

**Table S1.** Reference genes and proteins involved in the metabolites secondary production.

Metabolites	Gen Name	Name Protein/Function	Protein Accession N°	Reference
Bacilysin	<i>ywfG</i>	YwfG, aminotransferase	RBAM_034880	[1]
	<i>bacE</i>	BacE protein	RBAM_034890	
	<i>bacD</i>	BacD, ligase	RBAM_034900	
	<i>bacC</i>	BacC, alcohol dehydrogenase	RBAM_034910	
	<i>bacB</i>	BacB, isomerase	RBAM_034920	
	<i>bacA</i>	BacA, prephenate decarboxylase	RBAM_034930	
	<i>ywfA</i>	YwfA protein	RBAM_034940	
Bacillibactin	<i>ald</i>	L-alanine dehydrogenase	CAB15181.1	[2,3]
	<i>yukJ</i>	Conserved protein of unknown function	CAB15183.2	
	<i>mbtH</i>	Stimulator of DhbF tyrosine adenylation activity	CAX52685.1	
	<i>dhbF</i>	DhbF, Siderophore 2,3-dihydroxybenzoate-glycine-threonine trimeric ester bacillibactin synthetase	CAB15186.3	
	<i>dhbB</i>	DhbB, Isochorismatase (siderophore specific)	CAB15187.1	
	<i>dhbE</i>	DhbE, 2,3-dihydroxybenzoate-AMP ligase	CAB15188.1	
	<i>dhbC</i>	DhbC, Isochorismate synthase (siderophore-specific)	CAB15189.2	
	<i>dhbA</i>	DhbA, 2,3-dihydro-2,3-dihydroxybenzoate dehydrogenase	CAB15190.2	
	<i>besA</i>	Bacillibactin trilactone hydrolase	CAB15191.2	
	<i>yuiH</i>	Putative molybdopterin containing enzyme subunit	CAB15192.1	
	<i>bioYB</i>	Putative biotin transporter	CAB15193.1	
	<i>hisP</i>	Histidine / basic amino acid transporter	CAB15194.1	
	<i>pepA</i>	Cytosol aminopeptidase	CAB15195.1	
Lichenysin	<i>hyuA1</i>	Hydantoinase A	AAU39353.1	[4]
	<i>hyuB1</i>	Hydantoinase B	AAU39354.1	
	ND	Putative spermidine/putrescine ABC transporter solute-binding protein	AAU39355.1	
	ND	Putative spermidine/putrescine ABC transporter ATP-binding protein	AAU39356.1	
	ND	Putative spermidine/putrescine ABC transporter permease	AAU39357.1	

	ND	Putative spermidine/putrescine ABC transporter permease	AAU39358.1	
	<i>lchAA</i>	Lichenysin synthase LchAA	AAU39359.1	
	<i>lchAB</i>	Lichenysin synthase LchAB	AAU39360.1	
	<i>lchAC</i>	Lichenysin synthase LchAC	AAU39361.1	
	<i>lchAD</i>	Lichenysin synthase LchAD	AAU39362.1	
	<i>ycxC</i>	Putative transporter YcxC	AAU39363.1	
	<i>ycxD</i>	Putative PLP-dependent transcriptional regulator YcxD	AAU39364.1	
	<i>sfp</i>	4'-phosphopantetheinyl transferase Sfp	AAU39365.1	
	ND	Putative esterase	AU39366.1	
Plantazolicin	<i>pznF</i>	Class I SAM-dependent methyltransferase	WP_034619896.1	[5]
	<i>pznK</i>	CPBP family intramembrane metalloprotease	WP_003211749.1	
	<i>pznG</i>	SagB/ThcOx family dehydrogenase	WP_003211436.1	
	<i>pznH</i>	Hypothetical protein	WP_003211025.1	
	<i>pznI</i>	TOMM precursor leader peptide-binding protein	WP_003210769.1	
	<i>pznA</i>	Hypothetical protein	WP_003211085.1	
	<i>pznJ</i>	Plantazolicin family RiPP	WP_003212531.1	
	<i>pznC</i>	Pentapeptide repeat-containing protein	WP_003212115.1	
	<i>pznD</i>	ABC transporter permease	WP_003212220.1	
	<i>pznB</i>	ABC transporter ATP-binding protein	WP_003211121.1	
	<i>pznE</i>	ArsR family transcriptional regulator	WP_034619900.1	
	<i>pznL</i>	Hypothetical protein	WP_003211448.1	
Circular bacteriocin	ND	Uberolysin/carnocyclin family circular bacteriocin	WP_107162921.1	ND
Siderophore	ND	IucA/IucC family siderophore biosynthesis protein	WP_107163851.1	ND
	ND	IucA/IucC family siderophore biosynthesis protein	WP_212040189.1	
	ND	Lysine N(6)-hydroxylase/L-ornithine N(5)-oxygenase family protein	WP_047202330.1	
Surfactin	<i>yciC</i>	YciC protein	CAE02619.1	[6]
	<i>yx01</i>	Yx01 protein	CAE02620.1	
	<i>yckC</i>	YckC protein	CAE02621.1	
	<i>yckD</i>	YckD protein	CAE02622.1	

	<i>yczE</i>	YckE protein	CAE02639.1
	<i>nin</i>	Nin protein	CAE02624.1
	<i>nucA</i>	NucA	CAE02625.1
	<i>hxlB</i>	HxlB, hexuloisomerase	CAE02626.1
	<i>hxlA</i>	HxlA, Hexuloisomerase	CAE02627.1
	<i>hxlR</i>	HxlR, Transcriptional regulator, HxlR protein	CAE02628.1
	<i>xy02</i>	Xy02 protein	CAE02629.1
	<i>srfAA</i>	SrfAA, Surfactin synthetase A	CAE02630.1
	<i>srfAB</i>	SrfAB, Surfactin synthetase B	CAE02631.1
	<i>comS</i>	Competence protein S	CAE02632.1
	<i>srfAC</i>	SrfAC, Surfactin synthetase C	CAE02633.1
	<i>srfAD</i>	SrfAD, Surfactin synthetase D	CAE02634.1
	<i>aat</i>	Amino transferase	CAE02635.1
	<i>ycxc</i>	Transporter	CAE02636.1
	<i>sfp</i>	Phosphopantetheinyl transferase	CAE02638.1
	<i>yczE</i>	YczE protein	CAE02639.1
	<i>yckI</i>	YckI protein	CAE02640.1
	<i>yckJ</i>	YckJ protein	CAE02641.1
Fengycin	<i>dacC</i>	D-alanyl-D-alanine carboxypeptidase	RBAM_018470
	<i>fenB</i>	FenB, Fengycin synthetase B	RBAM_018450
	<i>fenC</i>	FenC, Fengycin sintetase C	RBAM_018440
	<i>fenA</i>	FenA, Fengycin sintetase A	RBAM_018460
	<i>fenD</i>	FenD, Fengycin sintetase D	RBAM_018430
	<i>fenE</i>	FenE, Fengycin sintetase E	RBAM_018420
	<i>yngL</i>	Proteína YngL	RBAM_018410
	<i>yngK</i>	Proteína YngK	RBAM_018400
	<i>yngJ</i>	Acyl-CoA dehydrogenase	RBAM_018390
	<i>yngI</i>	AMP-binding protein	RBAM_018380
	<i>yngH</i>	Acetyl-CoA carboxylase biotin carboxylase	RBAM_018370
	ND	Acetyl-CoA carboxylase biotin carboxyl carrier protein	RBAM_018360
	<i>yngG</i>	Hydroxymethylglutaryl-CoA lyase	RBAM_018350

[6]

	<i>ynpF</i>	Enoyl-CoA hydratase	RBAM_018340	
	<i>ynpE</i>	Acyl-CoA carboxylase subunit beta	RBAM_018330	
	<i>baeS</i>	Cytochrome P450 'oxidase'	CAG23962.1	
	<i>baeR</i>	Polyketide synthase of type I	CAG23961.2	
	<i>baeN</i>	Hybrid NRPS/PKS protein	CAG23960.2	
	<i>baeM</i>	Polyketide synthase of type I	CAG23959.2	
	<i>baeL</i>	Polyketide synthase of type I	CAG23958.2	
	<i>baeJ</i>	Hybrid NRPS/PKS protein	CAG23957.2	
	<i>baeI</i>	Polyketide biosynthesis enoyl-CoA hydratase	CAG23956.1	
Bacillaene	<i>baeH</i>	Polyketide biosynthesis enoyl-CoA hydratase	CAG23955.1	[7]
	<i>baeG</i>	3-hydroxy-3-methylglutaryl CoA synthase	CAG23954.2	
	<i>acpK</i>	Acyl carrier protein	CAG23953.1	
	<i>baeE</i>	Malonyl-CoA-[acyl-carrier protein] transacylase/oxidoreductase	CAG23952.1	
	<i>baeD</i>	Malonyl-CoA-[acyl-carrier-protein] transacylase	CAG23951.1	
	<i>baeC</i>	Malonyl-CoA-[acyl-carrier-protein] transacylase	CAG23950.2	
	<i>baeB</i>	Hydroxyacylglutathione hydrolase	CAG23949.2	
	ND	Transcription antiterminator	OEI73450.1	
	ND	Hypothetical protein	OEI73451.1	
	ND	Hypothetical protein	OEI73452.1	
	ND	Ubiquinone biosynthesis methyltransferase UbiE	OEI73453.1	
	ND	Hypothetical protein	OEI73454.1	
	ND	S-malonyltransferase	OEI73455.1	
	ND	Poly(3-hydroxyalkanoate) depolymerase	OEI73456.1	
Aurantinin	ND	Polyketide biosynthesis protein	OEI73457.1	[8]
	ND	Alpha/beta hydrolase	OEI73458.1	
	ND	Hypothetical protein	OEI73459.1	
	ND	Hypothetical protein	OEI73460.1	
	ND	Hypothetical protein	OEI73461.1	
	ND	Hypothetical protein	OEI73462.1	
	ND	Hypothetical protein	OEI73463.1	

	ND	Hypothetical protein	OEI73464.1	
	ND	Hypothetical protein	OEI73465.1	
	ND	Hypothetical protein	OEI73466.1	
	ND	Polyketide beta-ketoacyl:ACP synthase	OEI73467.1	
	ND	Enoyl-CoA hydratase	OEI73469.1	
	ND	Enoyl-CoA hydratase	OEI73470.1	
	ND	Hypothetical protein	OEI73471.1	
	ND	Hypothetical protein	OEI73472.1	
	ND	Glycosyl transferase	OEI73473.1	
	ND	Hypothetical protein	OEI73474.1	
	ND	Hypothetical protein	OEI73475.1	
	ND	MATE family efflux transporter	OEI73476.1	
	ND	Methyltransferase type 11	OEI73477.1	
Bacillomycin D	<i>yxjC</i>	GntP family permease	RBAM_018230	[6]
	<i>scoA</i>	CoA transferase subunit A	RBAM_018220	
	<i>scoB</i>	CoA transferase subunit B	RBAM_018210	
	<i>yxjF</i>	3-hydroxybutyrate dehydrogenase	RBAM_018200	
	<i>bmyD</i>	ACP S-malonyltransferase	RBAM_018190	
	<i>bmyA</i>	Bacillomycin D synthetase A	RBAM_018180	
	<i>bmyB</i>	Bacillomycin D synthetase B	RBAM_018170	
	<i>bmyC</i>	Bacillomycin D synthetase C	RBAM_018160	
	<i>xynD</i>	Carbohydrate-binding protein	RBAM_018150	
	<i>ynfF</i>	Glucuronoxylanase	RBAM_018140	
Amylocyclin	<i>acnB</i>	Transmembrane protein, essential for synthesis	RBAM_029190	[9]
	<i>acnA</i>	Precursor of circular bacteriocin	RBAM_029200	
	<i>acnC</i>	Processing, maturation, and self-immunity	RBAM_029210	
	<i>acnD</i>	ABC transporter	RBAM_029220	
	<i>acnE</i>	Integral membrane protein,	RBAM_029230	
	<i>acnF</i>	Transmembrane protein	RBAM_029240	
Polyketide synthase	ND	Type III polyketide synthase/Predicted naringenin-chalcone synthase	WP_039179425.1	ND

Polyketide synthase	ND	polyketide beta-ketoacyl:ACP synthase	WP_047476665.1	ND
	ND	lanthionine synthetase C	WP_041850824.1	
Lanthipeptide	ND	ABC transporter ATP-binding protein/permease	WP_047474965.1	ND
	ND	lantibiotic dehydratase	WP_047474967.1	

ND, no described.

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