTAAAACTTC	ATTTTTAATT	TAAAAGGATC	4700
4701	TAGGTGAAGA	TCCTTTTTGA	TAATCTCATG	ACCAAAATCC	CTTAACGTGA	4750
4751	GTTTTTCGTT	CACTGAGCGT	CAGACCCCGT	AGAAAAGATC	AAAGGATCTT	4800
4801	CTTGAGATCC	TTTTTTTTCTG	CGCGTAATCT	GCTGCTTGCA	AACAAAAAAA	4850
4851	CCACCGCTAC	CAGCGGTGGT	TTGTTTTGCCG	GATCAAGAGC	TACCAACTCT	4900
4901	TTTTCCGAAG	GTAAGTGGCT	TCAGCAGAGC	GCAGATACCA	AATACTGTTC	4950
4951	TTCTAGTGTA	GCCGTAGTTA	GGCCACCACT	TCAAGAAGTC	TGTAGCACCG	5000
5001	CCTACATAAC	TCGCTCTGCT	AATCCTGTTA	CCAGTGGCTG	CTGCCAGTGG	5050
5051	CGATAAGTCG	TGTCTTACCG	GGTTGGACTC	AAGACGATAG	TTACCGGATA	5100
5101	AGGCGCAGCG	GTCGGGCTGA	ACGGGGGGTT	CGTGACACACA	GCCCAGCTTG	5150
5151	GAGCGAACGA	CCTACACCGA	ACTGAGATAC	CTACAGCGTG	AGCTATGAGA	5200
5201	AAGCGCCACG	CTTCCCGAAG	GGAGAAAGGC	GGACAGGTAT	CCGGTAAGCG	5250

5251	GCAGGGTCGG	AACAGGAGAG	CGCACGAGGG	AGCTTCCAGG	GGGAAACGCC	5300
5301	TGGTATCTTT	ATAGTCCTGT	CGGGTTTCGC	CACCTCTGAC	TTGAGCGTCG	5350
5351	ATTTTTGTGA	TGCTCGTCAG	GGGGGCGGAG	CCTATGGAAA	AACGCCAGCA	5400
5401	ACGCGGCCTT	TTTACGGTTC	CTGGCCTTTT	GCTGGCCTTT	TGCTCACATG	5450
5451	TTCTTTCTTG	CGTTATCCCC	TGATTCTGTG	GATAACCGTA	TTACCGCCTT	5500
5501	TGAGTGAGCT	GGCGGCCGCT	GCATGCCTGC	AGGTCGACTC	TAGAGGATCC	5550
5551	CCGGGTACCG	AGCTCGAATT	CACTGGCCGT	CGTTTTACAA	CGTCGTGACT	5600
5601	GGGAAAACCC	TGGCGTTACC	CAACTTAATC	GCCTTGCAGC	ACATCCCCCT	5650
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5701	ACAGTTGCGC	AGCCTGAATG	GCGAATGGCG			5730