

Appendix A: supplementary data

Supplementary table 1: Primers and DNA templates used for gene amplification

Supplementary table 2: Primers used for qRT-PCR experiments

Supplementary table 3: Transcriptomic profile of spore coat protein related genes

Supplementary figure 1: Relative transcriptional strength of gene *spoVF* in spore-deficient mutants

Supplementary Table 1 Primers and DNA templates for gene amplification in this study

Primers	Sequences (5'-3')
ko0A.1F	GTGTTCTTGTCTCGTCGGATTTTCATCAA
ko0A.1R	TTTCTCGCCTGCCACGTTTCTTCTCCCAAATGT
ko0A.2F	GAAGAAACGTGGCAGGCGAGAAAGGAGAGAGA
ko0A.2R	ATAAGCTCATGTTTACGAGGCTCCTGTCACTGC
ko0A.3F	AGGAGCCTCGTAAACATGAGCTTATTAAGTGGTCATTAAATCAAACG
ko0A.3R	TCGAAATTCACGGTGCAAACGGC
koII.1F	GAAGGGACTTATTCATGTCTGGAGACG
koII.1R	CTCGCCTGCCATTCCTCTCATCTCCACCTGT
koII.2F	TGAGAGGAATGGCAGGCGAGAAAGGAGAGAGA
koII.2R	ATACGGAAGCGTTACGAGGCTCCTGTCACTGC
koII.3F	GCCTCGTAACGCTTCCGTATAAATCAAATTTCTTCTG
koII.3R	GCACTGGGAATATAGGCATCATCCG
koIVB.1F	TCCTACTATTTGCTTGAGGATGC
koIVB.1R	TCTCGCCTGCCATTCACTACTTCACTCTCCTCGC
koIVB.2F	GTAGTGAATGGCAGGCGAGAAAGGAGAGAGA
koIVB.2R	CCGGCAGTCACGAGGCTCCTGTCACTGC
koIVB.3F	AGGAGCCTCGTGACTGCCGGAGTTTCCGG
koIVB.3R	AAGCCTTATGCTCTAACCTCAGC
pDG-RBSVF-Frag.F	GCTTAAGGAGGAAAGGAGGTGATAAAAATGTTAACCGGATTG
pDG-RBSVF-Frag.R	CTCTAGATCATTAGTCATTTCCCTGATAATTCTCAACTAGAATCG
pDG-RBSVF-Vec.F	TATCAGGGAAATGACTAATGATCTAGAGTCGACCTGCAGG
pDG-RBSVF-Vec.R	TTATCACCTCCTTTCTCCTTAAGCTTAATTGTTATCCGCTC
yvyDVF.1F	GAGGACAGCGGAATGCTAACGA
yvyDVF.1R	AACATGAGAATTCTCTAAACGTTTCACCTTCTTTGTATATACTGGATCT
yvyDVF.2F	TGAACGTTTAGAGAATTCTCATGTTTGACAGCTTATCATCGG
yvyDVF.2R	CTTTTACCCTTTACAATTCCTGCTGAAACATAAATCTTTTGTGAAAATTCAGTGTCAACTA ACGGGGCAGGTTAGTGA
yvyDVF.3F	CAGCAGGAATTGTAAAGGGTAAAAGAGAAATAGATACATAAAGGAGGTGATAAAAATGT TAACCGGATTGA
yvyDVD.3R	CTTATTTCCCCTCCTCAGCTTGTATTTT
kogerR.1F	TCAACCACCAATCCGACAGCTTTCA
kogerR.1R	TTCTCGCCTGCCAAATTCAATCTCCCTCCATGTCAGCTT
kogerR.2F	GGAGATTGAATTTGGCAGGCGAGAAAGGAGAGAGAA
kogerR.2R	TCAGGCGTTTCTTTACGAGGCTCCTGTCACTGCAGCGT
kogerR.3F	AGGAGCCTCGTAAAGAAACGCCTGAAATGAACCGGCCCT
kogerR.3R	TTCCAACATAAATGGAATGGCCAACGT
kogerE.1F	TGATCGCAGCAGAATGTTTGATTTCATTGA
kogerE.1R	TTCTCGCCTGCCAAGTATTGTAACCCTCCTTGCTAAGGCGA
kogerE.2F	GGTTACAATACTTGGCAGGCGAGAAAGGAGAGAGAA
kogerE.2R	AATACCGGCAAGGATTACGAGGCTCCTGTCACTGCAGCGT
kogerE.3F	GAGCCTCGTAATCCTTGCCGGTATTCCTTCTTTTGA

kogerE.3R	ATGCCAAAAGCGCTTCTTCGTATGCAT
ko3D.1F	TGCACCTGTAACAGTCGTTAAAATGCT
ko3D.1R	CTTTCTCGCCTGCCACACCACTCGACCTCCCTAAAATG
ko3D.2F	TCGAGTGGTGTGGCAGGCGAGAAAGGAGAGAGAA
ko3D.2R	TGCCAGGTGATTACGAGGCTCCTGTCACTGCAGCGT
ko3D.3F	ACAGGAGCCTCGTAATCACCTGGCATTGCCTTCTTGA
ko3D.3R	ATCCATAGGATTTTCAGCAACGAGGAC
kospo6F.1F	TGCGGACGGGAACATTGAAACCTATATC
kospo6F.1R	TCTCCTTTCTCGCCTGCCATAATGCGCCTCCTTTTGGCGGA
kospo6F.2F	GCATTATGGCAGGCGAGAAAGGAGAGAGAA
kospo6F.3F	AGTGACAGGAGCCTCGTAAGTGGATGGCCTGGCTGACTC
kospo6F.3R	CAGATATGCCAAAACGCTTGAAGC
kospo6F.2R	ATCCACTTACGAGGCTCCTGTCACTGCAGCGTCT
kocotVWX.1F	CCGTTTTTTCAGCCAGCTCTTCAA
kocotVWX.1R	TCTCCTTTCTCGCCTGCCATAACCTTCACTCCTTTCTTATCCATACTCT
kocotVWX.2F	GGTTATGGCAGGCGAGAAAGGAGAGAGAA
kocotVWX.2R	TAGGTCCTACGAGGCTCCTGTCACTGCAGCGTCT
kocotVWX.3F	AGTGACAGGAGCCTCGTAGGACCTAAAAGCAGAGCTAAAAACGCT
kocotVWX.3R	GCAAGGGCCGTTATCGAGTTTCG
kossAB.1F	GCTTGAAGATGAAGAAGTGCTGTTGC
kossAB.1R	TCTCCTTTCTCGCCTGCCATGTTACATACCTCCTTTTCTTGATCAAT
kossAB.2F	GTAACATGGCAGGCGAGAAAGGAGAGAGAA
kossAB.2R	GTTGATTACGAGGCTCCTGTCACTGCAGCGTCT
kossAB.3F	AGTGACAGGAGCCTCGTAATCAACATAAAAAAGCATAGCTGCTTAATCAGCAG
kossAB.3R	CCATCGAATCCATCCACACCACTT
kocgeAB.1F	AGCACTGCATTGGCATTCTGTAGAA
kocgeAB.1R	TCTCCTTTCTCGCCTGCCATTACACACACCTCCTATTTCGATAGTGAA
kocgeAB.2F	TGTAATGGCAGGCGAGAAAGGAGAGAGAA
kocgeAB.2R	GATTTTTACGAGGCTCCTGTCACTGCAGCGTCT
kocgeAB.3F	AGTGACAGGAGCCTCGTGAAAAATCGTTCATTGCTATGAACGATT
kocgeAB.3R	GAAGTCAGGGCTCGTTGTGTATGATTTAG
kocotZ.1F	GCACTTAATGCCGCTGTCGTAAC
kocotZ.1R	TCTCCTTTCTCGCCTGCCATATTATCCCTCCTGCCTTATAAATTTGAGAC
kocotZ.2F	GATAATATGGCAGGCGAGAAAGGAGAGAGAA
kocotZ.2R	CTTATGATTACGAGGCTCCTGTCACTGCAGCGTCT
kocotZ.3F	AGTGACAGGAGCCTCGTAATCATAAGCTGGAAAAGCTTGCAGG
kocotZ.3R	CGATATGTCCCGCGGGATTACAG
koyhcO.1F	CGTCTGTTCAATTTGTCCTGTGATAAAC
koyhcO.1R	TCTCCTTTCTCGCCTGCCAACGTCTCCCTCCCTGAGCC
koyhcO.2F	GTTTGGCAGGCGAGAAAGGAGAGAGAA
koyhcO.2R	CGAAATTCACGAGGCTCCTGTCACTGCAGCGTCT
koyhcO.3F	AGTGACAGGAGCCTCGTGAAATTCGCAGCTGTTCCATATCCTG
koyhcO.3R	GATTTGCACAGGAAGGATGTGTTTCG
koalsD.1F	GTGAATGAAGTCACAAATACGAAAAACGTG
koalsD.1R	TCTCCTTTCTCGCCTGCATTTCCCTTCACTCCTTTTATTTAGTGCTG

koalsD.2F	AGGGAAATGCAGGCGAGAAAGGAGAGAGAA
koalsD.2R	TTTTTCTTCGAGGCTCCTGTCACTGCAGCGTCT
koalsD.3F	AGTGACAGGAGCCTCGAAGAAAAAAGAAAGCCCCTTTTAGCAGG
koalsD.3R	GTCGTATGCTGTGTCGAAACCTTACATG

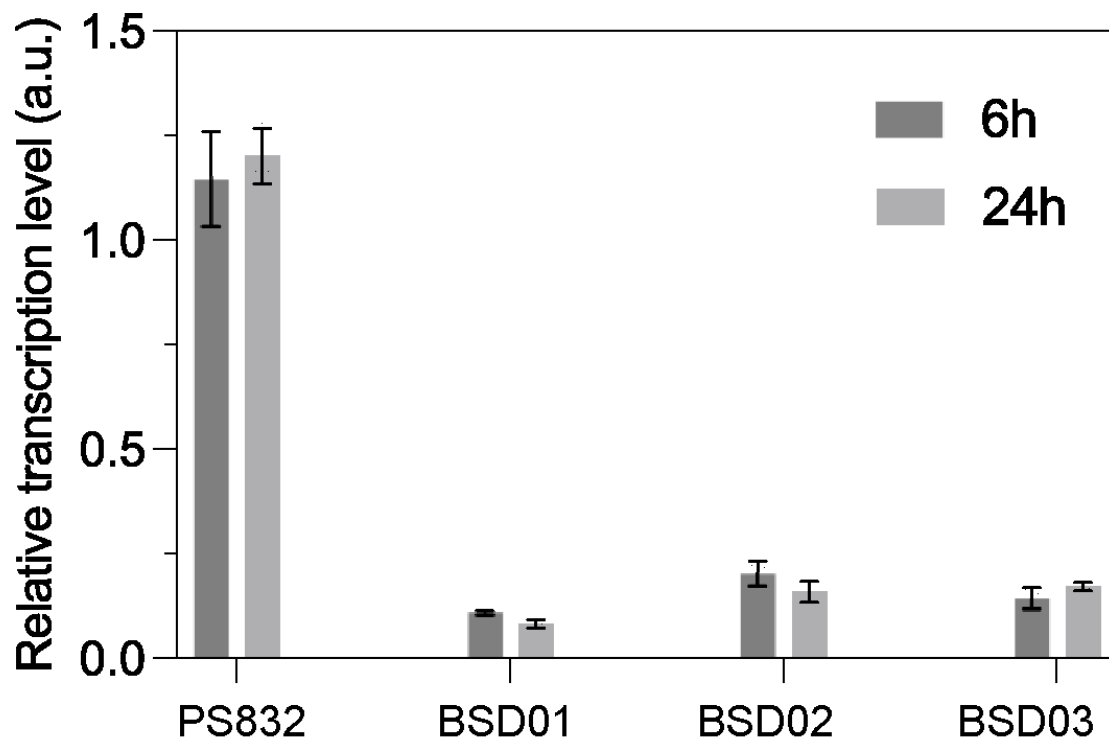
Supplementary Table 2 Primers and DNA templates for qRT-PCR experiments in this study

Primers	Sequences (5'-3')
qRT-hbsU.F	CAATTATTTTCCGGCAACTGCGTC
qRT-hbsU.R	GACGCTACAAAAGCAGTTGACTCTG
qRT-spoVF.F	AGAAAGCTCACTGAACAGCAGG
qRT-spoVF.R	GGCGTTCTGTCAAGATGGTCCT

Supplementary table 3: Transcriptomic profile of spore coat protein related genes

Genes	Fold change (log ₂ -) at 24 h	Regulators
Crust		
CotV (BSU11780)	-6.7	σ E/ σ K GerE(+) GerR(+)
CotW (BSU11770)	-6.3	σ E/ σ K GerE(+) GerR(+)
CgeA (BSU19780)	-6.5	σ K GerE(+) GerR(+)
CgeB (BSU19790)	-4.9	σ K GerE(+) GerR(+)
Outer coat		
CotB (BSU36050)	-5.2	σ E/ σ K SpoIIID(+) GerE(+)
CotG (BSU36070)	-4	σ E/ σ K GerE(+) GerR(+)
GerT (BSU19490)	-3.9	σ K GerE(-)
YlbD (BSU14970)	-3.7	σ K GerE(+)
CotM (BSU17970)	-3.6	σ E/ σ K GerE(-)
SpsB(BSU37900)	-3.4	σ K
SpsI (BSU37840)	-3.3	σ E/ σ K
CotS (BSU30900)	-3	σ K GerE(+)
YncD (BSU17640)	-2.5	σ E
YknT (BSU14250)	-2.4	σ E SpoIIID(+)
YtxO (BSU30890)	-2.3	σ K GerE(+)
YtdA (BSU30850)	-2.2	σ K
CotQ (BSU34520)	-1.8	σ K GerE(+)
CotU (BSU17670)	-1.6	σ K GerE(+) GerR(-)
CotC (BSU17700)	-1	σ K SpoIIID(-) GerE(+)
CotA (BSU06300)	-0.5	σ K GerE(-)
YkzQ (BSU13789)	-0.2	σ K GerE(+)
Inner coat		
YmaG (BSU17310)	-4.9	σ K GerE(+) GerR(+)
CotF (BSU40530)	-3.6	σ E/ σ K SpoIIID(+) GerE(-)
YhjR (BSU10610)	-3.5	σ E/ σ K GerE(-)
CotT (BSU12090)	-2.7	σ E/ σ K SpoIIID(+)GerE(-)
Tgl (BSU31270)	-2.6	σ E/ σ K GerE(-)
YaaH (BSU00160)	-2.5	σ E SpoIIID(-)
GerQ (BSU37920)	-2.2	σ E
OxdD (BSU18670)	-2.2	σ K GerE(-)
YsnD (BSU28320)	-2.1	σ E/ σ K SpoIIID(+) GerE(-)
YxeE (BSU39580)	-2	σ K GerE(+)
YeeK (BSU06850)	-1.9	σ K GerE(+)
YsxE (BSU28100)	-1.3	σ E
CotP (BSU05550)	-1	σ K GerE(-)
YisY (BSU10900)	-1	σ E/ σ K GerE(-)
YuzC (BSU31730)	-0.8	σ E
YutH (BSU32270)	-0.6	σ E SpoIIID(-)
CwlJ ((BSU02600)	-0.5	σ E/ σ K SpoIIID(+)
CotD (BSU22200)	-0.4	σ K SpoIIID(-) GerE(+) GerR(+)
YjqC (BSU12490)	0.1	σ K GerE(-)
Yybl (BSU40630)	1.1	σ E
Morphogenetic coat proteins		
CotX (BSU11760)	-6.4	σ E/ σ K GerE(+) GerR(+)
CotZ (BSU11740)	-6.3	σ E / σ K GerE(+) GerR(+)
CotY (BSU11750)	-5.9	σ E / σ K GerE(+) GerR(+)
CotH (BSU36060)	-2.8	σ E / σ K SpoIIID(+) GerE(-)

CotE (BSU17030)	-2.5	σ^E / σ^K GerE(-)
SpoVID (BSU28110)	-2.5	σ^E
SpoVM (BSU15810)	-2.3	σ^E
cotO (BSU11730)	-2.1	σ^E
SpoIVA (BSU22800)	-1.7	σ^E SpoIID(-)



Supplementary figure 1: Relative transcriptional strength of gene *spoVF* in spore-deficient mutants BSD01, BSD02 and BSD03 at 6h and 24h. The control gene was *hbsU* from PS832.