

## Supplementary Materials

### **Extracellular vesicles of *Lactiplantibacillus plantarum* PCM 2675 and *Lacticaseibacillus rhamnosus* PCM 489: an introductory characteristic**

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**Table 1. Mass spectrometry identification of proteins from *Lactiplantibacillus plantarum* PCM 2675 extracellular vesicles (EVs).**

Accession Number	Protein Description	Score	Sequence Coverage [%]	Molecular Mass [kDa]	pI
A0A9X4R8V7	SH3 domain-containing protein	2418.94	61.33	81.7	8.92
A0A6P1PM54	Mucus-binding protein	1505.36	34.34	236.1	4.86
F9UP14	Mucus-binding protein. LPXTG-motif cell wall anchor	1390.75	31.10	236.0	4.86
A0A166PAQ3	Gamma-D-glutamyl-meso-diaminopimelate peptidase	1097.12	27.64	34.7	9.39
A0A165RVQ5	Lysozyme	989.42	9.51	83.2	8.06
F9UM10	Glyceraldehyde-3-phosphate dehydrogenase	676.53	39.71	36.4	5.54
A0A0G9F8U8	Elongation factor Tu	619.61	46.58	43.4	5.08
A0A6P1PJE6	ESX secretion system protein YueB	594.97	17.84	127.9	9.03
A0A1E3KUY5	N-acetylmuramoyl-L-alanine amidase sle1	499.47	33.66	21.1	8.91
A0A1W6NN01	Transglycosylase	484.98	25.98	25.2	8.97
A0A8I1ZFG3	LPXTG cell wall anchor domain-containing protein	446.97	17.99	86.1	8.34
Q88VJ2	D-lactate dehydrogenase	412.30	50.60	37.2	5.06
A0A0G9F7Y4	Extracellular protein	384.46	33.48	23.2	9.89
A0A387DSN5	Penicillin-binding protein 1A	365.88	18.22	82.6	9.42
A0A0G9F7S8	FAD-dependent oxidoreductase	349.46	38.58	48.2	5.68
A0A0G9FB10	DNA-binding protein HU	311.53	76.92	9.6	9.76
A0A809NVH3	LysM domain protein	304.84	16.15	31.9	9.55
A0A166AYS7	Extracellular zinc metalloproteinase	293.55	28.37	23.9	8.50
A0A410LXP1	Putative peptidoglycan endopeptidase LytE	277.44	14.52	48.3	9.09
A0A0G9FDU4	Class II fructose-1,6-bisphosphate aldolase	272.59	33.10	30.9	5.20
K4EKH6	Extracellular protein D1 (Fragment)	259.99	33.70	19.4	7.49
A0A1W6NUJ8	Triosephosphate isomerase	239.83	37.76	25.7	4.64
A0A0R2GA25	Lysin	233.39	20.05	48.4	9.63
A0A2S1T6M3	L,D-transpeptidase catalytic domain-containing protein	232.63	18.58	36.6	10.27
A0A0R2GDX5	Acyltransferase	221.10	12.98	72.8	9.86
A0A0G9GNN1	Peptidase Do	215.54	14.05	43.1	9.55
Q88X05	Foldase protein PrsA 1	206.11	20.13	32.6	9.77
A0A151G502	Extracellular protein	200.18	17.52	29.3	10.62
A0A1E3KQK8	15 kDa lipoprotein	194.05	27.45	32.8	9.76
A0A0M4D5D3	Extracellular protein	191.98	11.18	34.2	9.51
A0A2S1T6U3	NAD(P)/FAD-dependent oxidoreductase	191.30	16.36	47.6	5.36
A0A151G276	Glycoprotein gp2	187.81	23.29	30.9	9.66
A0A165BUG4	DNA helicase	187.29	14.02	34.3	6.00
A0A0L7Y402	Co-chaperonin GroES	176.41	50.00	10.3	5.03
A0A0G9FCV9	Acid shock protein	174.00	28.57	16.0	4.70
A0A0R2GEM1	L-lactate dehydrogenase	168.80	16.09	33.9	5.05
A0A0G9FA95	Cell envelope-associated transcriptional attenuator LytR-CpsA-Psr subfamily F2	161.65	18.55	37.7	9.89
A0A1E3KRD4	Phosphoglycerate kinase	161.12	15.75	42.8	5.25
A0A0M5INP1	Amino acid ABC transporter substrate-binding protein	159.38	19.10	28.9	9.96
A0A151G3U8	Glutathione reductase	156.76	17.27	47.6	5.53
A0A0G9FH93	Adherence protein. chitin-binding domain protein	153.66	25.87	22.2	8.85
A0A151G8Y6	Fructose permease IID component	143.78	17.10	34.3	9.39

<b>A0A0G9F8I8</b>	Chaperone protein DnaK	142.70	6.11	66.7	4.84
<b>A0A0R2G3W5</b>	Chaperonin GroEL	137.17	12.57	57.4	4.81
<b>A0A165P2U7</b>	Enolase	131.32	7.69	48.0	4.74
<b>A0A165C255</b>	PTS beta-glucoside transporter subunit IIABC	130.67	5.11	69.4	8.47
<b>A0A0G9FCB2</b>	Large ribosomal subunit protein uL11	130.02	35.46	14.8	9.23
<b>A0A162GIN5</b>	Extracellular protein	126.56	6.45	22.7	9.11
<b>A0A0G9F8J5</b>	Large ribosomal subunit protein bL12	125.48	53.28	12.6	4.48
<b>A0A151G3H2</b>	Capsid protein	123.53	17.56	45.4	5.11
<b>A0A0R2GCN4</b>	Extracellular zinc metalloproteinase	119.87	11.11	27.5	8.13
<b>A0A0R2G594</b>	Acyltransferase	117.49	11.48	66.9	9.09
<b>A0A0G9FF02</b>	Cell surface protein	116.85	10.36	23.1	10.59
<b>A4F3M9</b>	ATP synthase alpha subunit (Fragment)	112.29	18.28	30.1	5.40
<b>A0A0R2GKD9</b>	D-alanyl-D-alanine carboxypeptidase	107.67	3.16	45.2	9.79
<b>A0A0G9FJ83</b>	ABC-type oligopeptide transport system. periplasmic component	101.26	7.50	60.3	9.64
<b>A0A0M3QB24</b>	Dipeptidase PepV	96.12	6.00	50.8	4.65
<b>A0A0R2G5Y4</b>	inorganic diphosphatase	90.43	23.62	33.6	4.69
<b>A0A151G9J5</b>	DUF5067 domain-containing protein	90.11	19.35	20.5	8.79
<b>A0A0G9FDS9</b>	Large ribosomal subunit protein bL21	89.87	31.37	11.0	9.55
<b>A0A0G9GTF0</b>	Preprotein translocase YajC	88.99	10.24	13.8	4.94
<b>A0A166J7K5</b>	DUF4115 domain-containing protein	87.87	4.48	31.3	9.44
<b>A0A0G9FAE9</b>	FAD:protein FMN transferase	84.36	9.19	40.2	9.73
<b>A0A0G9FA51</b>	ATP synthase subunit beta	83.04	6.00	50.8	4.72
<b>A0A0G9FEF6</b>	2.5-diketo-D-gluconic acid reductase	80.65	20.63	31.7	5.67
<b>A0A0G9FEW8</b>	Maltodextrin-binding protein	80.53	9.11	45.6	9.69
<b>A0A7Z2PAN8</b>	Holin	72.89	10.48	12.7	4.72
<b>A0A0G9GUZ2</b>	Small ribosomal subunit protein uS11	70.68	10.08	13.8	11.68
<b>A0A809NRY6</b>	Cell surface protein. ErfK family	68.72	10.32	14.1	10.58
<b>A0A151G810</b>	Foldase protein PrsA	66.87	7.12	34.3	9.94
<b>A0A0L7Y4S1</b>	Alkaline shock protein 23	65.95	27.86	15.8	5.06
<b>A0A1E3KTH1</b>	Universal stress protein	65.14	10.63	17.5	6.33
<b>A0A0G9FH87</b>	DUF805 domain-containing protein	63.11	11.57	14.2	8.56
<b>A0A0G9FFK7</b>	Signal peptidase I	62.56	12.82	22.4	9.89
<b>A0A0G9F9A6</b>	Glutamine transport system permease proteinGlnP	60.64	2.93	52.2	9.64
<b>A0A6P1PFD4</b>	Large ribosomal subunit protein uL29	59.54	20.31	7.6	9.92
<b>A0A0G9F817</b>	ATP synthase subunit b	58.87	6.43	18.7	5.96
<b>A0A165MMQ4</b>	YtxH domain-containing protein	58.02	8.33	15.4	4.51
<b>A0A0G9GW61</b>	CsbD family protein	57.79	12.33	8.0	9.14
<b>A0A0R2G641</b>	DNA-directed RNA polymerase subunit beta'	56.18	0.91	134.2	7.17
<b>A0A0G9F8V1</b>	Pyruvate kinase	55.84	5.46	62.8	5.14
<b>A0A0M0CDK3</b>	ABC amino acid transpor. substrate binding protein	55.70	5.40	29.9	9.74
<b>A0A0M4CRF8</b>	Manganese transport protein MntH	55.18	5.06	51.2	8.62
<b>A0A0G9FCE5</b>	Lipoprotein	54.95	5.73	17.3	10.27
<b>A0A0G9F8M5</b>	PTS system mannose-specific EIIB component	54.84	2.47	35.3	6.38
<b>A0A0R2G7R4</b>	Lipoprotein	54.37	4.21	41.3	9.01
<b>A0A0R2G0X6</b>	Glucose-6-phosphate isomerase	53.76	16.44	49.8	5.03
<b>A0A0G9GTR0</b>	Major capsid protein	52.72	9.12	37.6	5.11
<b>A0A0R2GCV0</b>	Serine-rich adhesin for platelets	51.56	3.12	74.9	9.57

<b>A0A2S1TDB8</b>	L.D-transpeptidase YciB	50.09	8.78	23.7	9.32
<b>A0A0M0CJM6</b>	Phosphoenolpyruvate-protein phosphotransferase	49.84	2.08	63.1	4.83
<b>A0A809PTB3</b>	Fusion of IIA, IIB and IIC component of mannitol/fructose-specific phosphotransferase system mannitol/fructose-specific	49.35	2.18	67.0	5.90
<b>A0A162EDM2</b>	18 kDa heat shock protein	49.12	12.24	16.6	5.25
<b>A0A809NSF1</b>	DNA-entry nuclease	46.97	7.67	31.7	10.36
<b>A0A1W6NR97</b>	Chaperone protein ClpB	46.79	2.67	95.9	5.31
<b>A0A0G9F9R6</b>	Large ribosomal subunit protein uL16	45.89	9.72	16.1	10.46
<b>A0A151G0Q2</b>	DNA starvation/stationary phase protection protein (Fragment)	45.27	19.12	15.8	4.94
<b>A0A0G9FHI2</b>	Large ribosomal subunit protein bL27	45.15	13.04	10.1	10.95
<b>A0A836NNX2</b>	Uncharacterized protein	43.38	4.67	23.7	9.33
<b>A0A0G9GQ85</b>	LapA family protein	41.90	21.55	12.7	10.08
<b>A0A0G9FBB9</b>	Uncharacterized protein	41.63	14.16	13.0	4.65
<b>A0A0L7Y0E2</b>	Elongation factor Ts	41.52	3.08	31.6	5.01
<b>A0A151G9H1</b>	Peptide ABC transporter substrate-binding protein	38.40	3.70	59.9	9.61
<b>A0A151G4G0</b>	Endolytic murein transglycosylase	38.12	3.08	39.6	9.57
<b>A0A1E3KSG8</b>	phosphopyruvate hydratase	37.67	7.41	8.9	7.43
<b>A0A0L7Y2W3</b>	CNT family concentrative nucleoside transporter	37.63	6.56	46.3	5.52
<b>A0A0M4CU25</b>	Cytochrome D Ubiquinol oxidase subunit I	36.05	1.88	53.7	9.17
<b>Q88V33</b>	Probable transcriptional regulatory protein lp_2253	35.54	5.37	26.4	4.87
<b>A0A1E3KNC6</b>	Putative membrane protein YdgH	35.36	0.99	137.8	9.54
<b>A0A0R2GCG2</b>	Peptidase C39-like domain-containing protein	35.18	9.24	26.2	8.07
<b>A0A0G9F7C8</b>	Transcription termination factor Rho	34.67	1.86	48.9	9.52
<b>A0A0R2GHJ7</b>	Putative ErfK/YbiS/YcfS/YnhG family protein	34.67	2.63	50.3	9.52
<b>A0A0M0CEL8</b>	CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase	34.48	5.15	21.4	9.17
<b>A0A0G9FBH5</b>	Membrane protein	34.28	5.19	24.1	9.70
<b>M9R0M5</b>	DNA-directed RNA polymerase (Fragment)	34.18	12.22	10.1	11.37
<b>A0A7Z3KWS6</b>	Bacteriocin transport accessory protein	34.03	3.93	20.3	9.72
<b>A0A0G9FCP9</b>	LemA family protein	31.76	6.99	20.8	6.95
<b>A0A0G9F6G3</b>	Guanosine 5-monophosphate oxidoreductase	31.62	3.13	39.9	5.78
<b>A0A0G9F9W6</b>	UvrABC system protein B	30.42	1.65	76.1	5.20
<b>A0A0G9F9U0</b>	Large ribosomal subunit protein uL6	30.38	3.93	19.3	9.55
<b>A0A0M4RSV1</b>	serine-type D-Ala-D-Ala carboxypeptidase	29.75	2.25	46.9	9.89
<b>A0A1E3KSZ9</b>	Integral membrane protein	28.86	1.33	60.0	10.04
<b>A0A0G9FB84</b>	Cell cycle protein GpsB	27.86	15.04	12.9	6.57
<b>A0A0R2G6L9</b>	Amino acid ABC transporter ATP-binding protein	27.58	4.10	27.2	5.71
<b>A0A0G9F9U2</b>	Phosphate-binding protein	27.12	5.84	31.5	9.82
<b>A0A0G9FIW0</b>	Glucosamine-6-phosphate deaminase	26.56	6.75	25.9	5.08
<b>A0A8I1ZL21</b>	Aspartate-alanine antiporter	26.10	2.36	59.1	8.12
<b>A0A0G9GPI1</b>	ABC polar amino acid transport system. ATPase component	25.95	4.51	26.8	5.48
<b>A0A0G9FBB8</b>	Ribosome hibernation promoting factor	24.42	13.83	21.7	5.54
<b>A0A2S1T8N9</b>	Protein GrpE	23.83	5.53	21.4	5.01
<b>A0A0G9F9S5</b>	Large ribosomal subunit protein uL15	23.51	7.69	15.3	10.64
<b>A0A807DKI6</b>	Cell surface protein	23.51	2.79	38.0	9.17
<b>A0A347ZFY2</b>	Short-chain dehydrogenase	23.10	2.83	26.5	6.83
<b>A0A0G9GK27</b>	Ribosome-recycling factor	20.09	9.63	20.6	6.11
<b>A0A166MST0</b>	Large ribosomal subunit protein uL18	20.00	61.33	81.7	8.92

Accession Number	Protein Description	Score	Sequence Coverage [%]	Molecular Mass [kDa]	pI
A0A9X4R8V7	SH3 domain-containing protein	3676.83	66.20	81.7	8.92
A0A166PAQ3	Gamma-D-glutamyl-meso-diaminopimelate peptidase	2732.75	31.62	34.7	9.39
A0A6P1PM54	Mucus-binding protein	2419.14	35.96	236.1	4.86
A0A809PD29	Cell surface protein	2142.47	31.12	236.0	4.88
F9UP14	Mucus-binding protein. LPXTG-motif cell wall anchor	2140.36	33.53	236.0	4.86
A0A809NVY5	Cell wall hydrolase/muramidase	1984.21	56.99	78.8	8.66
A0A165RVQ5	Lysozyme	1327.17	12.15	83.2	8.06
A0A836ZGR3	Cell surface protein	1209.10	36.93	86.1	8.72
F9UM10	Glyceraldehyde-3-phosphate dehydrogenase	1161.53	65.00	36.4	5.54
A0A387DSN5	Penicillin-binding protein 1A	1158.07	39.45	82.6	9.42
A0A81I2FG3	LPXTG cell wall anchor domain-containing protein	1117.42	31.53	86.1	8.34
A0A6P1PJE6	ESX secretion system protein YueB	1034.99	25.22	127.9	9.03
A0A809NVH3	LysM domain protein	1002.19	29.19	31.9	9.55
A0A1W6NN01	Transglycosylase	954.99	27.17	25.2	8.97
A0A1E3KUY5	N-acetylmuramoyl-L-alanine amidase sle1	886.02	33.66	21.1	8.91
Q88X05	Foldase protein PrsA 1	810.37	37.25	32.6	9.77
A0A1E3KQK8	15 kDa lipoprotein	808.49	38.56	32.8	9.76
A0A0R2G3W5	Chaperonin GroEL	766.28	43.44	57.4	4.81
A0A165BUG4	DNA helicase	740.81	42.68	34.3	6.00
A0A0G9FB10	DNA-binding protein HU	716.06	83.52	9.6	9.76
A0A0G9F7Y4	Extracellular protein	710.42	51.13	23.2	9.89
A0A410LXP1	Putative peptidoglycan endopeptidase LytE	702.17	23.19	48.3	9.09
A0A0G9FJ83	ABC-type oligopeptide transport system. periplasmic component	603.70	30.16	60.3	9.64
A0A0G9FEW8	Maltodextrin-binding protein	598.17	34.77	45.6	9.69
A0A0G9FCV9	Acid shock protein	587.92	80.71	16.0	4.70
A0A387DN00	Lipoprotein	581.01	52.38	31.0	9.67
A0A0L7Y402	Co-chaperonin GroES	574.56	87.23	10.3	5.03
Q5NJY8	Triosephosphate isomerase	521.98	60.32	27.0	4.74
A0A2S1T6M3	L.D-transpeptidase catalytic domain-containing protein	521.37	18.27	36.6	10.27
A0A0R2GA25	Lysin	508.38	31.11	48.4	9.63
A0A151G502	Extracellular protein	492.65	42.70	29.3	10.62
A0A151G2E0	Serine-rich adhesin for platelets	483.62	12.78	75.8	9.63
Q88VJ2	D-lactate dehydrogenase	462.39	40.66	37.2	5.06
K4EKH6	Extracellular protein D1 (Fragment)	450.85	45.65	19.4	7.49
A0A0G9GNN1	Peptidase Do	443.87	38.10	43.1	9.55
A0A166AYS7	Extracellular zinc metalloproteinase	437.27	52.88	23.9	8.50
A0A0G9FA95	Cell envelope-associated transcriptional attenuator LytR-CpsA-Psr subfamily F2	429.51	48.41	37.7	9.89
A0A1A0DI94	Foldase protein PrsA	388.84	44.98	34.3	9.98
A0A151G9H1	Peptide ABC transporter substrate-binding protein	387.41	25.56	59.9	9.61
Q5NJY9	Phosphoglycerate kinase	385.25	49.25	42.8	5.20
A0A0G9FDU4	Class II fructose-1,6-bisphosphate aldolase	369.03	29.97	30.9	5.20
A0A0R2GDX5	Acyltransferase	353.77	12.67	72.8	9.86
A0A0M4D5D3	Extracellular protein	351.12	23.60	34.2	9.51

<b>A0A0M4RSV1</b>	Serine-type D-Ala-D-Ala carboxypeptidase	350.33	26.13	46.9	9.89
<b>A0A0G9F834</b>	Lipoprotein	345.25	32.85	29.9	9.85
<b>A0A0G9FH93</b>	Adherence protein. chitin-binding domain protein	336.92	32.34	22.2	8.85
<b>A0A0R2GEM1</b>	L-lactate dehydrogenase	332.84	20.19	33.9	5.05
<b>A0A0M5INP1</b>	Amino acid ABC transporter substrate-binding protein	314.32	40.45	28.9	9.96
<b>A0A151G9J5</b>	DUF5067 domain-containing protein	313.30	37.10	20.5	8.79
<b>A0A0P7JVD2</b>	Beta-lactamase family protein	296.21	21.23	43.3	9.80
<b>A0A0G9F8U8</b>	Elongation factor Tu	294.69	32.15	43.4	5.08
<b>A0A0G9FEF6</b>	2.5-diketo-D-gluconic acid reductase	290.69	41.61	31.7	5.67
<b>A0A165P2U7</b>	Enolase	289.43	25.34	48.0	4.74
<b>A0A151G3H2</b>	Capsid protein	282.06	23.41	45.4	5.11
<b>A0A0R2G5Y4</b>	Inorganic diphosphatase	281.37	29.45	33.6	4.69
<b>A0A9X4R928</b>	Ig-like domain-containing protein	275.67	17.83	60.5	4.48
<b>A0A165P4L0</b>	Prophage Lp1 protein 66 lipoprotein	269.31	26.58	23.1	10.59
<b>A0A0G9FAH1</b>	Extracellular transglycosylase. membrane-bound	262.40	25.95	15.0	10.48
<b>A0A387DZJ7</b>	YtxH domain-containing protein	253.66	44.67	16.0	4.54
<b>A0A151G3U8</b>	Glutathione reductase	251.18	22.95	47.6	5.53
<b>A0A0G9F7S8</b>	FAD-dependent oxidoreductase	243.29	26.39	48.2	5.68
<b>A0A0G9FAE9</b>	FAD:protein FMN transferase	229.76	21.35	40.2	9.73
<b>A0A0G9F8J5</b>	Large ribosomal subunit protein bL12	223.06	61.48	12.6	4.48
<b>A0A0G9GK27</b>	Ribosome-recycling factor	211.65	43.32	20.6	6.11
<b>A0A0M0CDK3</b>	ABC amino acid transport. substrate binding protein	208.80	22.30	29.9	9.74
<b>A0A0G9F8I8</b>	Chaperone protein DnaK	206.74	22.35	66.7	4.84
<b>A0A0R2GDU4</b>	Penicillin-binding protein	202.48	12.68	72.7	9.41
<b>A0A347ZH70</b>	ATP synthase subunit b	201.06	30.41	18.7	5.96
<b>A0A0L7Y3C4</b>	DNA protection during starvation protein	180.72	72.26	18.0	4.79
<b>A0A165S6Z5</b>	Extracellular protein gamma-D-glutamate-meso-diaminopimelate muropeptidase	178.03	19.75	27.0	10.35
<b>A0A0G9FCB2</b>	Large ribosomal subunit protein uL11	173.93	38.30	14.8	9.23
<b>A0A1A0DFB7</b>	Cell surface protein. CscB family	172.60	19.26	24.5	4.83
<b>A0A9X4LRC1</b>	LysM peptidoglycan-binding domain-containing protein	171.03	22.61	30.7	9.14
<b>A0A0R2G7R4</b>	Lipoprotein	168.58	15.79	41.3	9.01
<b>A0A165P7L5</b>	DNA-entry nuclease	167.70	18.97	31.8	9.72
<b>A0A1E3KTH1</b>	Universal stress protein	165.69	25.62	17.5	6.33
<b>A0A0R2GCN4</b>	Extracellular zinc metalloproteinase	165.08	29.89	27.5	8.13
<b>A0A0M3QB24</b>	Dipeptidase PepV	164.97	14.56	50.8	4.65
<b>A0A162EDM2</b>	18 kDa heat shock protein	164.84	46.26	16.6	5.25
<b>A0A6P1PFD4</b>	Large ribosomal subunit protein uL29	161.79	70.31	7.6	9.92
<b>A0A0G9FDS9</b>	Large ribosomal subunit protein bL21	155.50	33.33	11.0	9.55
<b>A0A0G9F8L8</b>	Altered inheritance of mitochondria protein 41. mitochondrial	154.78	53.74	16.1	5.39
<b>A0A0L7Y4S1</b>	Alkaline shock protein 23	154.56	27.86	15.8	5.06
<b>A0A1E3KNC6</b>	Putative membrane protein YdgH	153.71	4.71	137.8	9.54
<b>A0A809NTI9</b>	ABC transporter substrate-binding protein	150.25	18.1	33.1	9.60
<b>A0A0R2G0X6</b>	Glucose-6-phosphate isomerase	148.34	9.56	49.8	5.03
<b>A0A162GIN5</b>	Extracellular protein	147.86	7.37	22.7	9.11
<b>A0A0R2G594</b>	Acyltransferase	147.29	14.14	66.9	9.09
<b>A0A0R2GCG2</b>	Peptidase C39-like domain-containing protein	145.10	13.87	26.2	8.07

<b>A0A162FHL3</b>	Gram-positive cocci surface proteins LPxTG domain-containing protein	143.13	7.61	93.5	5.83
<b>A0A0G9F9R6</b>	Large ribosomal subunit protein uL16	142.48	27.08	16.1	10.46
<b>A0A0G9FBV7</b>	Large ribosomal subunit protein uL24	139.88	45.63	11.4	9.99
<b>A0A7Z2PAB4</b>	Extracellular protein	138.28	25.43	18.5	8.24
<b>A0A0G9GQI8</b>	Alpha/beta hydrolase	134.98	23.42	29.6	9.04
<b>A0A0G9FAW9</b>	PTS sugar transporter subunit IIB	132.11	51.43	11.3	4.75
<b>A0A0G9GUZ2</b>	Small ribosomal subunit protein uS11	123.79	12.40	13.8	11.68
<b>A0A0M0CJM6</b>	Phosphoenolpyruvate-protein phosphotransferase	120.53	9.55	63.1	4.83
<b>A0A162G2N8</b>	Sortase A LPXTG specific	119.95	15.45	25.8	10.02
<b>A0A2S1T8N9</b>	Protein GrpE	116.71	21.11	21.4	5.01
<b>A0A162E5U7</b>	Uncharacterized protein	115.86	27.27	4.6	8.92
<b>A0A0G9FE27</b>	Transcription elongation factor GreA	115.79	21.88	17.9	4.67
<b>A0A0G9F9U0</b>	Large ribosomal subunit protein uL6	113.79	24.72	19.3	9.55
<b>A0A6P1PHJ1</b>	SDR-like Ig domain-containing protein	112.35	10.46	42.7	4.87
<b>A0A0G9FAC7</b>	ABC transporter permease	112.32	7.33	53.8	9.82
<b>A0A0G9F9R0</b>	Large ribosomal subunit protein uL23	109.91	31.96	11.1	9.66
<b>A0A0L7Y2A2</b>	Aldo/keto reductase	108.57	18.62	31.9	5.25
<b>A0A0G9F766</b>	Cell shape-determining protein MreC	107.46	11.03	30.1	9.76
<b>A0A0R2GGQ6</b>	LytR family transcriptional regulator	105.60	9.04	37.7	9.73
<b>A0A0G9FAD3</b>	Small ribosomal subunit protein uS5	102.89	21.69	17.3	9.64
<b>A0A0S2Z2N2</b>	Mucin-binding protein (Fragment)	101.71	6.71	49.7	4.91
<b>A0A0G9F979</b>	UPF0342 protein AVR83_14860	100.75	23.68	13.3	4.70
<b>A0A0G9GUN2</b>	Extracellular protein membrane-anchored	99.31	29.46	12.5	10.77
<b>A0A0G9F9S9</b>	Large ribosomal subunit protein uL2	99.16	8.60	30.2	10.55
<b>F2Y394</b>	S-ribosylhomocysteine lyase	99.12	19.62	17.4	6.52
<b>A0A0G9FBB9</b>	Uncharacterized protein	97.28	30.97	13.0	4.65
<b>A0A0G9FBU1</b>	Small ribosomal subunit protein uS12	95.39	22.63	15.2	11.25
<b>A0A0G9GS34</b>	Nucleotide-binding protein. universal stress protein UspA family	93.28	14.10	17.1	4.84
<b>A0A0L7Y0E2</b>	Elongation factor Ts	92.26	15.75	31.6	5.01
<b>A0A0G9FBE4</b>	Enoyl-[acyl-carrier-protein] reductase [NADH]	91.21	11.51	26.9	6.93
<b>A0A0G9FB84</b>	Cell cycle protein GpsB	90.27	42.48	12.9	6.57
<b>A0A807DKI6</b>	Cell surface protein	89.89	15.60	38.0	9.17
<b>A0A0G9FCE5</b>	Lipoprotein	88.52	18.47	17.3	10.27
<b>A0A1W6NP87</b>	Mucus-binding protein	87.90	2.08	135.2	5.01
<b>A0A0G9F8M5</b>	PTS system mannose-specific EIIAB component	86.50	10.80	35.3	6.38
<b>A0A0G9FAN5</b>	Small ribosomal subunit protein bS21	85.91	45.16	7.6	11.28
<b>A0A165R4V8</b>	Protein DltD	85.63	12.47	48.6	9.73
<b>A0A2S1TDB8</b>	L.D-transpeptidase YciB	85.41	21.46	23.7	9.32
<b>A0A0R2GHJ7</b>	Putative ErfK/YbiS/YcfS/YnhG family protein	84.92	5.47	50.3	9.52
<b>A0A0G9GVC4</b>	Large ribosomal subunit protein bL20	84.51	25.42	13.6	11.34
<b>A0A0G9F9S5</b>	Large ribosomal subunit protein uL15	82.33	16.08	15.3	10.64
<b>A0A0G9FFR9</b>	Small ribosomal subunit protein uS19	81.41	21.98	10.3	9.82
<b>A0A165P7H9</b>	Integral membrane protein	76.42	3.61	66.7	9.48
<b>A0A0G9FHI2</b>	Large ribosomal subunit protein bL27	75.96	36.96	10.1	10.95
<b>A0A0G9FFK7</b>	Signal peptidase I	75.44	10.77	22.4	9.89
<b>A0A166J7K5</b>	DUF4115 domain-containing protein	75.01	4.48	31.3	9.44
<b>A0A0R2GKD9</b>	D-alanyl-D-alanine carboxypeptidase	73.76	9.95	45.2	9.79

<b>A0A0R2GDJ8</b>	Serine-type D-Ala-D-Ala carboxypeptidase	72.93	8.57	26.9	9.48
<b>A0A807DWA9</b>	Stress response regulator Gls24	72.56	9.44	19.5	5.14
<b>A0A0R2G2S8</b>	Signal peptidase I	72.26	7.58	22.5	10.08
<b>A0A7Z2SG82</b>	Ig-like domain-containing protein	71.79	1.32	279.2	4.81
<b>A0A7Z2PAN8</b>	Holin	70.45	10.48	12.7	4.72
<b>A0A0G9FCU1</b>	Peptidyl-prolyl cis-trans isomerase	69.14	5.67	21.1	4.68
<b>A0A0G9FAB6</b>	Large ribosomal subunit protein uL3	68.97	15.31	22.7	9.92
<b>A0A0R2G5K7</b>	Large ribosomal subunit protein uL13	68.85	15.49	15.5	9.52
<b>A0A0G9FE59</b>	Small ribosomal subunit protein bS20	68.38	34.52	9.1	10.52
<b>A0A0L7Y017</b>	Cell division protein FtsI (Peptidoglycansynthetase)	68.26	3.37	77.2	9.85
<b>A0A0G9GHJ1</b>	Large ribosomal subunit protein uL10	67.33	17.96	17.9	5.15
<b>A0A0P7J8K4</b>	Bis(5'-nucleosyl)-tetraphosphatase [asymmetrical]	66.71	10.07	15.7	4.77
<b>A0A0G9FAC1</b>	Large ribosomal subunit protein uL22	66.42	10.43	12.5	10.46
<b>A0A0M4RTT5</b>	Aldehyde/histidinol dehydrogenase	65.26	7.02	50.4	4.92
<b>A0A151G936</b>	DNA-entry nuclease	64.55	7.08	36.2	10.18
<b>A0A0G9FA91</b>	Uncharacterized protein	64.17	16.67	13.0	4.54
<b>A0A0G9GTC0</b>	Large ribosomal subunit protein bL31B	64.11	12.35	9.1	7.50
<b>A0A0R2GC63</b>	Small ribosomal subunit protein bS16	63.70	41.98	9.1	9.52
<b>A0A162EJQ0</b>	Uncharacterized protein	63.66	31.91	5.3	9.58
<b>A0A0G9FBU7</b>	Large ribosomal subunit protein uL4	63.36	15.46	22.6	10.11
<b>A0A0M0CJT7</b>	Cysteine desulfurase	63.28	18.58	12.6	8.94
<b>A0A9X4LR82</b>	Uncharacterized protein	62.35	30.77	5.6	11.75
<b>A0A0G9FFK6</b>	Alkaline shock protein 23	62.08	26.03	16.1	4.94
<b>A0A166MST0</b>	Large ribosomal subunit protein uL18	61.39	42.37	13.0	10.10
<b>A0A151GA06</b>	Prophage Lp2 protein 7	60.95	13.51	12.0	9.64
<b>Q88UU1</b>	ATP synthase subunit alpha	60.86	6.94	54.5	5.10
<b>A0A0G9FCP4</b>	Cell surface protein	60.79	11.48	23.5	9.79
<b>A0A0G9F715</b>	Ribokinase	60.57	3.27	31.7	5.30
<b>A0A0G9FBF0</b>	3-oxoacyl-[acyl-carrier-protein] synthase 2	59.55	7.32	42.4	5.39
<b>A0A0R2GG09</b>	Extracellular protein, peptide binding protein OppA-like protein	58.93	2.38	59.8	9.66
<b>A0A166KHH0</b>	phosphate acetyltransferase	58.23	3.08	34.4	5.17
<b>A0A0G9F9Q5</b>	Small ribosomal subunit protein uS7	58.13	8.97	17.8	9.82
<b>A0A0R2G6L9</b>	Amino acid ABC transporter ATP-binding protein	57.08	9.02	27.2	5.71
<b>A0A809NWV4</b>	Manganese/zinc ABC transporter, substrate binding protein	56.46	14.33	33.3	9.54
<b>A0A809NQT1</b>	Extracellular protein	56.08	8.04	53.8	9.64
<b>A0A1W6NUY7</b>	Metal ABC transporter substrate-binding protein	55.98	13.27	32.5	9.64
<b>A0A0G9F7G6</b>	Uncharacterized protein	55.66	7.65	19.4	9.67
<b>Q8KJS2</b>	Cupin domain-containing protein	55.29	14.77	16.4	5.69
<b>A0A0G9FBH0</b>	Cof-type HAD-IIB family hydrolase	55.27	4.50	31.3	5.11
<b>A0A1W6NUM2</b>	Sulfurtransferase	52.54	27.13	15.1	9.76
<b>A0A0M5IVC0</b>	Uncharacterized protein	51.80	43.14	5.9	11.09
<b>Q88V33</b>	Probable transcriptional regulatory protein lp_2253	51.36	5.37	26.4	4.87
<b>A0A0G9F850</b>	TPR repeat-containing thioredoxin TDX	51.12	10.38	12.3	4.70
<b>A0A151G265</b>	Ribitol-5-phosphate cytidylyltransferase	51.09	4.29	25.9	5.21
<b>Q88WU7</b>	Large ribosomal subunit protein bL35	51.02	42.19	7.4	12.04
<b>A0A0G9GVG8</b>	Nitroreductase	50.99	12.37	20.1	5.27
<b>A0A0G9F8V1</b>	Pyruvate kinase	50.80	2.22	62.8	5.14



<b>A0A0G9GQ85</b>	LapA family protein	49.84	22.41	12.7	10.08
<b>A0A0G9FAC2</b>	Trigger factor	49.59	5.91	49.4	4.63
<b>A0A809PTB3</b>	Fusion of IIA. IIB and IIC component of mannitol/fructose-specific phosphotransferase system mannitol/fructose-specific	48.02	2.18	67.0	5.90
<b>A0A0M3QAV6</b>	Aminopeptidase	47.35	1.30	93.9	4.88
<b>A0A0G9FFT5</b>	Large ribosomal subunit protein bL17	47.31	20.47	14.2	9.98
<b>A0A0G9F8V2</b>	Fe-S cluster biosynthesis protein	46.63	8.15	14.5	4.97
<b>A0A1E3KMX8</b>	Histone H1	45.83	7.41	28.7	10.98
<b>A0A0G9FBD6</b>	Thioredoxin reductase	45.64	3.85	33.4	5.01
<b>A0A0G9GS07</b>	Small ribosomal subunit protein uS14	45.59	21.31	7.2	10.59
<b>A0A0G9FBH5</b>	Membrane protein	45.08	5.19	24.1	9.70
<b>A0A151G7F1</b>	ACP phosphodiesterase	44.87	9.89	19.6	5.52
<b>A0A0G9FEG9</b>	NAD-dependent dehydratase	44.84	18.87	23.5	5.43
<b>A0A151G8Y6</b>	Fructose permease IID component	44.47	8.39	34.3	9.39
<b>A0A0G9FCP9</b>	LemA family protein	43.12	11.29	20.8	6.95
<b>A0A0R2G3D2</b>	Cell surface protein	42.99	4.96	38.1	10.01
<b>A0A0G9F931</b>	ribonucleoside-diphosphate reductase	42.71	2.68	39.1	4.61
<b>A0A0R2G4X3</b>	ATP-dependent Clp protease	42.41	1.45	76.1	5.77
<b>A0A809NUC1</b>	Metallophosphoesterase. lipoprotein	41.37	6.31	45.2	9.69
<b>A0A0G9FCV7</b>	Cell surface protein	40.49	11.05	20.1	4.79
<b>A0A0L7Y0X2</b>	Lipid II flippase MurJ	39.97	3.24	61.4	9.66
<b>A0A1E3KSZ9</b>	Integral membrane protein	39.46	1.33	60.0	10.04
<b>A0A0G9GPN4</b>	Diguanylate cyclase	38.68	7.37	20.4	5.17
<b>A0A0G9FBM2</b>	Large ribosomal subunit protein bL28	38.55	11.48	7.0	11.91
<b>A0A0G9F8J6</b>	DUF3892 domain-containing protein	37.65	12.50	11.0	5.48
<b>A0A0G9FFB0</b>	CdaA regulatory protein CdaR	37.57	8.31	34.6	9.52
<b>A0A166JKT2</b>	DUF1398 domain-containing protein	37.05	17.32	13.8	5.27
<b>Q88XW3</b>	Large ribosomal subunit protein bL36	36.71	25.64	4.6	11.08
<b>A0A0G9FBB8</b>	Ribosome hibernation promoting factor	36.29	13.83	21.7	5.54
<b>A0A0G9FBT8</b>	DUF5590 domain-containing protein	35.24	5.88	17.0	10.13
<b>A0A0G9FBL7</b>	Large ribosomal subunit protein bL19	34.74	8.47	13.6	11.43
<b>A0A0L7Y0D5</b>	DUF308 domain-containing protein	34.63	9.09	22.9	10.11
<b>A0A0G9FBT3</b>	DUF1129 domain-containing protein	34.59	4.56	26.6	9.88
<b>A0A165NTV2</b>	Plasmid replication initiation protein	34.09	1.96	36.1	9.57
<b>A0A0G9FH87</b>	DUF805 domain-containing protein	33.21	11.57	14.2	8.56
<b>A0A0R2G235</b>	Small ribosomal subunit protein uS2	33.11	7.63	29.7	5.41
<b>A0A0G9F6I2</b>	2,3-bisphosphoglycerate-dependent phosphoglycerate mutase	32.48	20.87	26.1	5.07
<b>A0A0G9GY95</b>	Large ribosomal subunit protein uL1	32.21	4.37	24.8	8.19
<b>A0A165RF64</b>	Phospho-sugar mutase	31.98	3.13	63.5	5.11
<b>A0A0G9FFS3</b>	Small ribosomal subunit protein uS17	31.78	12.36	10.3	10.10
<b>A0A151G3S1</b>	Glycerol phosphate lipoteichoic acid synthase	30.70	1.29	78.9	9.29
<b>A0A0G9GUK5</b>	Small ribosomal subunit protein uS13	29.46	16.53	13.6	10.39
<b>A0A0G9FAC6</b>	Large ribosomal subunit protein uL14	28.14	27.87	13.1	9.91
<b>A0A165EZIP7</b>	Uncharacterized protein	27.75	10.71	12.9	7.43
<b>A0A0G9FIW0</b>	Glucosamine-6-phosphate deaminase	27.67	6.75	25.9	5.08
<b>A0A151G865</b>	Membrane protein 6-pyruvoyl-tetrahydropterin synthase-related domain-containing protein	26.93	1.02	66.8	10.18
<b>A0A0G9FCX0</b>	Thioredoxin	26.82	14.56	11.3	4.54

<b>A0A836NNX2</b>	Uncharacterized protein	26.44	6.07	23.7	9.33
<b>A0A0G9F9U2</b>	Phosphate-binding protein	26.35	4.12	31.5	9.82
<b>A0A0G9FBQ2</b>	Exonuclease SbcC	25.99	5.76	34.5	5.12
<b>A0A0R2G5D5</b>	Single-stranded DNA-binding protein	25.96	5.23	17.2	6.38
<b>A0A151G8Z7</b>	LCP family protein	24.99	3.02	43.6	9.82
<b>A0A0G9FBY5</b>	Small ribosomal subunit protein uS9	24.80	16.15	14.6	10.39
<b>A0A0L7Y0C1</b>	C-terminal processing peptidase	24.08	2.44	53.2	9.82
<b>A0A0L7Y2W3</b>	CNT family concentrative nucleoside transporter	23.19	6.56	46.3	5.52
<b>A0A0R2GAR4</b>	ATP-dependent zinc metalloprotease FtsH	22.51	0.82	78.6	5.63
<b>A0A0G9FC86</b>	ABC-type glycine betaine transport system. substrate-binding domain	22.19	2.25	34.8	9.45
<b>A0A0G9FC74</b>	Dihydrolipoyl dehydrogenase	21.82	5.18	48.2	5.39
<b>A0A0R2GD57</b>	Nucleoside 2-deoxyribosyltransferase	21.47	7.96	12.6	5.22
<b>A0A0G9FET7</b>	30S ribosomal protein S1	21.25	4.66	47.1	4.88
<b>A0A0G9F6F8</b>	Protein translocase subunit SecE	20.31	18.03	7.5	10.26
<b>A0A151G4G0</b>	Endolytic murein transglycosylase	20.13	2.24	39.6	9.57

**Table 2. Mass spectrometry identification of proteins from *Lacticaseibacillus rhamnosus* PCM 489 extracellular vesicles (EVs).**

Accession Number	Protein Description	Score	Sequence Coverage [%]	Molecular Mass [kDa]	pI
A0A7X2J656	C40 family peptidase	5181.08	61.90	40.9	8.60
A0A7Z9DRM1	Lysozyme	3501.69	65.27	74.5	9.04
A0A853J739	S8 family serine peptidase	3395.36	44.64	204.5	5.47
A0A180C7B5	CHAP domain-containing protein	3057.94	41.35	42.6	7.52
A0A853J752	Fibrinogen-binding protein (Fragment)	2393.00	45.45	103.1	4.73
A0A249DJ24	Cell surface protein	2195.61	23.18	154.6	4.81
A0A508YHN0	S8 family serine peptidase	2038.58	32.46	155.6	5.35
A0A7X2J721	LysM peptidoglycan-binding domain-containing protein	1922.37	45.75	128.2	6.83
A0A508Z0M7	Hydrolase	1379.41	42.77	34.2	7.47
A0A0E3CQZ4	ABC transporter substrate-binding protein	1124.95	51.49	48.2	9.52
A0A0D6UAI2	LCP family protein	1034.19	56.59	40.2	9.54
A0A853J2C3	KxYKxGKxW signal peptide domain-containing protein	942.60	12.80	322.6	5.41
A0A171J8Q8	N-acetylmuramoyl-L-alanine amidase	773.58	51.59	47.3	8.85
A0A0E3CRJ7	Glyceraldehyde-3-phosphate dehydrogenase	771.15	53.53	36.7	5.83
A0A0J6UTL1	Oligopeptide ABC transporter substrate-binding protein	767.88	41.88	66.4	9.45
A0A508Z3B1	serine-type D-Ala-D-Ala carboxypeptidase	742.74	41.51	46.9	9.51
A0A2A5L5E7	Pyridoxamine 5'-phosphate oxidase family protein	672.99	67.67	14.7	5.29
A0A249DBM7	Glycerol phosphate lipoteichoic acid synthase	610.13	31.13	77.9	8.57
A0A0E3CLJ0	FMN-binding domain-containing protein	609.44	50.99	32.7	9.47
A0A0E3CNA6	Tagatose 1.6-diphosphate aldolase]	587.81	59.04	36.3	5.27
A0A508YXM9	Peptide ABC transporter substrate-binding protein	553.21	35.79	61.1	9.67
A0A508YP55	Peptidoglycan binding domain-containing protein	544.18	48.68	50.1	8.51
A0A508Z384	PBP1A family penicillin-binding protein	536.07	22.11	83.4	9.10
A0A9Q5ETC5	Carboxypeptidase	508.25	21.23	99.2	9.09
A0A249DAG4	Glycoside hydrolase	500.58	21.72	48.9	6.93
A0A7X2M372	ABC transporter substrate-binding protein	492.71	48.76	34.0	9.70
A0A7X2J725	LysM peptidoglycan-binding domain-containing protein	492.42	35.37	51.4	7.72
A0A7Y7QJN1	Sortase	482.51	35.33	30.6	9.54
A0A0E3CNL5	ABC transporter permease subunit	481.84	28.57	58.3	9.51
A0A7S7FQ36	Sortase	471.43	35.33	30.6	9.54
A0A180BLS7	Pyruvate oxidase	457.18	23.46	64.0	5.20
A0A0E3D3H8	Class A sortase	455.81	36.05	25.8	9.82
A0A171J5F2	Serine protease	448.62	40.32	45.2	6.18
A0A180AC74	ABC transporter substrate-binding protein	409.63	41.18	40.6	6.67
A0A249DEM0	Acyltransferase	403.59	30.71	26.5	9.36
A0A249DEN2	Peptide ABC transporter substrate-binding protein	399.83	28.94	59.4	9.51
A0A0D6UDC7	Foldase protein PrsA	399.33	29.00	33.5	9.64
A0A7Y7UJC2	Zinc-ribbon domain-containing protein	386.83	19.04	42.9	5.39
A0A7Y7QDV6	Peptide ABC transporter substrate-binding protein	375.33	23.81	60.3	9.47
A0A0E3CRX8	Flagellar hook-length control protein FliK	361.75	31.13	32.5	5.11
A0A0D6U5I1	LCP family protein	346.33	17.61	39.1	9.52
A0A853J0Q3	Efflux RND transporter periplasmic adaptor subunit	327.90	31.55	38.8	9.09
A0A249DEM6	Alkaline phosphatase	323.27	16.09	84.0	7.20
A0A5P5ZEZ3	L-lactate dehydrogenase	319.29	26.69	35.5	5.45
A0A0E3CMF0	Uncharacterized protein 4	309.53	52.87	18.9	9.77
A0A249DG42	Peptidase	297.99	26.61	34.7	9.58
A0A7S7FS31	Extracellular solute-binding protein	279.95	24.06	46.4	9.63
A0A0J6WMB6	Calcium ABC transporter ATPase	279.49	24.80	41.7	7.46
A0A171JAF8	Enolase	279.30	19.59	47.1	4.79
A0A809N520	Chaperonin GroEL	274.96	22.45	55.8	5.03
A0A508YI06	FliK family flagellar hook-length control protein	272.52	29.60	42.1	5.55
A0A7X2J3K8	Lipoprotein	262.44	21.05	30.1	4.96

A0A0D6UBJ9	Elongation factor Tu	260.49	26.77	43.5	4.93
A0A249DE53	Phosphoenolpyruvate-protein phosphotransferase	258.40	13.59	63.2	5.19
A0A249DG14	Alpha/beta hydrolase	257.42	20.75	28.7	8.41
A0A508YWS0	DUF5067 domain-containing protein	255.46	56.84	20.8	8.79
A0A508Z1W1	MucBP domain-containing protein	242.66	17.35	46.5	9.22
A0A180BN67	Cell division protein FtsI	237.17	16.53	77.4	9.14
A0A171J6U3	Large ribosomal subunit protein bL12	221.74	50.00	12.6	4.63
A0A508YZA0	Beta-lactamase family protein	213.31	22.02	42.8	9.52
A0A508YL94	Cell surface protein	210.43	27.59	33.5	9.61
A0A508Z6Z5	Extracellular protein	208.21	19.62	33.9	9.44
A0A7X2J4N6	ATP synthase subunit b	199.76	38.27	17.7	7.40
A0A508YJC4	Discoidin domain-containing protein	195.74	4.91	195.0	6.61
A0A853J132	Uncharacterized protein	191.40	32.00	13.7	10.33
A0A180BKL5	PTS sugar transporter	188.94	52.88	11.3	5.57
A0A508YQD0	Cysteine synthase	185.89	20.71	32.6	5.54
A0A249DB01	Aminopeptidase	182.79	8.06	94.5	5.20
A0A7X2J5C7	KxYKxGKxW signal peptide domain-containing protein	176.69	5.15	93.0	6.48
A0A508Z806	YxeA family protein	176.00	39.84	14.2	9.63
A0A249DAC9	Hydrolase	173.70	24.78	23.3	5.08
A0A0D6U7E1	Acyltransferase	171.10	20.67	33.1	9.29
A0A249DIL7	Matrix-binding protein	161.20	2.76	245.6	5.38
A0A0D6U5T3	Helix-turn-helix domain-containing protein	156.67	25.58	14.0	6.10
A0A249DHV7	Polysaccharide lyase	153.86	3.53	112.5	7.02
A0A2A5L7N8	2,3-bisphosphoglycerate-dependent phosphoglycerate mutase	152.60	27.95	25.9	5.52
A0A6N3C390	Glutamine-binding periplasmic protein	151.83	8.32	50.8	9.61
A0A7S7FQT0	Small ribosomal subunit protein uS11	149.59	21.71	13.8	11.63
A0A0D6U8T5	Small ribosomal subunit protein uS12	148.43	23.19	15.2	11.40
A0A0J6UPB2	Triosephosphate isomerase	144.57	29.88	26.8	5.01
A0A9Q5ELE3	Peptidoglycan-binding protein LysM	144.37	16.78	50.3	6.58
A0A873ZER7	Cell surface protein	143.01	24.14	33.5	9.61
A0A179YR60	Pyruvate kinase	142.22	9.52	62.8	5.43
A0A7S7FMV4	Alpha-glycerophosphate oxidase	136.69	11.69	67.0	5.20
A0A0D6U9Y8	Large ribosomal subunit protein bL17	135.37	31.75	14.2	10.10
A0A0E3CQF7	Peptide ABC transporter substrate-binding protein	132.28	13.15	59.8	9.38
A0A0J6USA8	Lipoprotein	129.70	14.49	30.6	9.88
A0A249DFM4	WxL domain-containing protein	125.76	20.00	20.6	4.72
A0A508YKT1	FIVAR domain-containing protein	123.97	7.67	81.6	6.62
A0A508YLS1	FIVAR domain-containing protein	121.60	4.42	160.5	5.95
A0A508Z2F0	Extracellular protein	117.65	13.30	21.0	9.11
A0A249DEQ7	Endolytic murein transglycosylase	117.36	8.88	42.1	9.61
A0A0E3CQT4	6-phosphogluconolactonase	116.95	17.63	37.6	5.20
A0A171J9Z4	Glucose-6-phosphate isomerase	116.48	24.44	49.3	5.12
A0A249DGC2	Lipoprotein	112.74	9.51	30.0	9.28
A0A2A5L381	Large ribosomal subunit protein uL2	111.64	12.23	30.4	10.30
A0A0E3CQW6	Large ribosomal subunit protein bL20	109.96	21.19	13.5	11.47
A0A2A5L2Z6	Large ribosomal subunit protein uL4	109.04	19.81	22.4	9.92
A0A1Y0E116	Lipase	108.69	9.25	30.7	9.58
A0A2A5L7A9	Small ribosomal subunit protein uS2	106.51	15.65	29.6	5.38
A0A2A5L336	Small ribosomal subunit protein uS5	106.40	30.54	17.5	7.52
A0A5R9D563	ABC transporter substrate-binding protein	104.85	5.59	46.8	9.60
A0A809NCA4	Large ribosomal subunit protein uL22	104.19	25.64	12.7	9.99
A0A0D6U8P4	Large ribosomal subunit protein uL16	104.17	19.44	16.0	10.74
A0A249DIB0	ABC transporter permease subunit	102.06	5.76	52.9	9.67
A0A171J972	Lipoprotein	100.84	6.64	30.1	10.24
A0A0E3CQ75	Small ribosomal subunit protein uS7	99.63	25.00	17.9	9.89
A0A0E3CPH7	Large ribosomal subunit protein uL5	96.83	13.33	20.2	8.29

A0A249DCV7	Penicillin-binding protein	93.42	6.44	76.8	9.63
A0A249DC63	Branched-chain amino acid ABC transporter substrate-binding protein	86.76	13.35	41.5	9.58
A0A0E3D3X6	Carboxypeptidase	83.46	9.12	74.7	9.17
A0A249DEC8	ABC transporter permease	82.64	4.12	52.7	9.54
A0A0D6U4B9	Large ribosomal subunit protein uL11	80.90	12.06	14.9	8.91
A0A249DE67	Phosphoglucomutase	79.99	7.30	63.6	5.44
A0A171JA73	Large-conductance mechanosensitive channel	78.38	14.75	13.6	9.70
A0A0D6U7B4	Aminopeptidase	76.66	8.93	50.7	5.36
A0A0E3CN98	NAD(P)/FAD-dependent oxidoreductase	76.45	3.48	70.8	9.06
A0A171J8M4	Chaperone protein DnaK	76.24	3.23	67.2	4.98
A0A7S7FRV4	Large ribosomal subunit protein uL29	75.26	20.31	7.6	9.99
A0A0E3D054	YkyA family protein	73.90	12.62	23.5	5.64
Q58Z11	Capsular polysaccharide biosynthesis protein CpsC	73.72	8.55	34.0	9.66
A0A171J992	Trigger factor	73.43	4.48	49.8	4.70
A0A0E3CNN1	30S ribosomal protein S1	72.96	5.96	47.1	5.27
A0A2A5L9I8	Small ribosomal subunit protein bS20	71.85	17.86	9.4	10.70
A0A0J7A425	Glycerol kinase	71.16	3.76	55.6	5.12
A0A0D6U6M1	Protein DltD	70.50	5.20	48.0	9.57
A0A2A5L320	Large ribosomal subunit protein bL9	70.18	21.19	16.9	9.83
A0A0D6U4U7	DUF4430 domain-containing protein	68.15	20.77	14.2	10.40
A0A508YUC3	PTS glucose transporter subunit IIA	67.79	1.80	70.3	7.55
A0A0E3CNY7	Phosphate-binding protein	66.52	8.97	31.9	9.42
A0A2A5L393	Large ribosomal subunit protein uL6	65.13	8.52	19.3	9.67
A0A7S7FQT8	Large ribosomal subunit protein uL14	64.84	18.85	13.0	10.05
A0A1Y0DVX4	PTS fructose transporter subunit IIC	63.06	5.26	25.8	6.68
A0A180C927	Signal peptidase I	63.03	14.07	22.8	9.96
A0A809N128	Large ribosomal subunit protein uL23	62.20	20.00	11.5	9.92
A0A7S7JHJ9	Large ribosomal subunit protein uL18	61.94	10.92	13.0	10.05
A0A171J7I5	Glutamate ABC transporter substrate-binding protein	61.40	5.11	29.7	9.76
A0A0E3D3P6	Phosphoglycerate kinase	60.10	7.58	42.2	5.95
A0A7Y7QE53	YhgE/Pip domain-containing protein	59.58	5.16	99.0	9.03
A0A249DAX2	Cell division protein FtsI	59.20	1.36	70.8	9.45
A0A2A5L2L1	Bifunctional 2-keto-4-hydroxyglutarate aldolase/2-keto-3-deoxy-6-phosphogluconate aldolase	59.17	8.33	22.4	5.24
A0A6N2ZNF9	3-oxoacyl-[acyl-carrier-protein] synthase 2	58.32	9.11	42.3	5.35
A0A0D6U4U2	Large ribosomal subunit protein uL1	58.25	14.41	24.5	9.28
A0A0M2G0T3	FAD-dependent oxidoreductase	58.20	4.61	49.3	5.22
A0A0D6UE79	Large ribosomal subunit protein bL21	57.92	13.59	11.3	9.45
A0A171J3P6	Dihydroxyacetone kinase	57.03	11.92	20.6	6.81
A0A0J6UYA1	Glycine/betaine ABC transporter substrate-binding protein	56.36	9.06	34.7	9.23
A0A0E3CNP0	Uncharacterized protein	55.77	13.33	23.7	8.82
A0A0D6U8S2	Large ribosomal subunit protein uL13	55.64	14.86	16.6	9.63
A0A2A5L6V2	Cell division ATP-binding protein FtsE	54.09	9.65	25.5	5.53
A0A249DD67	endopeptidase La	53.04	3.59	39.2	9.91
A0A180BFG9	FAD:protein FMN transferase	52.33	4.26	38.5	9.42
A0A0D6UB62	Cysteine desulfurase	52.09	11.50	12.7	9.41
A0A179WBK1	Extracellular protein	51.33	7.69	25.5	10.14
A0A809NA35	Small ribosomal subunit protein uS13	51.00	5.79	13.5	10.49
A0A0E3D3B9	Large ribosomal subunit protein uL3	50.60	8.10	22.6	9.82
A0A1Y0DZ69	Uncharacterized protein	50.07	4.08	35.3	7.55
A0A249DB19	WxL domain-containing protein	49.39	4.05	22.4	4.94
A0A809N776	Phage nuclease	47.47	5.69	27.3	6.81
A0A249DGN9	D-alanyl-D-alanine carboxypeptidase	47.29	12.50	26.3	9.31
A0A180BGV5	Metal ABC transporter substrate-binding protein	46.86	7.21	33.3	9.09
A0A0D6UAV8	Small ribosomal subunit protein uS4	45.56	9.36	23.3	9.76
A0A0E3D3E6	inorganic diphosphatase	45.52	9.68	33.5	4.93
A0A0D6U5M7	3-hydroxyacyl-[acyl-carrier-protein] dehydratase FabZ	45.31	15.75	15.9	8.13

<b>A0A249DGB3</b>	Capsular polysaccharide biosynthesis protein CpsC	44.76	4.35	24.7	9.47
<b>Q9FDJ7</b>	Putative glycosyltransferase (Fragment)	44.06	5.47	23.5	8.62
<b>A0A508YUJ8</b>	ABC transporter ATP-binding protein	44.01	3.57	27.2	5.95
<b>A0A249DIG7</b>	Nicotinate phosphoribosyltransferase	43.04	2.52	52.3	6.37
<b>A0A249DCA1</b>	Serine O-acetyltransferase	43.00	3.27	32.1	7.36
<b>A0A0D6U787</b>	LemA family protein	42.55	4.46	22.1	9.51
<b>A0A249DEM2</b>	Peptide ABC transporter ATP-binding protein	42.39	2.36	32.8	6.98
<b>A0A171J468</b>	PTS fructose transporter subunit IID	42.35	8.42	29.8	9.88
<b>A0A171J6N2</b>	dUTP diphosphatase	42.24	6.15	20.5	9.23
<b>A0A7Y7UHH7</b>	Zinc ribbon domain-containing protein	42.07	5.01	38.3	9.54
<b>A0A249DEK9</b>	Tyrosine-protein kinase CpsD	42.02	4.25	22.5	5.55
<b>A0A0D6U5D8</b>	Co-chaperonin GroES	41.98	9.68	10.0	5.01
<b>A0A2A5L2P2</b>	PTS mannose transporter subunit IIAB	41.83	3.75	17.3	8.40
<b>A0A0E3CPJ8</b>	Small ribosomal subunit protein uS9	41.50	7.69	14.3	10.59
<b>A0A508YVM5</b>	Matrixin family metalloprotease	41.44	4.84	26.5	8.90
<b>A0A180A1S0</b>	Permease IIC component	40.97	2.42	49.3	9.00
<b>A0A249DES4</b>	6-phosphogluconate dehydrogenase, decarboxylating	40.69	1.91	52.0	5.50
<b>A0A2A5L9L1</b>	DNA-binding protein HU	39.87	30.77	9.5	9.85
<b>A0A0D6UFA6</b>	Class II fructose-1,6-bisphosphate aldolase	39.56	3.41	31.5	5.14
<b>H6SHW1</b>	RNA polymerase (Fragment)	38.89	10.00	10.4	8.59
<b>A0A7Y7QDD7</b>	Zinc-ribbon domain-containing protein	38.34	6.03	36.8	7.39
<b>A0A0D6UC46</b>	Small ribosomal subunit protein bS21	38.26	13.79	7.0	10.71
<b>A0A0J6TQ18</b>	ATP synthase subunit alpha	37.72	4.13	55.2	5.38
<b>A0A249DH01</b>	Manganese ABC transporter substrate-binding protein	37.45	3.19	35.0	9.28
<b>A0A0J6UFS9</b>	5-bromo-4-chloroindolyl phosphate hydrolysis family protein	37.11	4.55	24.8	6.55
<b>A0A180BGT4</b>	Two-component system regulatory protein YycI	36.96	4.91	29.9	9.39
<b>A0A508Z8T5</b>	DNA-entry nuclease	35.31	2.83	25.7	10.24
<b>A0A0D6U666</b>	DUF1049 domain-containing protein	34.85	12.04	11.8	9.99
<b>A0A179XLR4</b>	Foldase protein PrsA	34.84	3.33	33.1	9.80
<b>A0A180B9V3</b>	Hsp20 family protein	34.32	8.22	16.6	5.03
<b>A0A249DD20</b>	Molecular chaperone	34.05	8.23	17.8	5.10
<b>A0A809N821</b>	Uncharacterized protein	33.94	5.19	15.1	9.50
<b>A0A0J6XR26</b>	AsparaGIne synthase (Glutamine-hydrolyzing)	33.55	1.26	73.3	6.44
<b>A0A7X2M1V9</b>	Leucine-rich repeat protein	33.43	1.43	109.1	5.00
<b>A0A249DCT8</b>	D-ribose ABC transporter substrate-binding protein	33.29	4.39	33.4	9.20
<b>A0A249DHG0</b>	Small ribosomal subunit protein uS17	33.24	21.74	8.0	9.79
<b>A0A809NA46</b>	Small ribosomal subunit protein uS8	32.83	17.42	14.8	9.58
<b>A0A0E3CPD9</b>	Small ribosomal subunit protein uS3	32.79	8.18	24.9	9.98
<b>A0A2A5L6V8</b>	Probable transcriptional regulatory protein BGK71_04670	32.69	5.35	27.1	4.84
<b>A0A7Y7QI03</b>	Transposase	31.18	1.78	39.3	9.91
<b>A0A2A5L886</b>	Glycosyl transferase family 2	31.01	2.07	27.2	6.09
<b>A0A180CM60</b>	Streptococcin A-M57	30.70	5.38	20.7	7.93
<b>A0A179X3E8</b>	Alpha/beta hydrolase	30.40	4.52	34.6	9.72
<b>A0A249DG83</b>	ATP-dependent zinc metalloprotease FtsH	30.07	1.68	78.2	5.48
<b>A0A0E3CL48</b>	Uncharacterized protein	30.05	17.84	20.1	4.98
<b>A0A249DGA6</b>	Galactose mutarotase	29.77	3.41	32.6	5.27
<b>A0A171JAH8</b>	Thioredoxin reductase	29.61	3.81	34.2	5.55
<b>A0A0J6X4K6</b>	Phosphate-binding protein	29.30	6.25	30.8	9.77
<b>A0A249DHD7</b>	Metal ABC transporter substrate-binding protein	29.27	5.00	33.4	9.25
<b>A0A0E3CL79</b>	ATP synthase subunit delta	28.76	4.97	19.4	8.40
<b>A0A0D6U9U8</b>	ATP-dependent Clp protease ATP-binding subunit	28.24	1.56	91.6	6.58
<b>A0A5P5ZAS3</b>	CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase	28.21	5.10	21.9	9.74
<b>A0A249DA30</b>	Cell surface protein	27.45	4.48	28.4	5.76
<b>A0A2A5L730</b>	Rhodanese-like domain-containing protein	27.20	6.67	15.9	9.92
<b>A0A0E3CQC0</b>	ATP-dependent 6-phosphofructokinase	27.15	2.82	34.2	6.05
<b>A0A0E3CQ27</b>	L-lactate dehydrogenase	26.76	2.66	32.5	5.53

A0A0J6U736	Membrane protein insertase YidC	26.52	4.55	36.5	9.61
A0A7S7JGT6	S-ribosylhomocysteine lyase	25.75	5.73	17.2	6.28
A0A0J6UYU8	Membrane protein	25.54	4.22	18.2	9.99
A0A7S7FPQ2	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex	25.19	3.17	46.8	5.20
A0A0E3CLE4	DJ-1/PfpI/YhbO family deglycase/protease	23.86	22.62	18.4	5.08
A0A0E3CQD1	Large ribosomal subunit protein uL10	23.38	7.14	18.2	5.15
A0A0E3CPP5	Amidase	23.27	4.35	22.8	5.38
A0A7Y7QI94	LacI family DNA-binding transcriptional regulator	23.20	1.45	38.5	6.44
A0A0E3CMX6	Dihydrolipoyl dehydrogenase	23.06	1.93	49.1	5.91
A0A7S7FRT8	Small ribosomal subunit protein uS19	22.59	8.60	10.6	10.13
A0A0D6UCL0	Small ribosomal subunit protein bS16	22.10	7.69	10.5	10.24
A0A2A5L7B6	Elongation factor Ts	21.68	7.17	31.6	5.11
A0A7S7FRS9	UTP--glucose-1-phosphate uridylyltransferase	21.49	3.62	33.8	6.27
A0A0J6ULP2	Phosphate ABC transporter ATP-binding protein	21.06	4.04	30.8	6.18
A0A6N3BY57	YxeA family protein	20.67	12.70	14.5	9.17
A0A249DFB4	Surfactant protein C. propeptide	20.52	3.59	26.7	4.70
A0A249DGN0	Cellulose synthase	20.48	1.17	75.2	9.63

Accession Number	Protein Description	Score	Sequence Coverage [%]	Molecular Mass [kDa]	pI
GI 258540465	fibrinogen-binding protein	428.00	17.00	105.9	4.56
GI 385836102	LPXTG-motif cell wall anchor domain-containing protein	428.00	15.00	116.5	4.67
GI 258509277	hypothetical protein LGG_02282	428.00	12.00	135.8	4.60
GI 385828913	putative cell surface protein	428.00	11.00	155.1	4.61
GI 491951815	fibrinogen-binding protein. partial	428.00	23.00	79.6	4.52
GI 491959236	fibrinogen-binding protein. partial	428.00	19.00	94.6	4.66
GI 258540184	lysozyme M1	261.00	21.00	74.4	9.03
GI 492000601	Lysozyme M1 (1.4-beta-N-acetylmuramidase)	261.00	21.00	74.4	9.03
GI 491996440	hypothetical protein	242.00	27.00	40.8	8.81
GI 258507221	pyridoxine 5'-phosphate oxidase V-like favin-nucleotide-binding protein	152.00	65.00	14.7	5.08
GI 258507928	glyceraldehyde-3-phosphate dehydrogenase	122.00	32.00	36.7	5.53
GI 258540404	hypothetical protein LC705_02213	102.00	15.00	34.2	6.84
GI 491959389	hydrolase	102.00	14.00	37.3	9.22
GI 479146350	23S rRNA m(5)U-1939 methyltransferase	100.00	7.00	53.1	6.00
GI 58337987	hypothetical protein LBA1729	99.00	4.00	25.9	9.02
GI 410666775	60 kDa chaperonin	99.00	5.00	58.4	5.10
GI 258507026	surface antigen	98.00	17.00	42.6	6.97
GI 258538216	surface antigen	98.00	17.00	42.6	6.54
GI 491951590	hypothetical protein	98.00	17.00	42.6	6.54
GI 183393070	surface antigen	88.00	29.00	17.3	9.10
GI 258507825	sulfatase	81.00	6.00	77.9	8.53
GI 258539015	sulfatase	81.00	6.00	77.9	8.50
GI 491960874	glycerol phosphate lipoteichoic acid synthase	81.00	6.00	78.7	8.66
GI 491997881	glycerol phosphate lipoteichoic acid synthase	81.00	6.00	78.7	8.53
GI 492013601	Lipoteichoic acid synthase LtaS Type IIa	81.00	6.00	77.9	8.36
GI 495221972	elongation factor Tu domain-containing protein. partial	74.00	14.00	21.0	5.37
GI 331268633	23S rRNA (uracil-5-)-methyltransferase RumA	71.00	1.00	56.4	7.01
GI 258508080	glucose-6-phosphate isomerase	68.00	7.00	49.3	5.00
GI 258539353	glucose-6-phosphate isomerase	68.00	7.00	49.3	5.00
GI 491953476	glucose-6-phosphate isomerase	68.00	7.00	54.0	5.29
GI 491992997	glycoside hydrolase	68.00	14.00	49.6	6.41
GI 489645853	30S ribosomal protein S21. partial	68.00	49.00	7.9	11.16
GI 491996353	peptidoglycan-binding protein LysM	67.00	3.00	130.9	6.46
GI 491999471	peptidoglycan-binding protein LysM	67.00	3.00	128.1	6.28
GI 258507319	cell wall-associated glycoside hydrolase (NLP/P60 protein)	66.00	17.00	49.7	6.41

GI 258538501	cell wall-associated glycoside hydrolase (NLP/P60 protein)	66.00	17.00	49.3	6.41
GI 491999634	2-hydroxy-6-oxo-6-phenylhexa-2.4-dienoate hydrolase	66.00	17.00	48.4	7.71
GI 183393106	trypsin-like serine protease	64.00	8.00	38.4	5.22
GI 258509801	serine protease	64.00	7.00	45.2	5.81
GI 491945612	serine protease	64.00	7.00	45.2	6.25
GI 491998718	serine protease	64.00	7.00	45.2	5.81
GI 89893756	hypothetical protein DSY1010	64.00	7.00	15.4	4.79
GI 56419350	oligopeptide ABC transporter ATP-binding protein	62.00	3.00	35.5	7.74
GI 446651568	hypothetical protein	59.00	2.00	53.9	7.59
GI 489680568	hypothetical protein	59.00	31.00	6.2	10.75
GI 493766535	molecular chaperone GroEL	59.00	6.00	57.7	4.86
GI 170759773	hypothetical protein CLK_0109	58.00	6.00	13.2	10.01
GI 302669874	glycosyl transferase 2	58.00	2.00	37.9	5.04
GI 491694802	acyl-CoA hydrolase	58.00	4.00	20.5	8.45
GI 489710067	cell wall surface anchor protein	57.00	3.00	53.7	5.29
GI 490830907	polyribonucleotide nucleotidyltransferase	57.00	4.00	75.0	5.09
GI 489351640	LtrC-like protein	57.00	15.00	8.4	9.65
GI 496710386	phosphate transport regulator	57.00	4.00	24.2	4.65
GI 493634418	proteinase	56.00	3.00	26.4	6.36
GI 495794709	L-aspartate oxidase	55.00	6.00	56.7	7.29
GI 374298063	30S ribosomal protein S14	54.00	21.00	7.2	10.54
GI 497881057	O-succinylbenzoate synthase	54.00	8.00	42.0	5.40
GI 339627472	chaperone protein DnaK	54.00	6.00	68.3	5.05
GI 496351263	elongation factor Tu	53.00	3.00	44.3	5.21
GI 374997042	exopolyphosphatase-like protein	52.00	4.00	35.8	5.78
GI 81429365	50S ribosomal protein L5	51.00	8.00	20.2	9.34
GI 104773557	50S ribosomal protein L6	48.00	3.00	19.3	9.66
GI 258507047	2-dehydro-3-deoxyphosphogluconate aldolase	47.00	5.00	22.4	5.03
GI 407472821	collagen adhesion protein	46.00	1.00	192.3	4.74
GI 404282345	ABC transporter ATP-binding protein	46.00	2.00	34.6	5.59
GI 78043711	LysM domain-containing protein	45.00	1.00	55.6	5.81
GI 495774022	oxidoreductase. FAD-binding protein	45.00	2.00	48.9	4.74
GI 56962937	cell surface protein	43.00	1.00	310.7	4.00
GI 258508046	TetR family transcriptional regulator	43.00	3.00	23.0	6.32
GI 319891781	enolase	42.00	5.00	47.0	4.50
GI 491523508	transposase. partial	42.00	3.00	27.3	8.75
GI 184154568	hypothetical protein LAF_0092	42.00	6.00	38.7	9.57
GI 77964181	ATP synthase subunit beta	41.00	4.00	50.4	5.01
GI 493781614	elongation factor Tu	40.00	8.00	43.5	4.99
GI 254557145	ATP synthase F0F1 subunit alpha	37.00	4.00	54.6	4.95
GI 489796080	transposase ISL3	36.00	9.00	50.3	9.71
GI 311067500	penicillin-binding protein 1	35.00	5.00	79.0	8.67
GI 511478511	surface antigen	30.00	10.00	41.6	8.93
GI 498310663	molecular chaperone GroES	29.00	17.00	10.2	4.98
GI 58337164	aspartate-semialdehyde dehydrogenase	27.00	2.00	38.7	5.19
GI 116496026	tagatose 1.6-diphosphate aldolase	26.00	6.00	36.3	5.25
GI 258507660	tagatose 1.6-diphosphate aldolase	26.00	6.00	36.4	5.24