

Structure-guided investigation of LPS O-antigen chain length regulators reveals regions critical for modal length control

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Supplementary information

Table S1, A list of oligonucleotides used for construction of chimeric genes. C* refers to the forward primer for the PCR reaction 1 containing an overhang complementary to portion of the oligonucleotide D; B* refers to the reverse primer for the PCR reaction 1 containing an overhang complementary to portion of the oligonucleotide C;

For the production of some chimeric genes where three fragments had to be synthesized in the first round of PCR (PCR reaction 1) the oligonucleotides are labeled C1 and C2 and B1 and B2.

WzzB_ST_F: cggcggcggcggccatgacagtggatagtaatac
WzzB_ST_R: ctcggtcgcggccattacaaggcttttggcttatagc

WzzB_SF_F: cggcggcggcggccatgagagtagaaaataataatgtttc
WzzB_SF_R: ctcggtcgcggccattacttcgcggttgaattacg

FepE_F: cgaagcgaattcatgtcatcactgaatattaacag
FepE_R: ctaagtggtagccttaactaagtggtagcctcat

WzzB_{Eco157}_F: cgaagcgaattcatgaggacttggaaatttc
WzzB_{Eco157}_R: ctaagtggtagccttacttcgcggttgaattacg

Internal oligonucleotides used in overlap PCR:

pSK1_C*: cgaatatttattggtagccttcagttc
pSK1_B*: gaccaataaaattcgcctgcacttc

pSK2_C: gcctattaccagacacgtcaaacctgttg
pSK2_B: gacgtgtctggtaataggccggagaaaagac

pSK3_C: gaaaagcttaccatcgaaccttctgttaag
pSK3_B: gttcgatggtaagcttttcccgtctt

pSK4_C: gtgagtactactgcagagggcgcacaaatg
pSK4_B: ctctgcagttgtactcacataagaaaccga

pSK5_C: gcctattaccagacacgtcaaacctgttg
pSK5_B: gacgtgtctggtaataggccggagaaaagac

pSK6_C: gatacgggtgcatgcttaccgctatgtg
pSK6_B: gtaagcatgcaccgtatcggcagtcacttt

pSK7_C: gagacgttaataagccgctttagctctg
pSK7_B: gcttattaacgtctcctgcaaaccgatac

pSK8_C: gaaaaacttaccattgaacagtcggta
pSK8_B: gttcaatggtaagtttttctggctcttcc

pSK9_C: gttgggcaaaccgctgaaggggcgagcg
pSK9_B: ttcagcggtttgcccaacataagaaacagtcaa
pSK10_C: cgtatccgtcagatcgaagaagcgttgcgctatg
pSK10_B: cttcttcgatctgacggatacgcagatctttctgctcc

pSK11_C: aactactatcagacgaagcagacactgctg
pSK11_B: gcttcgtctgatagtagtttggtgagaacacc

pSK12_C: cttgatattcacgtctatcgttatgtgatg
pSK12_B: gatagacgtgaatatcaagatcatcaaactttaatttttc

pSK13_C1: ttggcagtagcgaagaaaaatggacatccacg
pSK13_B1: gtccatTTTTCTTTCGCTACTGCCAAATAACCAAT
pSK13_C2: ggcgaattttattggtcgcttcagttctgc
pSK13_B2: aagcgaccaataaaaattcgcctgcacttcagag

pSK14_C1: cgtatccgtcagatcgaagaagcgttgcgctatgc
pSK14_B1: gccgatacgggtgcatgcttaccgctatgtgatg
pSK14_C2: gcgcaacgcttcttcgatctgacggatacgcagatctttc
pSK14_B2: cggtaagcatgcaccgtatcggcagtcactttcag

pSK15_C1: same as for pSK14;
pSK15_B1: same as for pSK14;
pSK15_C2: cggcctattaccagacagtcaaaacctgttg
pSK15_B2: ttgacgtgtctggtaataggccggagaaaagacc

pSK16_C1: cgctatgcggatgaggccaaaatcacgcagccacaggtgacaaagccacag
pSK16_B1: ggcctcatccgcatagcgcaacgcttcttcgatctgacggatacgcagatctttc

pSK17_C1: gttcctggtggggagcgatgcgctaaaatcgatgattaagcatgaagcgactcgt
pSK17_B1: tcgctccccaacaggaacatcgtgtcctgggtaacatcctggggttgctgaatctg
cggtgctttgtcacctgcgctgattc

pSK18_C: ctggacattaaaaatctgaaagtgactgccgatacgggtgcatgcttaccgctatgtgatg
pSK18_B: cagatttttaatgtccagcagtgctctgcttcgtctgatagtagtttggtgag

pSK19_C: gtgactgccgatacgggtgcatgcttaccgctatgtgatg
pSK19_B: gttggatattgaaaaattaaaagtgactgccgatacgggtg

pSK20_C1: catttctcctttgctatcatcaggtagcctac
pSK20_B1: catttctcctttgctatcatcaggtagcctac
pSK20_C2: gagacgttaataagccgcttttagctctgcg
pSK20_B2: ctaaagcggcttattaacgtctcctgcaaatccgatac

pSK21_C1: cgtattaagcaaattcaggaagcgttgcagtatgc
pSK21_B1: cgcttcctgaatttgcttaatacgcagatctttttgc
pSK21_C2: gatcttgatattcacgtctatcgttatgtgatg
pSK21_B2: cgatagacgtgaatatcaagatcatcaaactt

pSK22_C1: same as for pSK21
pSK22_D1: same as for pSK21
pSK22_C2: ccaaactactatcagacgaagcagacactgctgg
pSK22_D2: ctgcttcgctctgatagtagtttggtgagaacacc

pSK23_C1: gcgttgcagtatgcgaatcaggcgcaggtgacaaaaccgcagattcagcaaaccag
pSK23_C2: gattcgcatactgcaacgcttcctgaatttgcttaatacgcagatcttttt
pSK24_C1: gatacgttgcttccttctagggagcgaagcgtggagtcgatgatacagaacgaagcga
cgcgtc
pSK24_D1: tagaaggaacaacgtatcttgcgctcacatcttcagtctgctgaacctgtggctgcgctg
atthttggcctcat

pSK25_C: gatattgaaaaattaaagtttgatgatcttgatattcacgtctatcgttatgtgatgaag
pSK25_D: ctttaatttttcaatatccaacaggttttgacgtgtctggtaataggccggagaaaag

pSK26_C: tttgatgatcttgatattcacgtctatcgttatgtg
pSK26_D: aatatcaagatcatcaaatttcagatthtttaatgtccag

The oligonucleotides from the list above were used in various combinations, to construct chimeric proteins containing double or triple swaps, (pSK27-pSK33). May need to include (pSK27-pSK33).

pSK36_C: tacgttgcttccttttggggagcgaagcgcgtggagtcgatgggvcgacagcggatttgaacg
pSK36_D: ccccaaaaggaacaacgtgtcttgcgctcacatcttcagtctgctgaattcctgcccgcgtt
ggcaat

pSK37_C1: tggcagtagcgcaaaaatggaccagcgcggcgg
pSK37_C2: ccgggtaaggcaatcaccttgattctggcgg
pSK37_D1: ggtccatttttgcgctactgccaataaccaatagc
pSK37_D2: caaggtgattgccttaccggaccgtctthttttcac

pSK38_D1: gccatgaccgtcttcccacgccacaactgcactag
pSK38_C2: ggcgtggcaagacgggtcatggcggctcgthttttgvcg
pSK38_D2: gagcagggtaccttacttvcgcttgtaattacgcagagcgttacgcaataaacvcgctac
cacaagc

pSK40_C: aagcccgttggcgcagacggtattgaacgcaaac
pSK40_D: gtctgcgccaacgggctttttaattcctgcc