

**Table S3 Oligonucleotides**

Oligo Number	Sequence	Purpose
4891	GACTGTCTAGAGTTAAGGAGAAGCAACATGACCGTT AATCATATTAGCGAACC	Amplify RSP2654 from p10346 for cloning into pINIIIA (F)
4892	GACTGAAGCTTTGTGGTAAACGTGATGGAACGGCTGTAA TTAATTCATCACGATGAACACGTTCC	Amplify RSP2654 from p10346 For cloning into pINIIIA (R)
4893	CCGACTGCATATGACCGTTAATCATATTAGCGAACC	Amplify RSP2654 from p10346 For cloning into pET33 (F)
4894	CTCAGCTGAAGCTTATTCATCACGATGAACACG	Amplify RSP2654 from p10346 For cloning into pET33 (R)
5528	GACTGTCTAGAGTTAAGGAGAAGCAACATGATTGATATT CCGCGTCGTAAAGC	Amplify RSP0166 for insertion into pINIIIA (F)
5529	GACTGAAGCTTTGTGGTAAACGTGATGGAACGGCTGTAA TCAACCTGCACATTTACGACAAAACG	Amplify RSP0166 for insertion into pINIIIA (R)
5849	CCGGATATTGCAATTCGTGCAAGCGAAG	D80I substitution in <i>E.coli</i> optimized RSP2654
5850	CCGGATATTGCAGAACGTGCAAGCGAAG	D80E substitution in <i>E.coli</i> optimized RSP2654
5851	GATATTGCAGATCGTACCAGCGAAGAAACC	A82T substitution in <i>E.coli</i> optimized RSP2654
5852	CCGGATATTGCAATTCGTACCAGCGAAGAAACC	D80I/A82T substitution in <i>E.coli</i> optimized RSP2654
KCL05	GTAGAATTCGCTCCTGCTCGTTCTTCAGC	Amplify RSP2654 and flanking region from <i>R. sphaeroides</i> genomic DNA (F)
KCL18	CTATCTAGAGCACCTGCTCGAGCCAA	Amplify RSP2654 and flanking region from <i>R. sphaeroides</i> genomic DNA (R)
KCL07	CCGGCGCTCCCTTCAATGCG	Delete RSP2654 from pKCL09 to make pKCL10 (R)
KCL08	GCGCATCTGCGCCTCCCG	Delete RSP2654 from pKCL09 to make pKCL10 (F)
KCL17	GCATCTAGAGACCTGTCTTTCCGCAT	Amplify RSP0166 and flanking region from <i>R. sphaeroides</i> genomic DNA (F)
KCL10	TGCAAGCTTATCACCTTCGTGTCGTAGCC	Amplify RSP0166 and flanking region from <i>R. sphaeroides</i> genomic DNA (R)
KCL11	GGGCCACCTCCTCTGATTG	Delete RSP0166 from pKCL07 to make pKCL08 (R)
KCL12	CCGGCGGAGGAGGATCCA	Delete RSP0166 from pKCL07 to make pKCL08 (F)
KCL19	GCTACATATGACTGTGAACCACATTTCCGG	Amplify RSP2654 from pKCL09 for cloning into pIND5 (F)
KCL21	GATCAAGCTTTTACTCGTCGCGGTGCAC	Amplify RSP2654 from pKCL09 for cloning into pIND5 (R)
KCL23	GTAGCATATGATCGACATTTCCCGTCCG	Amplify RSP0166 from pKCL07 for cloning into pIND5 (F)
KCL25	ACTGAAGCTTTTACCCGGCGCATTGCG	Amplify RSP0166 from pKCL07 for cloning into pIND5 (R)
KCL27	CGACATCGCCAACCGTGCCAGCGAGGAGACG	D80N substitution in native RSP2654 (F)

KCL28	CGTCTCCTCGCTGGCACGGTTGGCGATGTCG	D80N substitution in native RSP2654 (R)
KCL29	CATCGCCGACCGTACCAGCGAGGAGACG	A82T substitution in native RSP0166 (F)
KCL30	CGTCTCCTCGCTGGTACGGTCGGCGATG	A82T substitution in native RSP0166 (R)
KCL31	AAGATTAATGCAAGAAGGGCAAAACCGTA	Amplify DksA <sub>Ec</sub> and DksA <sub>Ec</sub> -D74N to clone into pIND5 (F)
KCL32	CTGTCTAGAGCCAGCCATCTGTTTTTCGC	Amplify DksA <sub>Ec</sub> and DksA <sub>Ec</sub> -D74N to clone into pIND5 (R)