SUPPORTING INFORMATION

GerM is required to assemble the bas	sal platform of the SpollIA-SpollQ transenvelope
complex during s	porulation in <i>Bacillus subtilis</i>

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Running Title: GerM is required to assemble the SpoIIIA-SpoIIQ complex

Keywords: protein localization, sporulation, σG activity, specialized secretion systems

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SUPPLEMENTARY MATERIAL AND METHODS

TABLE S1: Bacillus subtilis strains used in this study

PYT9	Strain	Genotype	Source
BTD11619 pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (philos) pxpc:R:PspBaPhsophc-fp (pxpc) pxpc)R:PspBaB-fp (pxpc)R:PspBaB-fp (pxpc)R:PspBaB-f	PY79	Prototrophic wild-type	Youngman et al., 1983
BRM1930 giz-Em: spoil(0:phieo) goz-Pspoil(0:glip-spoil(0 (kan) Rodingues et al., 2013	BTD23	sacA::PspoIIIA-RBSopt-cfp-spoIIIAH (phleo)	Doan et al., 2005
BKMH930 sigh:::em, spollO::phieo, ycgO::PspollO::phip-spollO::phieory (spec), pelB::PspollO-yfp (kan), lacA::PgerE-yfp (let) Rodrigues et al., 2013 BAMB33** genM:::em, ycgD::PspollO::gfp-spollO::gfp-spollO::phieory (spec)::phieory (spec):PspollO::gfp-spollO::gfp-spollO::phieory (spec):PspollO::phieory (spec):PspollO::phieory (spec):PspollO::gfp-spollO::phieory (spec):PspollO::phieory (spec):PspollO::phieory (spec):PspollO::phieory (spec):PspollO::phieory (spec):PspollO::phieory (spec):PspollO::pspoll	BTD1541	spollQ::phleo	Doan et al., 2009
BAMB33** gerM:-em, yyeR::PspB-cfp (phleo), amyE::Psp0llD-mCherry (spec), pelB::Psp0llO-yfp (kan), lack:PgetE-yfp (tet) This work BCR86 sp0llO::phleo, ygO::Psp0llO-gfp-sp0llO (tet), sp0llIAH::spec This work BCR86 sp0llO::phleo, ygO::Psp0llO-gfp-sp0llO (tet), sp0llIAH::spec Rodrigues et al., 2013 BCR87 sp0llO::phleo, ygO::Psp0llO-gfp-sp0llO(10:spec Rodrigues et al., 2013 BCR151 ygO::Psp0llO-gp0llO(168A) (kan), sp0llO::phleo Rodrigues et al., 2013 BCR152 ygO::Psp0llO-gp0llO(168A), sp0llO::phleo Rodrigues et al., 2013 BCR163 ygO::Psp0llO-gp0llO(168A), sp0llO::phleo Rodrigues et al., 2013 BCR189 ygoR::PsspB-cfp (phleo), amyE::Psp0llD-mCherry (spec), pelB::Psp0llQ-yfp (kan), lack:-psp0llO::phleo, ygoD::Psp0llO::phleo, yg	BTD1609	yycR::PsspB-rbsopt-cfp (phleo)	Doan et al., 2009
Inchange	BKM1930	sigE::erm, spollQ::phleo, ycgO::PspollQ-gfp-spollQ (kan)	Rodrigues et al., 2013
BCR164 Spoll(0_:phleo, ycg(0:-PspollO_(gftp-spollO_(tet), spollIAH::spec Rodrigues at al., 2013 BCR80 spoll(0::phleo, ycg(0:-PspollO_gftp-spollO_(168A) (kan), spollIAH::erm Rodrigues at al., 2013 BCR87 spoll(0::phleo, ycg(0:-PspollO_gftp-spollO_(168A) (kan), spollIAH::erm Rodrigues at al., 2013 BCR151 ycg(0::PspollO-spollO_(2016BA) (kan), spollO::phleo Rodrigues at al., 2013 BCR163 ycg(0::PspollO-spollO_(401), spollO::phleo Rodrigues at al., 2013 BCR1191 ycg(0::PspollO-spollO (kan), spollO::phleo Rodrigues at al., 2013 BCR1190 ycg(0::PspollO-spollO (kan), spollO::phleo Rodrigues at al., 2013 BCR1191 ycg(0::PspollO-spollO (kan), spollO::phleo, ycg(0::PspollO-gft) Rodrigues at al., 2013 BCR1190 ycg(0::PspollO-spollO (kan), spollO::mhleo, ycg(0::PspollO-gftp-spollO-mCherry (spec), pelB::PspollO-yfp (kan), lack Rodrigues at al., 2013 BCR1191 ycg(0::PspspB-cfp (phleo), spollIA::spec This work BCR1191 ycg(0::PspspB-cfp (phleo), spollIAH::spec gerM::erm This work BCR1210 ycg(0::PspspB-cfp (phleo), spollIAH::spec gerM::erm, yhdG::gerM::erm This work BCR1202 ycg(0::PspB-cfp (phleo), gerM::erm, yhdG::gerM::erm <	BAM833*		This work
SCR86 Spoli(2-phleo, ycg)(2-Pspoli(2) (fgt-spoli() (1684) (kan), spollIAH::spec Spoli(2-phleo, ycg)(2-Pspoli(2) (1694) (kan), spolIIAH::smm Spoli(2-phleo, ycg)(2-Pspoli(2) (1694) (kan), spolIIAH::smm Spoli(2-phleo, ycg)(2-Pspoli(2-gfs-spoli(2) (1684) (kan), spolIIAH::smm Spoli(2-phleo, ycg)(2-Pspoli(2-gfs-spoli(2) (1684) (kan), spoli(2-phleo, ycg)(2-Pspoli(2-gfs-spoli(2) (1684) (kan), spoli(2-phleo) Spoli(2-phleo, ycg)(2-Pspoli(2-gfs-spoli(2) (1684) (kan), spoli(2-phleo) Spoli(2-phleo, yspoli(2-phleo) Spoli(2-phleo) Spoli(2-phleo, yspoli(2-phleo) Spoli(2-phleo) Spoli(2-p	BCR46		Rodrigues et al., 2013
BCR810 Spoil(0:_phleo, ycg(0::Pspoil(0:qflosspoil()(168A) (kan), spoil(A::heim) Rodrigues et al., 2013 Spoil(0::phleo, ycg(0::Pspoil()-gflosspoil()(qfloss) (kan) Rodrigues et al., 2013 YypR::Pspsib-clp (phleo), spoil(0::phleo Rodrigues et al., 2013 Rodrigues et al., 2014 Rodrigues et al., 2015 Rodrig			•
BCR871 ypcR::PspB-cfp (phleo), spoll(Q:168A) (kan) Rodrigues et al., 2013 RCR152 ypcR::PspB-cfp (phleo), spoll(Q:168A) (kan), spoll(Q:phleo) Rodrigues et al., 2013 RCR1631 ypcR::PspB-cfp (phleo), spoll(Q:168A) (kan), spoll(Q:phleo) Rodrigues et al., 2013 RCR1632 ypcR::PspB-cfp (phleo), spoll(P:phleo) Rodrigues et al., 2013 RCR17191 YpcR::PspB-cfp (phleo), spoll(P:mCherry (spec), pelB::Pspoll(Q-yfp (kan), aca-:Pspec) Phleo), spoll(P:mCherry (spec), pelB::Pspoll(Q-yfp (kan), aca-:Pspec) Phleo), spoll(P:mCherry (spec), pelB::Pspoll(Q-yfp (kan), aca-:Pspec) Phleo), spoll(R:kan yypcR::PspB-cfp (phleo), s			
BCR151			-
BCR152			
BCR163 yegg:PspollC-spollO (kan), spollO-ghileo Rodrigues et al., 2018 BCR10711* yycR::PspsB-cfp (phieo), amyE::PspollD-mCherry (spec), pelB::PspollQ-yfp (kan), Meeske et al., 2016 BCR1189 yycR::PspB-cfp (phieo), spollA::kan This work BCR1180 yycR::PspB-cfp (phieo), gemE::em This work BCR1193 amyE::PspollIAA-optRS-gfp-spollA((spec) This work BCR1194 yycR::PspB-cfp (phieo), gemE::em This work BCR1210 yycR::PspB-cfp (phieo), gemE::em This work BCR1211 spollQ::phieo, yeg0::PspollO-gfp-spollQ(fet), gemE::em This work BCR1223 spollQ::phieo, yeg0::PspollO-gfp-spollQ(fet), gemE::em This work BCR1230 yycR::PssB-cfp (phieo), spollIAH::spec gemE::em This work BCR1230 yycR::PssB-cfp (phieo), spollIAH::spec gemE::em, yhdG::gerM-his6 (cat) This work BCR1230 yycR::PssB-cfp (phieo), gemE::em, yhdG::gerM (cat) This work BCR1304 yycR::PssB-cfp (phieo), gemE::em, ybdG::gerM (cat) This work BCR1304 yycR::PssB-cfp (phieo), gemE::em, ybdG::gerM (cat) This work BCR1304 yycR::PssB-cfp (phieo), gemE::em, spollAH::spe			•
BCR1071* ypcR::PsspB-cfp (phleo), amyE::PspollD-mCherry (spec), pelB::PspollQ-yfp (kan), lacA::PgerE-yfp (tel) BCR1190 ypcR::PsspB-cfp (phleo), spollIA::kan This work BCR1191 ypcR::PsspB-cfp (phleo), spollIA::kan This work BCR1193 mycR::PsspB-cfp (phleo), spollIA::pspcllAG (spec) This work BCR1197 spollO::phleo, yegO::PspollQ-gfp-spollQ(tel), spollIAH::spec This work BCR1200 spollO::phleo, yegO::PspollQ-gfp-spollQ(tel), gerM::erm This work BCR1218 spollO::phleo, yegO::PspollQ-gfp-spollQ(tel), gerM::erm This work BCR1228 spollIAH::emm, amyE::PspollIAH-:spec This work BCR1233 ypcR::PsspB-cfp (phleo), spollIAH::spec ypcR::PsspB-cfp (phleo), spollIAH::spec, ypdR::gerM::erm, yhdG::gerM-inis6 (cat) This work BCR1300 ypcR:::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1310 ypcR:::PsspB-cfp (phleo), gerM::erm, ybdG::gerM-inis6 (cat) This work BCR1310 ypcg::spoll(Q (168A) (kan), spollQ::gpho.;gerM::erm This work <td></td> <td></td> <td>_</td>			_
			-
BCR11890 yyeR::PsspB-cfp (phleo), spollIA:kan This work BCR1191 myc::PsspB-cfp (phleo), gerM::emm This work BCR1193 amyE::PspBollIAA-optrRBS-gfp-spollIAG (spec) This work BCR1197 spollO::phleo, yegO::PspollQ-gfp-spolIQ ((et), spollIAH::spec This work BCR12101 yyeR::PsspB-cfp (phleo), gerM::emm, spolIIAH::spec This work BCR1211 spollO::phleo, yegO::PspolIQ-gfp-spolIQ ((et), gerM::erm This work BCR1228 spollO::phleo, yegO::PspolIAG (spec) This work BCR1290 yyeR::PsspB-cfp (phleo), spolIIAH::spec This work BCR1291 yyeR::PsspB-cfp (phleo), yegD::PspolIQ (fet), spolIIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1292 spolIO::phleo, yegO::PspolIQ-gfp-spolIQ (fet), spolIIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1302 yyeR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1303 yyeR::PsspB-cfp (phleo), gerM::erm, ysolIIAH::spec, yhdG::gerM-his6 (cat) This work BCR1304 yyeR::PsspB-cfp (phleo), gerM::erm, spolIIAH::spec, yhdG::gerM-his6 (cat) This work BCR1304 yyeQ::SpolIQ (0 (168A) (kan), spolIQ::pheo, gerM::erm This work			, , , , , , , , , , , , , , , , , , , ,
BCR1190	BCR1189	÷ • • • • •	This work
BCR1193 amyE::PspoIIIAA-optRBS-gfp-spoIIIQ (spe) This work BCR1197 spoII0::philoo, yeg::PspoIIIQ-gfp-spoIIQ (tet), spoIIIAH::spec This work BCR1200 yycR::PspoEpc (p (philoq), gerM::emr, spoIIIAH::spec This work BCR1211 spoIIQ::philoo, yegO::PspoIIIQ-gfp-spoIIQ(tet), gerM::erm This work BCR1228 spoIIIAH::erm, amyE::PspoIIIAA-gfp-spoIIQ(tet), gerM::erm This work BCR1290 yycR::PspBe-fp (philoq), spoIIIAH::spec This work BCR1291 yydG::PgerM-yfp (cat) This work BCR1292 spoIIQ::philoo, yegO::PspOIIQ-gfp-spOIIQ(tet), spoIIIAH::spec, gerM::erm, yhdG::gerM (cat) This work BCR1293 spoIIQ::philoo, yegO::PspOIIQ-gfp-spOIIQ(tet), spoIIIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1302 yycR::PsspB-cfp (philop), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1303 yycR::PsspB-cfp (philop), gerM::erm, spOIIIAH::spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spOIIQ (2168A) (kan), spOIIO::philoo, gerM::erm This work BCR1321 yhdG::gerM-yfp (cat), sigE::erm This work BCR1322 yhdG::gerM-his6 (cat), gerM::erm This work BCR1333			
BCR1197 spoilO::phileo, ycg0::PspoilO-gfrp-spoilO (fet), spoilIAH::spec This work BCR1210 yycR::PsspB-cfp (phileo), gerh.:erm, spoilIAH::spec This work BCR1211 spoil(IAH::erm, amyE::PspoilIAA-gfp-spoilIAG (spec) This work BCR1223 yycR::PsspB-cfp (phileo), spoilIAH::spec This work BCR1290 yhdiG::PgerM-yfp (ca) This work BCR1298 spoil(0::phileo), yeg0::PspoilO-gfrp-spoil(0 (tet), spoilIAH::spec, gerM::erm, yhdG::gerM (cat) This work BCR1298 spoil(0::phileo), gerM::erm, yhdG::gerM (cat) This work BCR1302 yycR::PsspB-cfp (phileo), gerM::erm, yhdG::gerM (cat) This work BCR1304 yycR::PsspB-cfp (phileo), gerM::erm, yhdG::gerM (cat) This work BCR1304 yycR::PsspB-cfp (phileo), gerM::erm, spoilIAH::spec, yhdG::gerM-his6 (cat) This work BCR1314 ycgO::spoilQ (0:fd8A) (kan), spoilO::phieo, gerM::erm This work BCR1314 ycgO::spoilQ (2:fd8A) (kan), spoilO::phieo, gerM::erm This work BCR1327 sacA::PspoilIA-cfp-spoilIAG (spec), gerM::erm This work BCR1328 sacA::PspoilIA-gfp-spoilIAG (spec), gerM::erm This work BCR1339 yhdG::gerM			
BCR1200 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec This work BCR1211 spoll(Q::phleo, ycgO::PspollQ(iet), gerM::erm This work BCR1223 yycR::PsspB-cfp (phleo), spollIAH::spec This work BCR1233 yycR::PsspB-cfp (phleo), spollIAH::spec This work BCR1290 yhdG::PgerM-yfp (cat) This work BCR1298 spoll(Q::phleo, ycgO::PspollQ-gfp-spollQ(tet), spollIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1301 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, yspollIAH::spec, yhdG::gerM (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spollQ (20168A) (kan), spollQ::phleo, gerM::erm This work BCR1314 yhdG::gerM-yfp (cat), sigE::erm This work BCR1327 sacA::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-in66 (cat), gerM::erm This work BCR1331 ycgO::spollQ (All All (All (All an)), spollC::phle			
BCR1211 spoll/0::phleo, ycg0::Pspoll/0-gfp-spoll/0-(tet), ger/M::erm This work BCR1228 spoll/AH::erm, amyE::Pspoll/AA-gfp-spoll/AG (spec) This work BCR1290 yydcR::PsspB-erfp (phleo), spoll/AH::spec This work BCR1291 spoll/0::phleo, ycg0::Pspoll/0-gfp-spoll/0 (tet), spoll/AH::spec, ger/M::erm, yhdG::ger/M-his6 (cat) This work BCR1298 spoll/0::phleo, ycg0::Pspoll/0-gfp-spoll/0 (tet), spoll/AH::spec, ger/M::erm, yhdG::ger/M-his6 (cat) This work BCR1302 yycR::PsspB-cfp (phleo), ger/M::erm, yhdG::ger/M (cat) This work BCR1304 yycR::PsspB-cfp (phleo), ger/M::erm, yhdG::ger/M-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), ger/M::erm, ypoll/AH::spec, yhdG::ger/M-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), ger/M::erm This work BCR1313 ycg0::spoll/0 (Q168A) (kan), spoll/0::phleo, ger/M::erm This work BCR1314 ycg0::spoll/0 (Q168A) (kan), spoll/0::phleo, ger/M::erm This work BCR1325 sac/A::Pspoll/AA-gfp-spoll/AA (gspec), ger/M::erm This work BCR1326 amyE::Pspoll/AA-gfp-spoll/AB (spec), ger/M::erm This work BCR1333 ycg0::spol/0 (Q168A) (kan), spol/0::phleo, spol/0-:phleo, spo			
BCR1228 spollIAH::erm, amyE::PspollIAA-gfp-spollIAG (spec) This work BCR1233 yycR::PsspB-cfp (phleo), spollIAH::spec This work BCR1296 spollO::phleo, ycgO::PspollQ-gfp-spollQ (tet), spollIAH::spec, gerM::erm, yhdG::gerM (cat) This work BCR1298 spollO::phleo, ycgO::PspollQ-gfp-spollQ(tet), spollIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1305 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1314 yycD::spolIQ (kan), spolIQ::phleo, gerM::erm This work BCR1321 ybdG::gerM-yfp (cat), sigE::erm This work BCR1322 sacA::PspolIIA-cfp-spolIIAH (phleo), gerM::erm This work BCR1323 amyE::PspolIIA-cfp-spolIIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-his6 (cat), gerM::erm This work BCR1331 ybdG::gerM-his6 (cat), gerM::erm, spolIQ::tet This work B			This work
BCR1233 yycR::PsspB-cfp (phleo), spollIAH:spec This work BCR1296 yhdG::PgerM-yfp (cat) This work BCR1296 spollO::phleo, ycgO::PspollO-gfp-spollQ (tet), spollIAH::spec, gerM::erm, yhdG::gerM (cat) This work BCR1298 spollO::phleo, ycgO::PspollO-gfp-spollQ(tet), spollIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1301 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH:spec, yhdG::gerM (cat) This work BCR1303 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH:spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spollQ (lan), spollO::phleo, gerM::erm This work BCR1314 ycgO::spollQ (kan), spollO::phleo, gerM::erm This work BCR1327 sacA::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1328 amyE:::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1332 yhdG:::gerM-mCherry (cat), gerM::erm This work BCR1333 ycgO::spollQ (lan), spollQ::phleo, spollIAH::spec This work BCR1334			
BCR1290 yhdG::PgerM-ylp (cat) This work BCR1296 spoll(0::phleo, ycgO::PspollQ-gfp-spollQ (tet), spollIAH::spec, gerM::erm, yhdG::gerM (cat) This work BCR1298 spoll(0::phleo, ycgO::PspollQ-gfp-spollQ(tet), spollIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1301 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1303 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm This work BCR1314 ycgO::spollQ (2 (168A) (kan), spollQ::phleo, gerM::erm This work BCR1321 ycgO::spollQ (kan), spollQ::phleo, gerM::erm This work BCR1327 sacA::PspollIAG-fp-spollIAG (spec), gerM::erm This work BCR1328 amyE::PspollIAG-gp-spollIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-mis6 (cat), gerM::erm This work BCR1331 ycgO::spollQ (2 (168A) (kan), spollQ::phleo, spollIAH::spec This work BCR1332 ycgO::spollQ (2 (168A) (kan), spollQ::phleo, spollAH::spec This work B			
BCR1296 spollQ::phleo, vcgO::PspollQ-gfp-spollQ (tet), spollIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) BCR1301 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) BCR1303 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM (cat) BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) BCR1305 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) BCR1314 ycgO::spollQ (Q168A) (kan), spollQ::phleo, gerM::erm BCR1314 ycgO::spollQ (kan), spollQ::phleo, gerM::erm BCR1321 yhdG::PspollIA-cfp-spollIAH (phleo), gerM::erm BCR1322 yhdG::PspollQ::phleo, gerM::erm BCR1323 yhdG::gerM-his6 (cat), gerM::erm BCR1330 yhdG::gerM-his6 (cat), gerM::erm BCR1331 yhdG::gerM-mCherry (cat), gerM::erm BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1333 yhdG::gerM-mis6 (cat), gerM::erm, spollIAH::spec This work BCR1334 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec This work BCR1335 yhdG::gerM-his6 (cat), gerM::erm, spollAH::spec This work BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1341 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollAH::spec This work BCR1342 yhdG::gerM-mCherry (cat), gerM::erm, spollAH::spec This work BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollAH::spec This work BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollA::kan BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1349 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1340 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1343 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1345 yhdG::gerM-mCherry (cat), gerM::erm,			
BCR1298 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ(tet), spolIIAH::spec, gerM::erm, yhdG::gerM-his6 (cat) This work BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spolIIAH::spec, yhdG::gerM-his6 (cat) This work BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spolIIAH::spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spolIQ (Q168A) (kan), spolIQ::phleo, gerM::erm This work BCR1314 ycgO::spolIQ ((akn), spolIQ::phleo, gerM::erm This work BCR1327 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1328 amyE::PspolIIAA-cfp-spolIIAG (spec), gerM::erm This work BCR1329 yhdG::gerM-mis6 (cat), gerM::erm This work BCR1330 yhdG::gerM-mCherry (cat), gerM::erm This work BCR1331 ycgO::spolIQ (0168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1334 ycgO::spolIQ (268A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1334 yhdG::gerM-mCherry (cat), gerM::erm, spolVB::ste This work BCR1343			This work
BCR1300 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM (cat) This work BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM (cat) This work BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1314 ycgO::spolIQ (0168A) (kan), spolIQ::phleo, gerM::erm This work BCR1314 ycgO::spolIQ (kan), spolIQ::phleo, gerM::erm This work BCR1321 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1322 sacA::PspolIIAA-gfp-spolIIAH (phleo), gerM::erm This work BCR1323 yhdG::gerM-his6 (cat), gerM::erm This work BCR1334 yhdG::gerM-his6 (cat), gerM::erm This work BCR1334 ycgO::spolIQ (2068A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1334 ycgO::spolIQ (2068A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1334 ycgO::spolIAG (spec), gerM::erm, spolIVB::spec This work BCR1334 ybdG::gerM-his6 (cat), gerM::erm, spolIQ::tet This work BCR1340 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec			This work
BCR1302 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-his6 (cat) This work BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM (cat) This work BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spollQ (G168A) (kan), spollQ::phleo, gerM::erm This work BCR1314 ycgO::spollQ (kan), spollQ::phleo, gerM::erm This work BCR1327 sacA::PspollIA-cfp-spollIAH (phleo), gerM::erm This work BCR1328 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1329 yhdG::gerM-mCherry (cat), gerM::erm This work BCR1330 yhdG::gerM-mCherry (cat), gerM::erm This work BCR1331 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec This work BCR1334 ycgO::spollQ (Ran), spollQ::phleo, spollIAH::spec This work BCR1335 ycgO::spollQ (Ran), spollQ::phleo, spollAH::spec This work BCR1340 yhdG::gerM-mis6 (cat), gerM::erm, spollQ::tet This work BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet This work BCR1343 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet<	BCR1300		This work
BCR1304 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) BCR1313 ycgO::spolIQ (Q16BA) (kan), spolIQ::phleo, gerM::erm BCR1314 ycgO::spolIQ (kan), spolIQ::phleo, gerM::erm BCR1315 yhdG::PgerM-yfp (cat), sigE::erm BCR1327 sacA::PspolIIA-cfp-spolIIAH (phleo), gerM::erm BCR1328 amyE::PspolIIA-gfp-spolIIAG (spec), gerM::erm BCR1330 yhdG::gerM-his6 (cat), gerM::erm BCR1331 yvgO::spolIQ (Q16BA) (kan), spolIQ::phleo, spolIIAH::spec BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1334 ycgO::spolIQ (Q16BA) (kan), spolIQ::phleo, spolIIAH::spec BCR1335 yhdG::gerM-his6 (cat), gerM::erm, spolIVB::spec BCR1336 yhdG::gerM-his6 (cat), gerM::erm, spolIVB::spec BCR1337 yhdG::gerM-his6 (cat), gerM::erm, spolIQ::tet BCR1340 amyE::PspolIIAA-gfp-spolIIAG (spec), spolIQ::tet BCR1341 amyE::PspolIIAA-gfp-spolIIAG (spec), spolIQ::tet BCR1342 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1343 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet BCR1349 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet BCR1343 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA (kan) BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA) (kan), spolIIAH::spec BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA) (kan), spolIIAH::spec BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA) (kan), spolIIAH::spec BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA) (kan), spolIIAH::spec BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q16BA) (kan), spolIIAH::spec BCR1343	BCR1302		This work
BCR1306 yycR::PsspB-cfp (phleo), gerM::erm, spollIAH::spec, yhdG::gerM-his6 (cat) This work BCR1313 ycgO::spolIQ (Q168A) (kan), spolI0::phleo, gerM::erm This work BCR1314 ycgO::spolIQ (kan), spolIQ::phleo, gerM::erm This work BCR1321 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1327 sacA::PspolIIA-cfp-spolIIAH (phleo), gerM::erm This work BCR1328 amyE::PspolIIAA-gfp-spolIIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-his6 (cat), gerM::erm This work BCR1331 ycgO::spolIQ (Q168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1332 ycgO::spolIQ (Q168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1334 ycgO::spolIQ (Q168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1343 myE::PspolIIAG (spec), spolIQ::tet This work BCR1340 amyE::PspolIIAA-gfp-spolIIAG (spec), spolIQ::tet This work BCR1341 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec This work BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet This work BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan)<	BCR1304		This work
BCR1313 ycgO::spollQ (Qn68A) (kan), spollQ::phleo, gerM::erm This work BCR1314 ycgO::spollQ (kan), spollQ::phleo, gerM::erm This work BCR1321 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1327 sacA::PspollIA-cfp-spollIAH (phleo), gerM::erm This work BCR1328 amyE::PspollIA-efp-spollIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-mhis6 (cat), gerM::erm This work BCR1331 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec This work BCR1334 ycgO::spollQ (Qn68A) (kan), spollQ::phleo, spollIAH::spec This work BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec This work BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec This work BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet This work BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollIAH::spec This work BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollIAH::spec This work BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan This work BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollIQ::tet, ycgO::spollQ Q168A (kan)	BCR1306		This work
BCR1314 ycgO::spollQ (kan), spollQ::phleo, gerM::erm This work BCR1321 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1327 sacA::PspollIA-cfp-spollIAH (phleo), gerM::erm This work BCR1328 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-his6 (cat), gerM::erm This work BCR1331 ycgO::spollQ (Qata), spollQ::phleo, spollIAH::spec This work BCR1334 ycgO::spollQ (Qata), spollQ::phleo, spollIAH::spec This work BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec This work BCR1336 yhdG::gerM-mis6 (cat), gerM::erm, spollQ::tet This work BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet This work BCR1341 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollIAH::spec This work BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollQ::tet This work BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet This work BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet This work BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (2168A (kan), spollIAH::spec </td <td>BCR1313</td> <td></td> <td>This work</td>	BCR1313		This work
BCR1321 yhdG::PgerM-yfp (cat), sigE::erm This work BCR1327 sacA::PspollIA-cfp-spollIAH (phleo), gerM::erm This work BCR1328 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm This work BCR1330 yhdG::gerM-his6 (cat), gerM::erm This work BCR1332 yhdG::gerM-mCherry (cat), gerM::erm This work BCR1332 ycgO::spolIQ (2168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1335 ycgO::spolIQ (2168A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1335 ycgO::spolIQ (268A) (kan), spolIQ::phleo, spolIIAH::spec This work BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolIVB::spec This work BCR1340 amyE::PspolIIAA-gfp-spolIIAG (spec), spolIQ::tet This work BCR1341 amyE::PspolIIAA-gfp-spolIIAG (spec), gerM::erm, spolIIAH::spec This work BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet This work BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet This work BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (2168A) (kan) This work BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ	BCR1314		This work
BCR1328 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm BCR1330 yhdG::gerM-his6 (cat), gerM::erm BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1334 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1341 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spolIIAH::kan BCR1342 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1361 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1374 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat)	BCR1321		This work
BCR1328 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm BCR1330 yhdG::gerM-his6 (cat), gerM::erm BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1334 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1341 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spolIIAH::kan BCR1342 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1361 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1374 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat)	BCR1327	sacA::PspoIIIA-cfp-spoIIIAH (phleo), gerM::erm	This work
BCR1330 yhdG::gerM-his6 (cat), gerM::erm BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1334 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1341 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spolIIAH::kan BCR1342 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1361 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1371 yhdG::gerM-mCherry (cat), gerM::erm, yhdG::gerM-mCherry (cat) BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, yhdG::gerM-mCherry (cat) BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, yhdG::gerM-mCherry (cat) BCR1381 yhdG::gerSpsB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat)	BCR1328		
BCR1332 yhdG::gerM-mCherry (cat), gerM::erm BCR1334 ycgO::spolIQ (Q168A) (kan), spolIQ::phleo, spolIIAH::spec BCR1335 ycgO::spolIQ (kan), spolIQ::phleo, spolIIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspolIIAA-gfp-spolIIAG (spec), spolIQ::tet BCR1343 amyE::PspolIIAA-gfp-spolIIAG (spec), gerM::erm, spolIIAH::spec BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1349 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1340 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec This work This work		, , , , , , , , , , , , , , , , , , , ,	This work
BCR1334 ycgO::spollQ (Q168A) (kan), spollQ::phleo, spollIAH::spec BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spolIIAH::kan BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet BCR1349 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec This work BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1355 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec This work BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec This work			
BCR1335 ycgO::spollQ (kan), spollQ::phleo, spollIAH::spec BCR1339 yhdG::gerM-his6 (cat), gerM::erm, spolVB::spec BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spolIIAH::kan BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spolIIAH::spec BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIA::kan BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet BCR1349 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet BCR1340 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1351 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work This work This work			
BCR1349 yhdG::gerM-his6 (cat), gerM::erm, spoIVB::spec BCR1340 amyE::PspoIIIAA-gfp-spoIIIAG (spec), spoIIQ::tet BCR1343 amyE::PspoIIIAA-gfp-spoIIIAG (spec), gerM::erm, spoIIIAH::kan BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIAH::spec BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIA::kan BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIP::tet BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spoIIQ::tet, ycgO::spoIIQ Q168A (kan) BCR1354 spoIIQ::phleo, ycgO::PspoIIQ-gfp-spoIIQ (Q168A) (kan), gerM::erm BCR1355 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIP::tet, spoIID::spec BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spoIIIP::tet, spoIID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			
BCR1340 amyE::PspollIAA-gfp-spollIAG (spec), spollQ::tet BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollIAH::kan BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			
BCR1343 amyE::PspollIAA-gfp-spollIAG (spec), gerM::erm, spollIAH::kan BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollIQ::tet BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollIQ::tet, ycgO::spollQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			
BCR1344 yhdG::gerM-mCherry (cat), gerM::erm, spollIAH::spec BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollIQ::tet BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollIQ::tet, ycgO::spollQ Q168A (kan) BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work This work			
BCR1345 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			
BCR1346 yhdG::gerM-mCherry (cat), gerM::erm, spollIA::kan BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spolIIP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work This work This work This work			
BCR1347 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work This work			
BCR1348 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ Q168A (kan) BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spolIQ::tet, ycgO::spolIQ (Q168A) (kan), spolIIAH::spec BCR1354 spolIQ::phleo, ycgO::PspolIQ-gfp-spolIQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spolIP::tet, spolID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work			
BCR1353 yhdG::gerM-mCherry (cat), gerM::erm, spollQ::tet, ycgO::spollQ (Q168A) (kan), spollIAH::spec BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work This work			
BCR1354 spollQ::phleo, ycgO::PspollQ-gfp-spollQ (Q168A) (kan), gerM::erm BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spollP::tet, spollD::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work This work			
BCR1381 yhdG::gerM-mCherry (cat), gerM::erm, spoIIP::tet, spoIID::spec BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			
BCR1403 yycR::PsspB-cfp (phleo), gerM::erm, yhdG::gerM-mCherry (cat) This work			

BCR1414	yhdG::gerM-mCherry (cat), gerM::erm, spoIID::spec	This work
BCR1444	sigE::erm, ycgO::PspolIQ-gfp-spolIQ (tet), pelB::Phyperspank-spolID (cat), ΔspolIQ,	This work
	yrvN::Phyperspank-spollM (spec), ykoW::Phyperspank-spollP (phleo)	
BCR1446	sigE::erm, ycgO::PspolIQ-gfp-spolIQ (tet), pelB::Phyperspank-spolID (cat), ΔspolIQ,	This work
	yrvN::Phyperspank-spolIM (spec), ykoW::Phyperspank-spolIP (phleo), amyE::Phyperspank- spolIIAH (kan)	
BCR1447	sigE::erm, ycgO::PspolIQ-gfp-spolIQ (tet), pelB::Phyperspank-spolID (cat), ΔspolIQ,	This work
BORTHA	yrvN::Phyperspank-spolIM (spec), ykoW::Phyperspank-spolIP (phleo), amyE::Phyperspank-	THIS WORK
	gerM-his6 (kan)	

^{*} These strains are in the 168 trpC2 wild-type background

TABLE S2: Plasmid vectors used in this study

Plasmids	Description	Source
pCR214	amyE::PspoIIIA-optRBS-gfp(mut3)-spoIIIAG (spec)	This work
pCR224	yhdG::gerM (cat)	This work
pCR225	yhdG::gerM-his6 (cat)	This work
pCR226	yhdG::PgerM-yfp (cat)	This work
pCR228	yhdG::gerM-mCherry (cat)	This work
pCR261	amyE::Phyperspank-optRBS-gerM-his6 (kan)	This work
pCR262	amyE::Phyperspank-optRBS-spolIIAH (kan)	This work

TABLE S3: Oligonucleotide primers used in this study

Drimoro	Common*
Primers	Sequence*
oCR403	atggtagcgaccggcgctcaGGATCCttatttgtataattcgtccattccacctg
oCR431	gcgCTCGAGgccgcttgagcctccagatgatcctttgtatagttcatccatgccatg
oCR432	gcgCTCGAGatgaataaaaacggattatggaatg
oCR433	gcgGGATCCttatgaatcctcctttatttttttag
oCR471	cgcAAGCTTacagcccgggaagtcagcacaattc
oCR488	cgcGGATCCcgattgtatgtacataaacca
oCR489	gcgCTCGAGtaaggatgtttgtactattatgtatac
oCR490	gcgCTCGAGacataaggaggaactactatgagtaaaggagaagaacttttc
oCR493	cgcGGATCCttaatggtgatggtgatgaaaactacccgtattcacttgag
oCR498	gcgCTCGAGggatcatctggaggctcaagcggcatggtcagcaagggaggaagat
oCR547	agcggataacaattaagcttacataaggaggaactactatgctgaaaaaaaggacctgca
oCR549	agcggataacaattaagcttacataaggaggaactactatgcttaaaaaaacaaac
oCR550	catgcggctagctgtcgactttatttagagggttcaaatgtga
oCR554	catgcggctagctgtcgactttaatggtgatggtggtgatg
oDR078	gccGGATCCttatttgtatagttcatccatgcc
oDR107	ggcAAGCTTacataaggaggaactactatgagtaaaggagaagaac

^{*} Capital letters indicate restriction sites

Plasmid construction

pCR214 [amyE::PspoIIIA-optRBS-gfp(mut3)-spoIIIAG (spec)] was generated in a three-way ligation with a HindIII-Xhol PCR product containing gfp(mut3) (oligonucleotide primers oDR107 & oCR431) and a Xhol-BamHI PCR product containing spoIIIAG (oligonucleotide primers oCR432 & oCR433 and PY79 genomic DNA as template) and pDT019 (amyE::PspoIIIA-RBSspoIIIA-cfp-spoIIIAG) [1] cut with HindIII and BamHI.

pCR224 [yhdG::gerM (cat)] was generated in a two-way ligation with a HindIII-BamHI PCR product containing the gerM gene (oligonucleotide primers oCR471 & oCR488 and PY79 genomic DNA as template) and pBB275 (yhdG::cat) cut with HindIII and BamHI. pBB275 is an ectopic integration vector for double crossover integration at the yhdG locus (B. Burton and D.Z.R, unpublished).

pCR225 [yhdG::gerM-his6 (cat)] was generated in a two-way ligation with a HindIII-BamHI PCR product containing the gerM gene with a C-terminal hexahistidine tag (oligonucleotide primers oCR471 & oCR493 and PY79 genomic DNA as template) and pBB275 (yhdG::cat) cut with HindIII and BamHI.

pCR226 [yhdG::PgerM-optRBS-yfp (cat)] was generated in a three-way ligation with a HindIII-Xhol PCR product containing the gerM promoter (oligonucleotide primers oCR471 & oCR489 and PY79 genomic DNA as template), an Xhol-BamHI PCR product containing the yfp gene (oligonucleotide primers oCR490 & oDR078 with pKM012 (amyE::PspoIID-yfp) as template) and pBB275 (yhdG::cat) cut with HindIII and BamHI.

pCR228 [yhdG::gerM-mCherry (cat)] was generated in a three-way ligation with a HindIII-Xhol PCR product containing the gerM gene (oligonucleotide primers oCR471 & oCR472 with PY79 genomic DNA as template), an Xhol-BamHI PCR product containing the mCherry gene (oligonucleotide primers oCR498 & oCR403 with pCR100 (amyE::PspoIID-mCherry (B.subtilis codon-optimized) as template) and pBB275 (yhdG::cat) cut with HindIII and BamHI.

pCR260 [amyE::Phyperspank (kan)] was generated by a two-way ligation with an EcoRI-BamHI insert from pDR11 containing the hyperspank promoter, multiple cloning site and lacI gene (amyE::hyperspank) and pER82 cut with EcoRI-BamHI. pER82 (amyE::kan) is a double-crossover vector for ectopic integration at the amyE locus (E. Riley and D. Z. R. unpublished)

pCR261 [amyE::Phyperspank-optRBS-gerM-his6 (kan)] was generated by the double PCR technique [2]. Briefly, a PCR product containing gerM-his6 and flanking regions for annealing to the multiple-cloning site of pCR260 (oligonucleotide primers oCR547 & oCR554 with PY79 genomic DNA as template) was used in a PCR reaction with pCR260.

pCR262 [amyE::Phyperspank-optRBS-spoIIIAH (kan)] was generated by the double PCR technique [2]. Briefly, a PCR product containing spoIIIAH with flanking regions for annealing to the multiple-cloning site of pCR260 (oligonucleotide primers oCR549 & oCR550 with PY79 genomic DNA as template) was used in a PCR reaction with pCR260.

References

- 1. Doan T, Morlot C, Meisner J, Serrano M, Henriques AO, et al. (2009) Novel secretion apparatus maintains spore integrity and developmental gene expression in Bacillus subtilis. PLoS Genet 5: e1000566.
- 2. van den Ent F, Lowe J (2006) RF cloning: a restriction-free method for inserting target genes into plasmids. J Biochem Biophys Methods 67: 67-74.

SUPPLEMENTARY FIGURE LEGENDS

Figure S1: Cytological analysis of the *gerM* **mutant.** Representative images of wild-type (WT, BCR1071) and the Δ*gerM* mutant (BAM833) in a sporulation time course (induced by resuspension) at hours 1.75 (T1.75), 2.5 (T2), 3.5 (T3.5) and 5 (T5). Images (from left to right) are phase contrast, membrane staining with TMA-DPH, σ F activity (P_{spollQ}-yfp) and σ K (P_{gerE}-yfp), σ E activity (P_{spollD}-mCherry) and σ G activity (P_{sspB}-cfp). Scale bar indicates 2 μm.

Figure S2: Complementation of the $\triangle gerM$ mutant with gerM and gerM-his6 alleles. Representative images of sporulating cells harboring a σ G-dependent reporter (P_{sspB} -cfp) at hour 4 after the onset of sporulation (induced by resuspension). Images are wild-type (WT, BTD1609), $\triangle gerM$ (BCR1190), $\triangle AH$ (BCR1233), the $\triangle gerM$ $\triangle AH$ double mutant (BCR1200), $\triangle gerM$ complemented with wild-type gerM (BCR1300), $\triangle gerM$ $\triangle AH$ complemented with wild-type gerM (BCR1304), $\triangle gerM$ complemented with gerM-his6 (BCR1302), and $\triangle gerM$ $\triangle AH$ complemented with gerM-his6 (BCR1306). Scale bar indicates 2 μ m. Spore titers relative to wild-type at hour 30 are indicated on the right.

Figure S3: *gerM* transcription depends on σ E. Representative images of sporulating cells containing a *gerM* promoter fusion to the gene encoding yellow fluorescent protein (*yfp*) (P_{gerM}- *yfp*) at 2.5 hours of sporulation. Images are wild-type (WT, BCR1290) and Δ*sigE* (BCR1321). Scale bar represents 2 μm.

Figure S4: *gerM* and *gerM-his6* alleles restore proper localization to GFP-Q in a ΔAH $\Delta gerM$ double mutant. Representative images of GFP-Q localization in sporulating cells at hour 2 of sporulation (induced by resuspension). Images are from ΔAH (BCR56), ΔAH $\Delta gerM$ (BCR1197), and ΔAH $\Delta gerM$ complemented by a wild-type copy of *gerM* (BCR1296) or *gerM-his6* (BCR1298). Scale bar represents 2 μ m.

Figure S5: GerM-mCherry is functional. Representative images of sporulating cells, at hour 4 after the onset of sporulation (induced by resuspension), containing a σ G-dependent reporter (P_{sspB} -cfp). Images are wild-type (WT, BTD1609), $\Delta gerM$ (BCR1190), ΔAH (BCR1233), the $\Delta gerM$ ΔAH double mutant (BCR1200), $\Delta gerM$ complemented with gerM-mCherry (BCR1403),

and $\triangle gerM$ $\triangle AH$ complemented with gerM-mCherry (BCR1404). Scale bar represents 2 μ m. Spore titers relative to wild-type at hour 30 are indicated on the right.

Figure S6: GerM-mCherry localization to the septal membrane requires thinning of the septal peptidoglycan. Representative images of GerM-mCherry localization at hour 2.5 of sporulation (induced by resuspension). Images are from wild-type (BCR1332), the $\Delta spollD$ double mutant (BCR1381), $\Delta spollP$ (BCR1347), and $\Delta spollD$ (BCR1414). Enrichment of GerM-mCherry at septal bulges is highlighted (yellow carets). Scale bar represents 2 μ m.

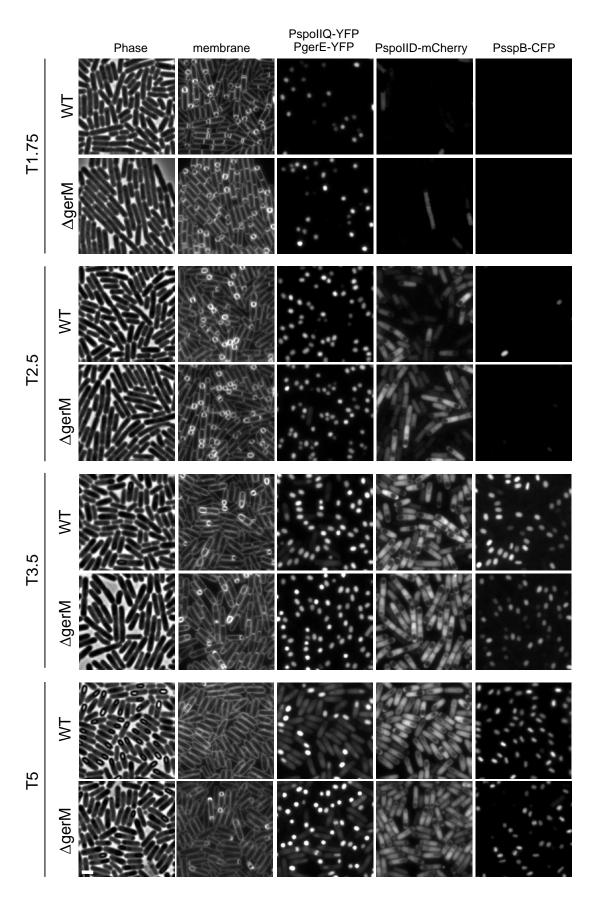
Figure S7: Quantification of septal GFP-Q fluorescence when AH or GerM is artificially produced in the absence of σE. Graphs quantifying GFP-Q fluorescence on background subtracted images using a line-scan from Metamorph image analysis software. In all cases, the sporulating cell was scanned as depicted above the graphs. The signal intensity was plotted on the Y-axis as a function of position along the sporulating cell (X-axis). A. Analysis of 10 sporulating cells (strain BCR1444) in which SpolID, SpolIP and SpolIM were artificially produced. B. Analysis of 10 sporulating cells (strain BCR1446) in which SpolID, SpolIP, SpolIM and SpolIIAH were artificially produced. C. Analysis of 10 sporulating cells (strain BCR1447) in which SpolID, SpolIP and GerM were artificially produced. Images are GFP-Q (left) and merge of GFP-Q with membranes stained with TMA-DPH. Scale bar indicates 2 μm.

Figure S8: GFP-Q is mislocalized when IPTG is omitted from the experiment described in Figure 4A. Representative images of GFP-Q in sporulating cells lacking *sigE* at hour 2.5. The strains contain IPTG-inducible alleles of *spolID*, *spolIM* and *spolIP* (DMP) alone (BCR1444) or together with an IPTG-inducible allele of *gerM* (BCR1447) or *AH* (BCR1446). Scale bar indicates 2 μm.

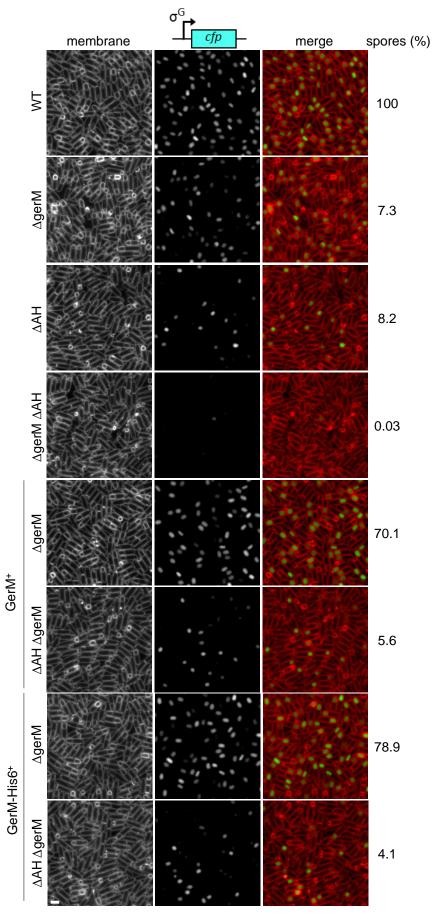
Figure S9: GerM is not required for CFP-AH localization. Representative images of CFP-AH localization in sporulating cells at hour 2.5 (induced by resuspension). Images are from wild-type (BTD23) and $\Delta gerM$ (BCR1327). Scale bar represents 2 μ m.

Figure S10: GerM stays behind after Q and AH are degraded. Immunoblot analysis during a 30 min time-course after the onset of sporulation (induced by resuspension). Consistent with a later role for GerM in sporulation, GerM levels stay high during late stages of sporulation, while AH and Q are degraded.

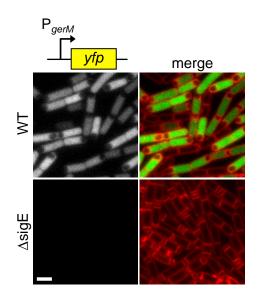
Figure S11: GerM is conserved in a subset of endospore-forming bacteria but not in the *Clostridiales.* **A.** Occurrence of GerM across the bacterial phylogenetic tree. Red bands indicate the presence of a GerM homologue in the indicated species. **B** and **C.** Enlargement of the boxed areas in panel A. The NCBI nr database was searched using the *B. subtilis* GerM amino acid sequence as the query. The BLASTp search program was used with an E-value cutoff of 1x10⁻⁴. Detected orthologs were cross-referenced with a list of 1773 diverse bacterial taxa and plotted onto a phylogenetic tree. The tree was constructed in PhyloT (http://phylot.biobyte.de) and was displayed and manually pruned in iTOL (http://itol.embl.de).

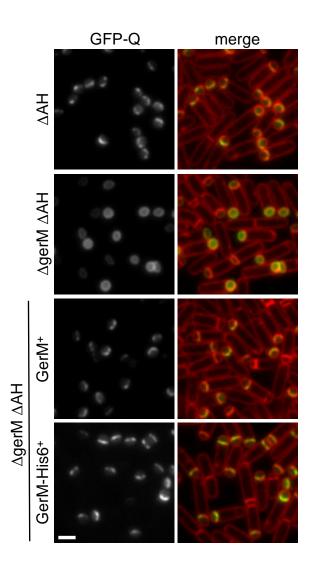


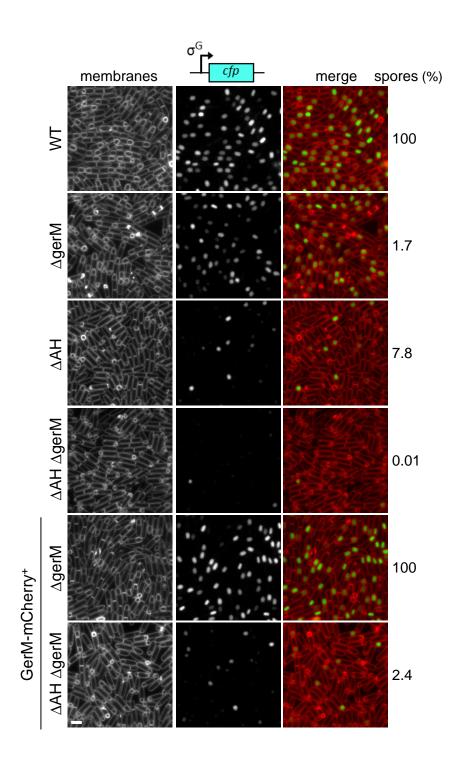
Rodrigues et al., Fig.S2

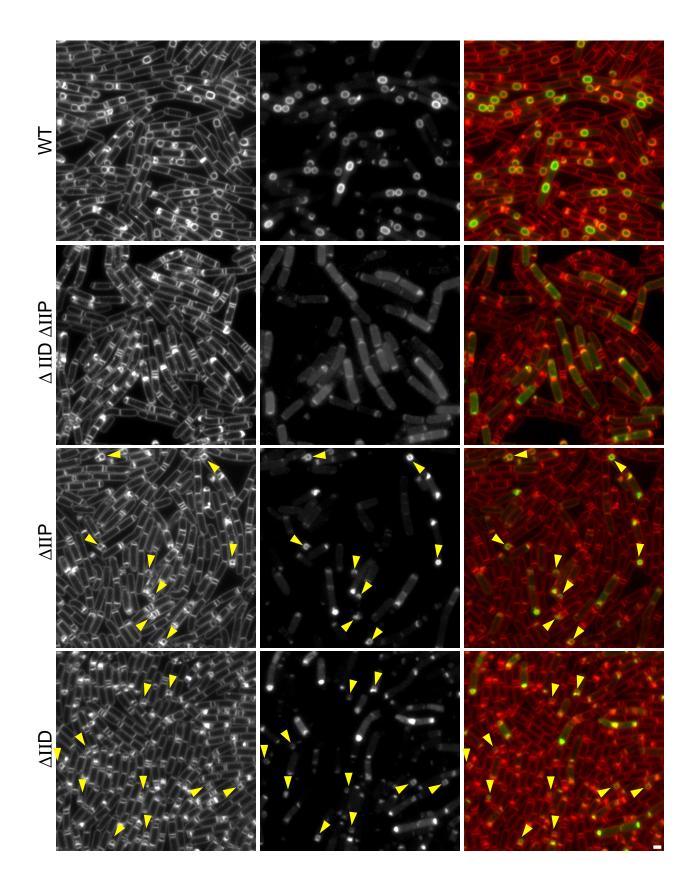


Rodrigues et al., Fig.S3

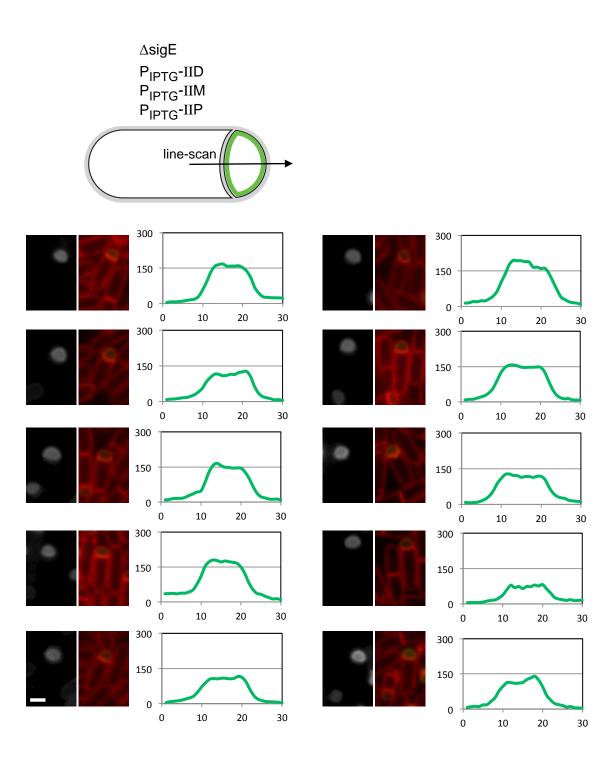




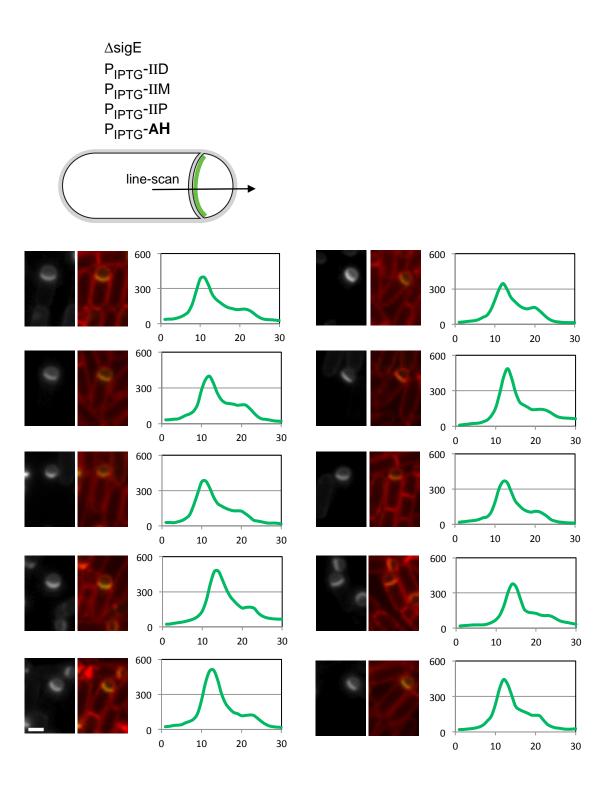




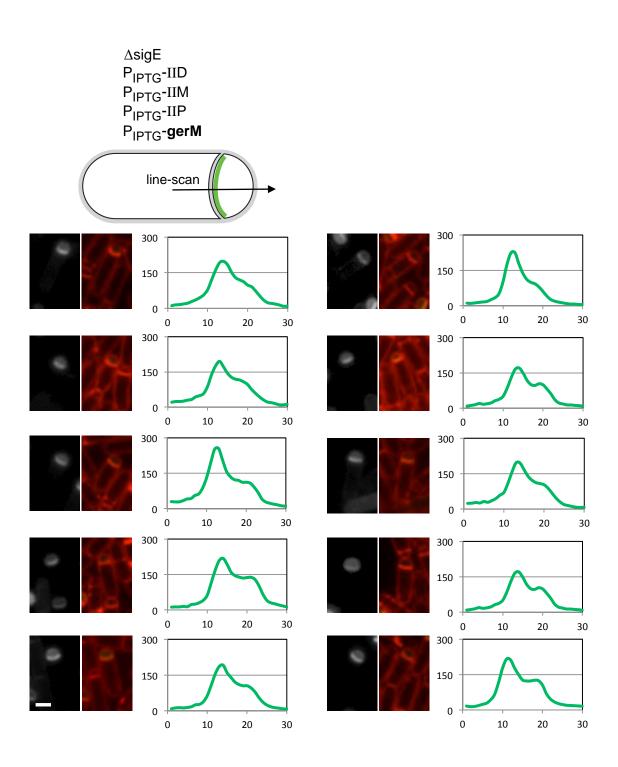
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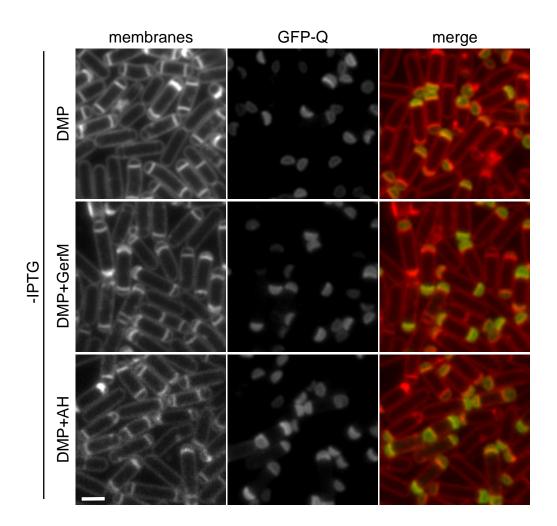


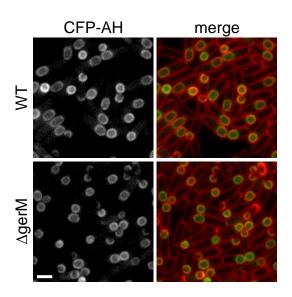
Rodrigues et al. Fig.S7B

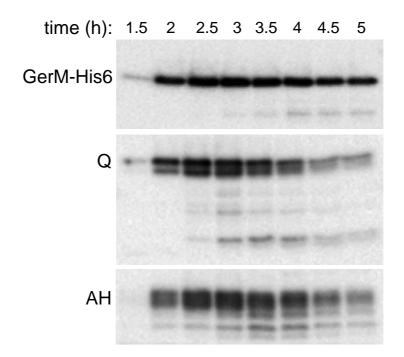


Rodrigues et al. Fig.S7C









Rodrigues et al., Fig.S11

