





## Production and secretion stress caused by overexpression of heterologous alpha-amylase leads to inhibition of sporulation and a prolonged motile phase in Bacillus subtilis

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Table S2	2. Differentially	expressed	genes in res	sponse to	AmyQ	overproduction	in the	stationary	phase of	growth
(1)Fold re	presents relative	e change in	expression l	evels betw	veen the	stressed and no	n-stress	ed cells.		

Gene	Fold	Product	Functional Group		
htrA	8.81	serine protease Do (heat-shock protein)	Adaptation To Atypical Conditions		
citM	6.12	2-oxoglutarate dehydrogenase (dihydrolipoamide transsuccinylase, E2 subunit)	Transport/Binding Proteins And Lipoproteins		
htrB	4.70	serine protease Do (heat-shock protein)	Adaptation To Atypical Conditions		
fliF	4.25	flagellar basal-body M-ring protein	Motility And Chemotaxis		
flgB	3.83	flagellar basal-body rod protein	Motility And Chemotaxis		
flgC	3.61	flagellar basal-body rod protein	Motility And Chemotaxis		
fliJ	3.26	flagellar protein	Motility And Chemotaxis		
fliG	2.94	flagellar motor switch protein	Motility And Chemotaxis		
fliZ	2.93	flagellar protein	Motility And Chemotaxis		
fliE	2.89	flagellar hook-basal body protein	Motility And Chemotaxis		
fliY	2.80	flagellar motor switch protein	Motility And Chemotaxis		
PrpC/ yloO	2.76	PP2C protein phosphatase	Protein Modification		
ilvD	2.73	dihydroxy-acid dehydratase	Metabolism Of Amino Acids And Related Molecules		
fliI	2.72	flagellar-specific ATP synthase	Motility And Chemotaxis		
fliL	2.66	flagellar protein	Motility And Chemotaxis		
sucC	2.52	succinyl-CoA synthetase (beta subunit)	Metabolism Of Carbohydrates And Related		
serA	2.49	phosphoglycerate dehydrogenase	Molecules; Tca Cycle Metabolism Of Amino Acids And Related Molecules		
alsT	2.48	amino acid carrier protein	Transport/Binding Proteins And Lipoproteins		
flgE	2.45	flagellar hook protein	Motility And Chemotaxis		
soj/spo0JA	2.42	centromere-like function involved in forespore	Sporulation		
J. I		chromosome partitioning / negative regulation of sporulation initiation			
fliK	2.39	flagellar hook-length control	Motility And Chemotaxis		
fliH	2.38	flagellar assembly protein	Motility And Chemotaxis		
dppA	2.35	D-alanyl-aminopeptidase	Transport/Binding Proteins And Lipoproteins		
cheV	2.28	modulation of CheA activity in response toattractants (chemotaxis)	Motility And Chemotaxis		
TatAd/ vczB	2.26	component of the twin-arginine pre-protein translocation	Protein Secretion		
flhA	2.23	flagella-associated protein	Motility And Chemotaxis		
uxaC/	2.19	glucuronate isomerase, hexuronate utilization	Metabolism Of Carbohydrates And Related		
yjmA sigD	2.14	RNA polymerase flagella, motility, chemotaxis and	Molecules / Specific Pathways Rna Synthesis;nitiation		
flhP	2.12	autolysis sigma factor flagellar hook-basal body protein	Motility And Chemotaxis		
spo0E	2.11	negative sporulation regulatory phosphatas	Sporulation		
dltA	2.08	D-alanyl-D-alanine carrier protein ligase (Dcl)	Cell Wall		
rnsP	2.00	ribosomal protein S16 (BS17)	Protein Synthesis: Ribosomal Proteins		
mcnR	2.00	methyl-accepting chemotavis protein	Motility And Chemotavis		
smf	2.04	DNA processing Smf protein homolog	Dna Packaging And Segregation		
nprE	2.04	extracellular neutral metalloprotease	Metabolism Of Amino Acids And Related		
fliD	2.04	flagellar hook-associated protein 2 (HAP2)	Molecules Motility And Chemotaxis		
fhuC	2.01	errichrome transport system ATP-hinding protein	Transport/Binding Proteins And Linoproteins		
fløI.	1 98	flagellar hook-associated protein 3 (HAP3)	Motility And Chemotaxis		
motR	1.93	motility protein B	Motility And Chemotavis		
htnG	1.77	alass III heat-shock protain (malacularahanarana)	Adaptation To Atypical Conditions		
mcnA	1.77	methyl-accepting chemotavis protain	Matility And Chemotoxis		
aorA	1.97	evtochrome and quinel evidence guburit II	Membrane Bioenergeties (Electron Transment		
qoxA qoxB	1.96	cytochrome aa3 quinol oxidase (subunit I)	Chain And Atp Synthase) Membrane Bioenergetics (Electron Transport		
flgK	1.93	flagellar hook-associated protein 1 (HAP1)	Chain And Atp Synthase) Motility And Chemotaxis		
ffh	1.86	signal recognition particle-like (SRP)component	Protein Secretion		
recA	1.69	multifunctional SOS repair regulator	Dna Recombination		
degU	1.65	two-component response regulator involved in degradative enzyme and competence regulation. cognate	Rna Synthesis;Regulation		

Gene	Fold <sup>1</sup>	Product	Functional Group
spoVC	-1.99	peptidyl-tRNA hydrolase (stage V sporulation protein	Sporulation
acoB	-2.04	acetoin dehydrogenase E1 component(TPP-dependent beta subunit)	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
opuBB	-2.12	choline ABC transporter (membrane protein)	Transport/Binding Proteins And Lipoproteins
spoIIE	-2.27	serine phosphatase (sigma-F activation) / asymmetric septum formation	Sporulation
spoIVFA	-2.40	inhibitor of SpoIVFB	Sporulation
glgA	-2.45	glycogen synthase (starch (bacterial glycogen) synthase)	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
sspF	-2.61	small acid-soluble spore protein(alpha/beta-type SASP)	Sporulation
scoB/ yxjE	-2.64	3-oxoacid CoA-transferase subunit B	Metabolism Of Lipids
spoVM	-2.93	equired for normal spore cortex and coat synthesi	Sporulation
sspD	-4.75	small acid-soluble spore protein(alpha/beta-type SASP)	Sporulation
spoIIIC	-4.95	RNA polymerase sporulation-specific sigma factor(sigma-K) (C-terminal half)	Rna Synthesis; nitiation
spoIVCB	-5.47	RNA polymerase sporulation mother cell-specific (late) sigma factor (sigma-K N-terminal half)	Rna Synthesis; nitiation
sspL	-5.63	small acid-soluble spore protein (minor)	Sporulation
spoVAA	-6.12	sporulation protein VAA	Sporulation
cotK	-6.23	small acid-soluble spore protein	Sporulation
spoIVB	-9.46	serine peptidase of the SA clan	Sporulation
tlp	-9.70	small acid-soluble spore protein(thioredoxin-like protein)	Membrane Bioenergetics (Electron Transport Chain And Atp Synthase)
Unknown gei	nes		
yloA	11.15	unknown; similar to fibronectin-binding protein	Adaptation To Atypical Conditions
ykoJ	5.31	conserved protein	Similar To Unknown Proteins; From BSubtilis
yheN	2.96	similar to endo-1,4-beta-xylanase	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
ylxF	2.63	conserved protein	No Similarity To Other Proteins
yfmT	2.61	similar to benzaldehyde dehydrogenase	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
yuss	2.52	similar to 3-oxoacyl- acyl-carrier protein reductase	Metabolism Of Lipids
yusQ	2.29	similar to 4-oxalocrotonate tautomerase	Metabolism Of Lipids
yqzH	2.23	function unknown and unique	No Similarity To Other Proteins
yxiL	2.21	function unknown and unique	No Similarity To Other Proteins
yopS	2.21	possible transcriptional regulator, SP-beta protein	Similar To Unknown Proteins; From BSubtilis
ylxH	2.10	similar to flagellar biosynthesis switch protein	Motility And Chemotaxis
yolA	2.09	SP-beta protein	No Similarity To Other Proteins
yybN	2.05	function unknown and unique	No Similarity To Other Proteins
yyzE	2.03	putative PTS glucose-specific enzyme IIA component	Transport/Binding Proteins And Lipoproteins
ymfC	2.02	unknown; similar to transcriptional regulator (GntR family	Rna Synthesis;Regulation
yorD	1.97	cold shock and salt stress induced protein, SP-beta protein	No Similarity To Other Proteins
ycbP	-2.14	conserved membrane protein	Similar To Unknown Proteins; From BSubtilis
ybbC	-2.15	unknown; similar to unknown proteins	No Similarity To Other Proteins
yjmG/exuT	-2.02	hexuronate transporter	Transport/Binding Proteins And Lipoproteins
yjmF	-2.13	similar to D-mannonate oxidoreductase, hexuronate utilization	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
yjmE	-2.34	mannonate dehydratase, hexuronate utilization	Metabolism Of Carbohydrates And Related Molecules; Specific Pathways
yhfN	-2.56	putative Zn-dependent protease	Similar To Unknown Proteins; From Other Organisms
yjmC	-2.77	similar to malate dehydrogenase, hexuronate utilization	Metabolism Of Carbohydrates And Related Molecules; Tca Cycle
yxjC	-2.95	conserved membrane protein	Similar To Unknown Proteins; From BSubtilis
yoaR	-3.21	unknown; similar to unknown proteins	No Similarity To Other Proteins
yngG	-4.45	similar to hydroxymethylglutaryl-CoA lyase	Metabolism Of Lipids