

Table 1: Up-regulated protein in infectious conditions.

SPOT	PROTEIN	MW	pI	MW/pI 2D	Product	PEP	XAM1/NB	3DAI/NB	5DAI/NB	CLASS
1	XAC1882	99296	5.43	88533/5.55	aconitase	3	5.71	6.92	7.59	A,L,LPS
2	XAC2830	86282	4.97	78152/5.01	TonB-dependent receptor	4	62.06	144.00	148.00	IRON
3	XAC4368	84447	5.51	80205/5.70	TonB-dependent receptor	4	0.00	8.99	3.16	IRON
4	XAC1301	82833	5.55	81968/5.65	catalase	8	11.52	19.27	35.31	ROS
5	XAC3201	81414	5.68	77150/5.63	TonB-dependent receptor	3	2.57	1.56	0.48	IRON
6	XAC2698	79970	6.24	80003/6.15	NADH-ubiquinone oxidoreductase, NQO3 subunit	6	5.21	13.89	1.78	REDOX
7	XAC2829	74236	4.89	76003/5.03	outer membrane hemin receptor	9	1.48	156.00	158.00	IRON
8	XAC3239	62707	5.56	65574/5.60	pilus biogenesis protein	3	1.48	4.33	9.39	A,B,LPS
9	XAC3300	62268	4.94	57442/5.40	lipase	4	1.93	21.98	96.64	VIR-ADAP
10	XAC3851	49960	5.31	49587/5.38	conserved hypothetical protein	7	10.29	9.89	46.78	HYP
11	XAC3579	49337	5.19	45222/5.19	phosphoglucomutase	3	0.19	3.91	7.29	A,L,LPS
12	XAC1776	48508	5.31	45006/5.42	xylose isomerase	7	1.68	2.69	3.20	ND
13	XACb0007	46215	5.89	44072/5.44	lytic murein transglycosylase	7	8.11	71.06	113.00	VIR-ADAP
	XAC3225	46173			transglycosylase					
14	XAC1858	46126	6.16	41563/5.85	valine-pyruvate aminotransferase	4	1.21	2.93	11.46	ND
15	XAC1650	45714	5.68	45222/5.81	3-phosphoshikimate 1-carboxyvinyltransferase	3	24.03	0.00	3.49	ND
16	XAC0007	43415	6.79	37530/5.80	conserved hypothetical protein	7	1.87	2.18	2.21	HYP.
17	XAC3602	42683	5.68	41090/5.76	cystathionine gamma-lyase-like protein	4	0.00	2.67	12.91	A,L,LPS
18	XAC2504	41342	5.98	40438/5.73	regulator of pathogenicity factors	6	354.75	6.19	13.17	A,L,LPS
19	XAC1432	40558	5.53	38474/5.55	succinyl-diaminopimelate desuccinylase	8	0.92	1.68	8.40	ND
20	XAC1434	38703	5.89	35614/5.80	conserved hypothetical protein	5	13.37	54.21	13.10	HYP.
21	XAC3456	38289	5.27	38194/5.33	3-isopropylmalate dehydrogenase	5	43.75	7.62	18.57	VIR-ADAP
22	XAC1017	37842	6.73	34607/6.23	ABC transporter sulfate binding protein	8	45.65	13.96	1.78	A,L,LPS
23	XAC0656	37601	5.64	38915/5.69	rod shape-determining protein	5	0.96	3.08	8.57	VIR-ADAP
24	XAC3344	36538	4.98	33667/5.16	fructose-bisphosphate aldolase	5	5.99	2.48	2.97	ND
25	XAC4349	35994	5.95	35745/5.97	bifunctional oxidoreductase/alginate lyase	3	2.79	0.12	3.43	REDOX
26	XAC0339	35920	5.54	35567/5.56	oxidoreductase	7	4.23	17.89	10.42	REDOX
27	XAC1046	35739	5.4	34862/5.47	isocitrate dehydrogenase	5	0.79	1.45	1.58	ND
28	XAC0288	34737	5.07	33229/5.25	oxidoreductase	4	42.40	27.05	10.87	REDOX
29	XAC0470	34625	5.21	33252/5.29	phosphoribosylaminoimidazole-succinocarboxamide synthase	8	3.06	1.62	2.16	ND
30	XAC4109	34589	5.81	29652/5.81	aerobic coproporphyrinogen III oxidase	3	3.23	0.24	1.70	VIR-ADAP
31	XAC2005	34530	5.71	29652/5.81	thioredoxin reductase	2	1.90	0.99	2.29	ROS
32	XAC3103	34528	5.76	33950/5.68	glutathione synthetase	8	1.09	0.61	2.75	ROS
33	XAC0785	34442	5.47	34862/5.47	UDP-3-O-[3-hydroxymyristoyl] N-acetylglucosamine deacetylase	4	1.33	0.27	2.48	A,L,LPS
34	XAC3584	34151	5.83	27727/5.57	glucose-1-phosphate thymidyltransferase	6	1.74	2.14	2.33	A,L,LPS
35	XAC4009	33388	5.12	33574/5.23	arginase	6	1.34	8.41	11.58	VIR-ADAP
36	XAC2292	32253	5.45	29036/5.55	UTP-glucose-1-phosphate uridylyltransferase	8	1.49	1.80	1.57	A,L,LPS
37	XAC4219	31536	5.82	34812/5.25	conserved hypothetical protein	6	30.72	20.18	8.09	HYP

38	XAC2783	31423	4.61	29856/4.81	thioredoxin	6	2.93	1.89	2.42	ROS
39	XAC3924	31875	4.94	32236/5.09	spermidine synthase	6	7.57	1.07	1.99	
40	XAC3966	29809	5.83	28077/5.92	conserved hypothetical protein	8	2.45	3.17	4.10	HYP
41	XAC3140	29566	5.96	26143/5.31	conserved hypothetical protein	3	3.51	0.72	19.77	HYP
	XAC2689	21302	5.25	26143/5.31	conserved hypothetical protein	1				
42	XAC0623	29125	5.21	27347/4.98	conserved hypothetical protein	6	6.83	8.70	1.38	HYP
43	XAC0190	28328	9.87	21870/5.27	conserved hypothetical protein	5	2.21	1.30	4.24	HYP
44	XAC0834	28176	6.03	25267/5.67	two-component system regulatory protein	8	1.58	2.01	2.50	VIR-ADAP
45	XAC2936	27673	5.64	25598/5.71	ABC transporter ATP-binding protein	5	1.04	4.60	4.37	IRON
46	XAC1838	25832	5.12	23746/5.27	enolase-phosphatase	5	2.89	5.49	9.66	ND
	XAC1344	18650	5.45	23746/5.27	conserved hypothetical protein	3				
47	XAC3307	25269	5.61	26787/5.71	fumarylacetoacetate hydrolase	4	3.52	1.52	18.46	ND
48	XAC1160	24563	6.19	24931/6.19	oxidoreductase	5	0.33	0.31	2.58	REDOX
49	XAC3457	24408	5.23	24082/5.30	3-isopropylmalate dehydratase small subunit	5	65.18	2.46	8.27	VIR-ADAP
50	XAC3491	24295	4.48	25895/4.98	NonF-related protein	1	11.62	40.50	26.48	ND
51	XAC3462	24273	4.87	23609/4.98	L-isoadipate protein carboxymethyltransferase	4	8.02	0.35	0.24	ND
	XAC1654	20547	4.82		acyl carrier protein phosphodiesterase	4				
52	XAC2736	23904	5.31	22987/5.37	carboxymethylenebutenolidase	8	25.54	3.73	5.28	ND
53	XAC3664	23797	4.97	23610/4.83	outer membrane protein	4	2.28	4.08	3.36	IRON
54	XAC1028	23680	5.98	25363/6.10	phosphoglycerate mutase	3	3.46	6.88	0.77	VIR-ADAP
55	XAC2246	23230	5.97	24.046/5.98	hypothetical protein	4	5.18	4.42	4.72	HYP
56	XAC2736	23904	5.31	22.987/5.37	carboxymethylenebutenolidase	2	25.54			
	XAC3548	107404	5.34		outer membrane protein	5	25.54			
	XAC3546	204594	4.20		outer membrane protein	5	25.54			
57	XAC1078	22839	5.39	22774/5.30	ATP-dependent Clp protease proteolytic subunit	6	2.71	1.10	3.01	ND
58	XAC2386	22703	5.47	23236/2.47	superoxidase dismutase	3	1.45	1.84	1.75	ROS
59	XACa0018	22398	5.17	22887/5.28	partition protein A	6	2.69	1.33	2.62	ND
60	XAC0554	21395	5.83	21753/5.97	nitroreductase	9	22.22	0.56	0.53	REDOX
61	XAC1149	21174	4.71	21785/4.82	bacterioferritin	6	23.71	155.00	0.00	IRON
62	XAC3123	20391	5.71	21588/5.77	DNA-binding related protein	3	2.07	2.70	3.04	IRON
63	XAC3709	20070	6.4	20891/6.32	tryptophan repressor binding protein	3	5.06	4.43	0.00	ND
64	XAC2369	20069	6.08	19321/5.23	general stress protein	6	6.00	88.95	117.14	ROS
65	XAC3437	19943	5.33	21870/5.27	adenylate kinase	7	1.21	1.66	1.82	ND
66	XAC4346	19910	5.16	22910/5.28	glutathione peroxidase	2	24.25	1.73	13.30	ROS
	XAC3903	22914	5.21		orotate phosphoribosyl transferase	5				
67	XAC2932	19457	4.73	22108/4.89	protease	6	6.09	11.82	14.43	VIR-ADAP
68	XAC1344	18650	5.45	23746/5.27	conserved hypothetical protein	3	1.89	9.49	8.66	HYP

69	XAC3671	18304	5.97	19879/6.16	conserved hypothetical protein	5	8.74	84.52	0.19	HYP
70	XAC3652	18207	5.31	20005/5.35	ATP synthase delta chain	3	2.89	10.59	2.06	ND
71	XAC0193	17603	5.35	18225/5.37	conserved hypothetical protein	3	14.45	10.25	2.40	HYP
72	XAC1364	16432	5.56	18671/5.68	conserved hypothetical protein	5	2.93	3.48	5.45	HYP
73	XAC0381	15720	4.95	17469/5.00	conserved hypothetical protein	3	1.69	3.55	0.80	HYP
74	XAC2915	15400	5.59	17556/5.60	osmotically inducible protein	4	0.95	2.89	2.89	ROS
75	XAC0282	14588	5.63	17375/5.63	organic hydroperoxide resistance protein	3	5.30	19.40	24.36	ROS
76	XAC1093	14516	5.46	17518/5.29	conserved hypothetical protein	6	2.85	1.56	6.47	HYP
77	XAC0108	14433	5.06	18041/5.18	AtsE	6	9.99	22.76	27.21	A,L,LPS
78	XAC1154	14304	5.16	17518/5.29	regulatory protein pilH family	2	–	1.00	1.00	A,L,LPS
79	XAC1968	14132	5.03	17518/5.08	response regulator	3	2.95	1.99	9.97	ND
80	XAC3866	13988	5.42	17380/5.33	conserved hypothetical protein	3	5.33	54.29	76.17	HYP
81	XAC3671	18304	5.97	19879/ 6.16	conserved hypothetical protein	5	8.74	84.52	0.19	
82	XAC3981	12172	4.93	17615/5.03	conserved hypothetical protein	3	21.26	21.43	21.36	HYP
83	XAC2315	10786	4.7	17271/4.91	conserved hypothetical protein	2	8.79	2.48	1.92	HYP
84	XAC3680	9536	4.85	17469/5.00	conserved hypothetical protein	3	1.69	3.55	0.80	HYP

Legend: ROS – ROS and osmotic adaptation / Redox – oxide and nitroreductases / Virulence – virulence-related proteins / Hyp – hypothetical / A,B,LPS – Adhesion, biofilm, and LPS synthesis / Iron – iron acquisition and metabolism / ND – not determined

Table 2: Down-regulated protein in infectious conditions.

Spot	PROTEIN	MW	pI	MW/pI 2D	Product	PEP	XAM1/N B	3DAI/NB	5DAI/N B	CLASS
85	XAC2743	111655	5.18	93622/5.13	Oar protein	8	1.81	0.34	0.72	IRON
86	XAC4274	110082	5.29	91340/5.21	OmpA-related protein	9	1.66	0.27	0.43	IRON
87	XAC4273	109344	5.21	89523/5.19	OmpA-related protein	8	1.69	0.05	0.88	IRON
88	XAC2742	108902	5.63	90729/5.30	TonB-dependent receptor	5	0.00	0.00	0.05	IRON
89	XAC3444	103243	4.79	89923/4.84	TonB-dependent receptor	10	1.78	0.00	0.00	IRON
90	XAC1885	93473	5.22	90325/5.36	aconitate hydratase 2	2	0.02	0.50	0.03	ENER-MET
91	XAC0823	86172	6.21	76656/5.36	outer membrane hemin receptor	7	1.17	0.00	0.00	IRON
92	XAC0176	82347	5.30	77649/5.29	ferripyoverdine receptor	5	0.00	0.09	1.20	IRON
93	XAC3498	80719	5.70	72534/5.40	outer membrane receptor for ferric iron uptake	7	0.40	0.05	0.40	IRON
94	XAC1716	61729	5.91	66074/5.95	CTP synthetase	6	0.66	0.15	0.32	ND
95	XAC0615	59242	6.54	59392/6.19	aminopeptidase	6	0.05	0.87	0.43	DEG-ENZ
96	XAC4004	57739	5.77	55694/5.86	peptidase	4	0.15	0.07	0.19	DEG-ENZ
97	XAC0542	57131	5.05	53816/5.00	60kDa chaperonin	1	0.35	0.03	0.16	CELL-P
98	XAC1321	53877	7.79	54431/6.17	periplasmic protease	9	1.40	0.34	0.31	ND
99	XAC0454	50589	5.89	47136/5.96	homogentisate 1,2-dioxygenase	6	0.14	0.00	0.17	A,L,PURPIR
100	XAC1533	50520	5.80	51547/5.91	dihydrolipoamide dehydrogenase	6	0.98	0.61	0.95	ENER-MET
101	XAC3388	47916	5.97	45309/5.99	citrate synthase	3	1.74	0.06	0.28	ENER-MET
102	XAC2609	47131	6.30	47009/6.26	carboxypeptidase	7	0.25	0.03	0.00	DEG-ENZ
103	XAC3688	46931	5.68	43624/5.72	D-amino acid dehydrogenase subunit	6	0.00	0.09	1.39	A,L,PURPIR
104	XAC3847	44511	6.06	43773/5.96	N-acyl-L-amino acid amidohydrolase	3	0.07	0.00	0.00	DEG-ENZ
105	XAC2545	43506	5.4	411570/5.5	proline dipeptidase	8	0.00	0.00	0.03	DEG-ENZ

106	XAC3581 XAC1350	43085 39859	6.18 6.15	43477/6.14	UDP-glucose dehydrogenase leucine dehydrogenase	2 2	1.13	0.28	0.09	ENER-MET
107	XAC2885	42909	5.39	41130/5.40	phospholipase A1	5	0.00	0.03	0.08	DEG-ENZ
108	XAC2012	42104	6.02	40775/6.04	3-ketoacyl-CoA thiolase	7	0.78	0.49	0.86	A,L,PURPIR
109	XAC0265	41671	5.88	40106/5.90	acyl-CoA dehydrogenase	2	0.00	0.00	0.00	A,L,PURPIR
110	XAC0749	41321	5.46	42116/5.63	GTP cyclohydrolase II/3,4-dihydroxy-2-butanone 4-phosphate synthase	3	0.07	0.07	0.14	ND
111	XAC3802	41202	7.08	42046/6.22	conserved hypothetical protein	6	0.12	0.15	0.07	HYP
112	XAC1523	40976	5.99	43257/6.01	DnaJ protein	8	0.73	0.03	0.03	CELL-P
113	XAC0452	40166	4.99	41077/5.07	4-hydroxyphenylpyruvate dioxygenase	5	0.00	0.13	0.43	A,L,PURPIR
114	XAC1348	40057	6.31	42028/6.27	acetoacetyl-CoA thiolase	2	0.12	0.04	0.08	A,L,PURPIR
115	XAC3609	35600	4.8	33620/4.98	fumarylacetoacetate hydrolase	5	0.07	0.04	0.04	A,L,PURPIR
116	XAC0445	35587	5.27	39249/5.33	pyruvate dehydrogenase E1 beta subunit	4	0.13	0.10	0.10	ENER-MET
117	XAC0902	34836	5.12	36490/5.20	transaldolase B	3	0.22	0.13	0.62	ENER-MET
118	XAC2916	33893	6.09	33902/6.08	aspartate carbamoyltransferase	6	0.62	0.08	0.06	A,L,PURPIR
119	XAC2550	33347	4.96	35166/5.07	conserved hypothetical protein	7	0.00	0.00	0.00	HYP
120	XAC2502	33184	5.98	30014/5.94	1-phosphofructokinase (fructose 1-phosphate kinase)	7	300.00	0.00	0.00	ENER-MET
121	XAC2715	32390	6.33	29978/6.28	acetyl-coenzyme A carboxylase carboxyl transferase	2	0.20	0.06	0.00	A,L,PURPIR
122	XAC2547	32032	5.7	26365/5.80	dihydrodipicolinate synthetase	8	0.19	0.05	0.14	A,L,PURPIR
123	XAC1717	30037	5.87	30083/6.01	2-dehydro-3-deoxyphosphooctonate aldolase	5	0.51	0.06	0.07	A,B,LPS
124	XAC1314	28357	6.18	25550/6.19	enoyl-CoA hydratase	6	0.24	0.09	0.35	A,L,PURPIR
125	XAC3586	26449	6.12	26113/6.14	electron transfer flavoprotein beta subunit	4	0.73	0.05	0.09	ENER-MET
126	XAC1042	25987	6.33	25247/6.28	two-component system, regulatory protein	3	0.32	0.98	0.21	CELL-P
127	XAC3578	25980	5.84	25221/5.97	lpsJ protein	4	0.21	0.08	0.16	A,L,PURPIR
128	XAC3354	23033	6.1	21350/5.47	outer membrane protein W	4	0.00	0.00	0.00	IRON
129	XAC2008	22942	7.9	22697/5.66	outer-membrane lipoproteins carrier protein precursor	8	0.08	0.05	0.00	A,B,LPS
130	XAC1643 XAC4251	19909 52920	5.45 6.04	21350/5.65	poly(hydroxyalcanoate) granule associated protein hexuronic acid isomerase	7 1	0.00	0.00	0.00	ND
131	XAC3725 XAC1335	18344 20278	5.03 5.14	20939/5.19	conserved hypothetical protein hypoxanthine-guanine phosphoribosyltransferase	6 4	0.40	0.00	1.30	HYP

Legend: Hyp – hypothetical / A,B,LPS – adhesion, biofilm, and LPS synthesis / Cell-P – cellular process / Iron – iron acquisition and metabolism / Deg-enz – degrading enzymes / A,L, PurPir – aminoacids, lipids, and pur-pyr metabolism / Ener-Met – energetic metabolism / ND – not determined