

Supplemental Material

Supplementary Tables

Table S1. Bacterial strains and plasmid used

Strain or plasmid	Relevant characteristic	Source or reference
<i>C. perfringens</i> strains		
SM101	Electroporatable derivative of food poisoning type A isolate NCTC8798; carries a chromosomal <i>cpe</i> gene	(1, 2)
DPS101	<i>gerKA::catP</i>	(3)
DPS119	<i>gerKA::ermB</i>	This study
DPS122	<i>gerKC::ermB</i>	This study
DPS124	<i>gerKB::catP gerAA::intron</i>	This study
DPS122(pSB18)	<i>gerKC</i> mutant expressing wild-type <i>gerKA-KC</i>	This study
Plasmids		
pJIR750ai	<i>C. perfringens/E. coli</i> shuttle vector containing an <i>L1.LtrB</i> intron retargeted to the <i>plc</i> gene	(4)
pJIR3566	<i>C. perfringens/E. coli</i> shuttle vector; Em ^r .	(5)
pJIR750	<i>C. perfringens/E. coli</i> shuttle vector; Cm ^r .	(6)
pDP276	~ 350-bp BsrGI-HinDIII fragment retargeted to <i>gerKC</i> cloned between BsrGI-HinDIII sites in pJIR3566	This study
pDP300	~350-bp BsrGI-HinDIII fragment retargeted to <i>gerKA</i> cloned between BsrGI-HinDIII sites in pJIR3566	This study
pDP10	~ 3.1- kb <i>gerKA-KC</i> operon in pMRS104	(3)
pSB18	~ 3.1-bp KpnI-XhoI fragment carrying <i>gerKA-KC</i> operon from pDP10 cloned between KpnI-Sall sites of pJIR750	This study

Table S2. Primers used

Primer name	Primer sequence ^a	Gene	Position ^b	Use ^c
CPP443	5' GATGAAAATGAAGTGGGAAATATAGAC 3'	<i>gerKC</i>	+120 to +137	MD
CPP440	5'GTTGTGCCATTAATTTCAACATCAACA 3'	<i>gerKC</i>	+1076 to +1103	MD
CPP209	5'TATAGTGAAAATCCAAGTATCTC 3'	<i>gerKA</i>	-224 to -201	MD
CPP208	5'ATCATTATTATCACCTCTGCTACTAT 3'	<i>gerKA</i>	+980 to +1006	MD
CPP206	5' CAAGTATTAATCCTCCAATAACAG 3'	<i>gerAA</i>	+1102 to +1126	MD
CPP211	5' CTTTAATGGGAATTATAGCA 3'	<i>gerAA</i>	-264 to -244	MD
CPP876	5'AAAAAAGCTTATAATTATCCTTATTAGGCCAGCCG TGCGCCAGATAGGGTG 3'	<i>gerKA</i>	IBS 91s	MP
CPP877	5'CAGATTGTACAAATGTGGTGATAACAGATAAGTCC CAGCCACTAACTTACCTTCTTTGT3'	<i>gerKA</i>	EBS1d 91s	MP
CPP878	5'TGAACGCAAGTTTCTAATTCGGTTCCTAATCGATA GAGGAAAGTGCTCT 3'	<i>gerKA</i>	EBS2 91s	MP
CPP879	5' AAAAAAGCTTATAATTATCCTTATATTCGGTGTT GTGCGCCAGATAGGGTG 3'	<i>gerKC</i>	IBS 469s	MP
CPP880	5'CAGATTGTACAAATGTGGTGATAACAGATAAGTCG GTGTTTTTAACCTTACCTTCTTTGT 3'	<i>gerKC</i>	EBS1d 469s	MP
CPP881	5'TGAACGCAAGTTTCTAATTCGGTTAAATATCGATA GAGGAAAGTGCTCT 3'	<i>gerKC</i>	EBS2 469s	MP

- a- The nucleotide numbering begins from the translation start codon and refers to the relevant position within the respective coding sequence.
b- Nucleotide numbering being at the first base of the translation codon of the relevant gene.
c- MD, Mutation detection; MP, Construction of mutator plasmid.

References

1. **Zhao Y, Melville SB.** 1998. Identification and characterization of sporulation-dependent promoters upstream of the enterotoxin gene (*cpe*) of *Clostridium perfringens*. J. Bacteriol. **180**:136-142.
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3. **Paredes-Sabja D, Torres JA, Setlow P, Sarker MR.** 2008. *Clostridium perfringens* spore germination: characterization of germinants and their receptors. J. Bacteriol. **190**:1190-1201.
4. **Chen Y, McClane BA, Fisher DJ, Rood JI, Gupta P.** 2005. Construction of an alpha toxin gene knockout mutant of *Clostridium perfringens* type A by use of a mobile group II intron. Appl. Environ. Microbiol. **71**:7542-7547.
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6. **Bannam TL, Rood JI.** 1993. *Clostridium perfringens*-*Escherichia coli* shuttle vectors that carry single antibiotic resistance determinants. Plasmid **29**:233-235.