

## Gene Synthesis QA Report

<b>Gene Name</b>	CYP78C5 cs	<b>Order ID</b>	SG140999-1
<b>Lot#</b>	GB151124-35412	<b>Cloning Vector</b>	pBluescript II SK(+)
<b>Length (bp)</b>	1668	<b>Cloning Sites</b>	EcoR I/BamHI

### Quality Control

Test Items	Specifications	Results
<b>Sequencing Alignment</b>	Sequencing data consistent with target	[ X ] Pass
<b>Vector Sequence</b>	Flanking sequence of cloning sites are correct	[ X ] Pass
<b>Restriction Digest</b>	Insert size is correct and no contaminated bands	[ X ] Pass
<b>ORF Across Junction</b>	Correct and consistent with target	N/A
<b>PCR Amplification</b>	Correct and no contaminated bands	[ X ] Pass
<b>Endotoxin Level</b>	Verified, <0.1 EU/μg (Endo-Free Preps Only)	N/A
<b>Appearance</b>	Clear, no foreign particles	[ X ] Pass
<b>DNA Purity</b>	Purity (A 260/A280 = 1.8 - 2.0)	[ X ] Pass
<b>DNA Quantity</b>	Actual yield (by A 260 )	5ug

#### Comments

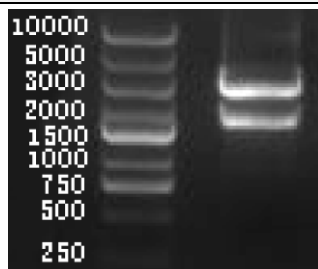
Delivery form: lyophilized plasmid (TE lyophilized) containing the gene insert. It is stable at room temperature for extended period of time during shipping. The lyophilized plasmid can be dissolved in sterile TE buffer or nuclease-free water (neutral pH) depending on the established laboratory practice. After reconstitution, store the stock solution at -20°C or -80°C for long term storage. The lyophilized plasmid dissolved in TE buffer is stable for at least 6 months at 4°C while the lyophilized DNA dissolved in water is **NOT STABLE** at 4°C.

- Before opening the tube containing the plasmid, please briefly centrifuge the tube. Lyophilized plasmid could attach to the wall of the tube. Opening without centrifugation could cause DNA loss.
- Stock Solution: Reconstitute lyophilized plasmid (4ug or 10ug) in 40ul or 100ul of TE buffer or nuclease-free water (final concentration - 100ng/ul). To accurately determine the quantity of DNA present, please measure OD value of original stock at OD<sub>260nm</sub> after reconstitution.
- Working Solution: make a 1:10 dilution of stock solution using TE buffer or nuclease-free water (final concentration - 10ng/ul)

#### Transformation and Replating:

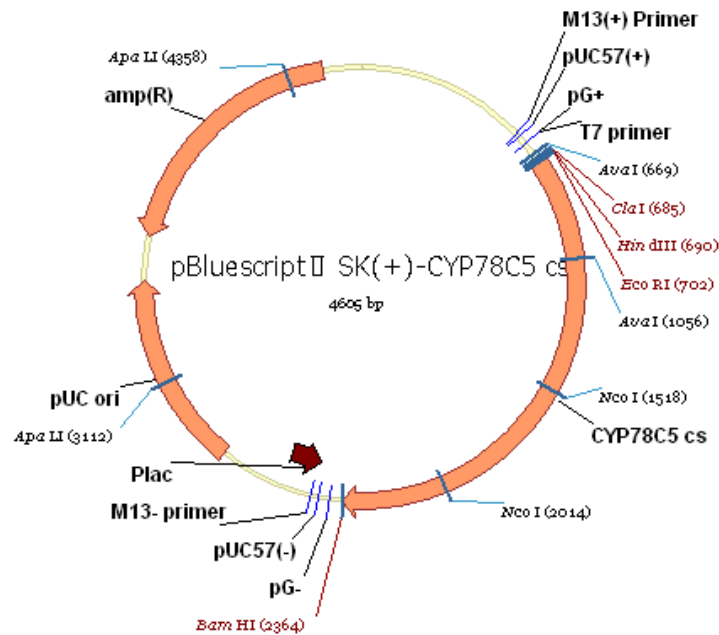
Transform 2ul of stock solution into appropriate *E. coli* competent cells according to standard laboratory protocol. Plate the mixture on LB agar (with desired antibiotic selection) and incubate at 37°C for overnight. Select a well separated, SINGLE colony and inoculate in LB medium with desired antibiotic selection for overnight culture. Purify Plasmid DNA from overnight cultures, verify sequences and continue with project of interest. \*It is important to select only a SINGLE colony for overnight culture.

### Restriction Digestion



Gene name: CYP78C5 cs  
 Clone ID#: V9081-2  
 RES: XbaI/HindIII

### Construct Map:



### Detailed Sequence of the Whole Construct:

1	CTAAATTGTA	AGCGTTAATA	TTTTGTAAA	ATTCGCGTTA	AATTTTTGTT	AAATCAGCTC
61	ATTTTTTAAC	CAATAGGCCG	AAATCGGCAA	AATCCCTTAT	AAATCAAAAG	AATAGACCGA
121	GATAGGGTTG	AGTGTGTTC	CAGTTTGGAA	CAAGAGTCCA	CTATTAAAGA	ACGTGGACTC
181	CAACGTCAAA	GGGCGAAAA	CCGTCTATCA	GGGCGATGGC	CCACTACGTG	AACCATCACC
241	CTAATCAAGT	TTTTTGGGGT	CGAGGTGCCG	TAAAGCACTA	AATCGGAACC	CTAAAGGGAG
301	CCCCCGATTT	AGAGCTTGAC	GGGGAAAGCC	GGCGAACGTG	GCGAGAAAGG	AAGGGAAGAA
361	AGCGAAAGGA	GCGGGCGCTA	GGGCGCTGGC	AAGTGTAGCG	GTCACGCTGC	GCGTAACCAC
421	CACACCCGCC	GCGCTTAATG	CGCCGCTACA	GGGCGCGTCC	CATTCGCCAT	TCAGGCTGCG
481	CAACTGTTGG	GAAGGGCGAT	CGGTGCGGGC	CTCTTCGCTA	TTACGCCAGC	TGGCGAAAGG
541	GGGATGTGCT	GCAAGGCGAT	TAAGTTGGGT	AACGCCAGGG	TTTTCCAGT	CACGACGTTG
601	TAAAACGACG	GCCAGTGAGC	GCGCGTAATA	CGACTCACTA	TAGGGCGAAT	TGGGTACCGG
661	GCCCCCCTC	GAGGTCGACG	GTATCGATAA	GCTTGATATC	GAATTCATGG	ACATGGACTC
721	GTCGCCGTCG	ACACAGGACT	GTGGCGGCTG	GCTGCTGTAC	GTCTCCCTCG	CTGCCAAATG
781	CGGCGGCGAC	CCTTGCCGCG	TCGTCCGCTT	CGTCGCCGTT	GCCGTCGTCG	CCTTCGCCGT
841	CACGTCGCTC	CTGCACTGGC	TGTCGCCCGG	TGGCCCGGCG	TGGGGGAGGT	ATTGGTGGAA
901	CAGGAGGGGT	GGTCTGGGCA	TTGCTGCCGC	CATTCTGGG	CCCCGTGGGT	TGCCCGTGCT
961	CGGCAGCATG	TCGCTCATGG	CGGGACTCGC	GCACCGGAAG	CTCGCCGCGG	CGGCGGGGGG
1021	CTCGCCGGCG	AGGCGGCGCC	TCATGGCGCT	GTCTCTCGGG	GAGACACGGG	TGGTGGTCAC
1081	CGCCGACCCC	GGCGTCGCGC	GGGAGCTCCT	CGCCAGCGCG	GCGTTCGCCG	ACGGGCCGGT
1141	GAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1201	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1261	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1321	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1381	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1441	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1501	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1561	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1621	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC
1681	GTAAGGAGTCC	GCGTACGGGA	TGCTGTTCCTA	CCGCGCCATC	GGGTTGCGCG	CCTACGGCAC

1741	AGGGACGGAC	ACGGTGGCGG	TCCTGATCGA	GTGGGTGGCG	GCGAGGCTGG	TGCTGCACCA
1801	GGACGTGCAG	GCCAGGGTCC	ATGACGAGCT	GGACCGAGTG	GTCGGGTCCG	ACCGGGCAGT
1861	GACCGAGTCG	GACGCGTCCA	AGCTGGTCTA	CCTCCAAGCG	GTGATCAAAG	AGGTCCTGCG
1921	CCTCCACCCG	CCGGGCCCCAC	TGCTCTCGTG	GGCACGCCTC	GCCACGTCCG	ATGTACACGT
1981	CGGCGGGTTC	CTCATACCCT	CTGGGACCAC	CGCCATGGTG	AACATGTGGG	CCATAACCCA
2041	TGACCCTGCC	GTTTGGCCCC	ACCCGAACGA	GTTCAAACCA	GAGAGGTTCC	TCGCAGGGCC
2101	CTCGTCGGAC	CAGGCCACGG	AGTTTCCGAT	AATGGGGTCC	GATCTCAGGC	TCGCGCCGTT
2161	CGGGTCAGGA	AGGCGAAGCT	GCCCCGGCAA	GTCGCTCGCC	ATCGCCACTG	TCGGATCTTG
2221	GGTTGCCACG	TTGCTACACG	AGTTCGATTG	GCTTCCCTTG	TCAGATAAGT	CGCGCGGCGT
2281	CGATCTGTCG	GAGGTGCTGA	AGCTGTCGTG	CGAGATGGCA	ACCCCGCTGG	AGGCAAGGCT
2341	AAGGCCGCGA	CGCAAGGTGT	GAGGATCCAC	TAGTTCTAGA	GCGGCCGCCA	CCGCGGTGGA
2401	GCTCCAGCTT	TTGTTCCCTT	TAGTGAGGGT	TAATTGCGCG	CTTGGCGTAA	TCATGGTCAT
2461	AGCTGTTTTCC	TGTGTGAAAT	TGTTATCCGC	TCACAATTCC	ACACAACATA	CGAGCCGGAA
2521	GCATAAAGTG	TAAAGCCTGG	GGTGCCTAAT	GAGTGAGCTA	ACTCACATTA	ATTGCGTTGC
2581	GCTCACTGCC	CGCTTTCCAG	TCGGGAAACC	TGTCGTGCCA	GCTGCATTAA	TGAATCGGCC
2641	AACGCGCGGG	GAGAGGCGGT	TTGCGTATTG	GGCGCTCTTC	CGCTTCCTCG	CTCACTGACT
2701	CGCTGCGCTC	GGTCGTTCCG	CTGCGGCGAG	CGGTATCAGC	TCACTCAAAG	GCGGTAATAC
2761	GGTTATCCAC	AGAATCAGGG	GATAACGCAG	GAAAGAACAT	GTGAGCAAAA	GGCCAGCAAA
2821	AGGCCAGGAA	CCGTAAAAAG	GCCGCGTTGC	TGGCGTTTTT	CCATAGGCTC	CGCCCCCCTG
2881	ACGAGCATCA	CAAAAATCGA	CGCTCAAGTC	AGAGGTGGCG	AAACCCGACA	GGACTATAAA
2941	GATACCAGGC	GTTTCCCCCT	GGAAGCTCCC	TCGTGCGCTC	TCCTGTTCCG	ACCCTGCCGC
3001	TTACCGGATA	CCTGTCCGCC	TTTCTCCCTT	CGGGAAGCGT	GGCGCTTTCT	CATAGCTCAC
3061	GCTGTAGGTA	TCTCAGTTCG	GTGTAGGTCG	TTCGCTCCAA	GCTGGGCTGT	GTGCACGAAC
3121	CCCCCGTTCA	GCCCCACCCG	TGCGCCTTAT	CCGGTAACTA	TCGTCTTGAG	TCCAACCCGG
3181	TAAGACACGA	CTTATCGCCA	CTGGCAGCAG	CCACTGGTAA	CAGGATTAGC	AGAGCGAGGT
3241	ATGTAGGCGG	TGCTACAGAG	TTCTTGAAGT	GGTGGCCTAA	CTACGGCTAC	ACTAGAAGGA
3301	CAGTATTTGG	TATCTGCGCT	CTGTGAAGC	CAGTTACCTT	CGGAAAAAGA	GTTGGTAGCT
3361	CTTGATCCGG	CAAACAAACC	ACCGCTGGTA	GCGGTGGTTT	TTTTGTTTGC	AAGCAGCAGA
3421	TTACGCGCAG	AAAAAAGGA	TCTCAAGAAG	ATCCTTTGAT	CTTTTCTACG	GGGTCTGACG
3481	CTCAGTGGAA	CGAAAACCTA	CGTTAAGGGA	TTTTGGTCAT	GAGATTATCA	AAAAGGATCT
3541	TCACCTAGAT	CCTTTTAAAT	TAAAAATGAA	GTTTTAAATC	AATCTAAAGT	ATATATGAGT
3601	AAACTTGGTC	TGACAGTTAC	CAATGCTTAA	TCAGTGAGGC	ACCTATCTCA	GCGATCTGTC
3661	TATTTTCGTT	ATCCATAGTT	GCCTGACTCC	CCGTGCTGTA	GATAACTACG	ATACGGGAGG
3721	GCTTACCATC	TGGCCCCAGT	GCTGCAATGA	TACCGCGAGA	CCCACGCTCA	CCGGCTCCAG
3781	ATTTATCAGC	AATAAACCAG	CCAGCCGGAA	GGGCCGAGCG	CAGAAGTGGT	CCTGCAACTT
3841	TATCCGCTC	CATCCAGTCT	ATTAATTGTT	GCCGGGAAGC	TAGAGTAAGT	AGTTCGCCAG
3901	TTAATAGTTT	GCGCAACGTT	GTTGCCATTG	CTACAGGCAT	CGTGGTGTCA	CGCTCGTCGT
3961	TTGGTATGGC	TTCATTACAG	TCCGGTTCCC	AACGATCAAG	GCGAGTTACA	TGATCCCCCA
4021	TGTTGTGCAA	AAAAGCGGTT	AGCTCCTTCG	GTCCTCCGAT	CGTTGTGAGA	AGTAAGTTGG
4081	CCGCAGTGTT	ATCACTCATG	GTTATGGCAG	CACTGCATAA	TTCTCTTACT	GTCATGCCAT
4141	CCGTAAGATG	CTTTTCTGTG	ACTGGTGAGT	ACTCAACCAA	GTCATTCTGA	GAATAGTGTA
4201	TGCGGCGACC	GAGTTGCTCT	TGCCCCGCGT	CAATACGGGA	TAATACCGCG	CCACATAGCA
4261	GAACTTTAA	AGTGCTCATC	ATTGGAAAA	GTTCTTCGGG	GCGAAAACCT	TCAAGGATCT
4321	TACCGCTGTT	GAGATCCAGT	TCGATGTAAC	CCACTCGTGC	ACCCAACCTGA	TCTTCAGCAT
4381	CTTTTACTTT	CACCAGCGTT	TCTGGGTGAG	CAAAAACAGG	AAGGCAAAAT	GCCGCAAAAA
4441	AGGGAATAAG	GGCGACACGG	AAATGTTGAA	TACTCATACT	CTTCCTTTTT	CAATATTATT
4501	GAAGCATTTA	TCAGGGTTAT	TGTCTCATGA	GCGGATACAT	ATTTGAATGT	ATTTAGAAAA
4561	ATAAACAAAT	AGGGGTTCCG	CGCACATTTT	CCCGAAAAGT	GCCAC	

**Certified by: Patrick Barretto**

**Date: 10/25/2015**