

Table S1: Mass spectrometric identification of excised gel bands following first-dimensional blue-native PAGE and mass spectrometry

Protein complex	Mass (kDa)	GenBank accession	ORF	Protein annotation	Peptides matched	Sequence coverage	Predicted membrane localization
I	29	gi 11496927	bba15	OspA	17	53	Yes
	32	gi 11496910	bba16	OspB	6	23	Yes
	18	gi 11497024	bbb19	OspC	5	23	Yes
	28	gi 11496832	bbj09	OspD	5	27	Yes
	68	gi 15594948	bb0603	P66	12	31	Yes
	39	gi 11496856	bbj34	HP	7	29	Yes
II	29	gi 11496927	<i>bba15</i>	OspA	18	59	Yes
	32	gi 11496910	<i>bba16</i>	OspB	6	23	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	3	15	Yes
	68	gi 15594948	<i>bb0603</i>	P66	16	38	Yes
	39	gi 11496856	<i>bbj34</i>	HP	5	25	Yes
III	29	gi 11496927	<i>bba15</i>	OspA	20	63	Yes
	32	gi 11496910	<i>bba16</i>	OspB	6	23	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	3	18	Yes
	68	gi 15594948	<i>bb0603</i>	P66	21	53	Yes
	39	gi 11496856	<i>bbj34</i>	HP	5	22	Yes
	19	gi 15594380	bb0034	P13	2	9	Yes
IV	29	gi 11496927	<i>bba15</i>	OspA	22	62	Yes
	32	gi 11496910	<i>bba16</i>	OspB	7	23	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	2	11	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	3	19	Yes
	68	gi 15594948	<i>bb0603</i>	P66	30	61	Yes
	39	gi 11496856	<i>bbj34</i>	HP	4	19	Yes
V	29	gi 11496927	<i>bba15</i>	OspA	19	60	Yes
	32	gi 11496910	<i>bba16</i>	OspB	5	23	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	4	29	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	5	30	Yes
	68	gi 15594948	<i>bb0603</i>	P66	26	57	Yes
	19	gi 15594380	<i>bb0034</i>	P13	2	13	Yes
VI	29	gi 11496927	<i>bba15</i>	OspA	21	68	Yes
	32	gi 11496910	<i>bba16</i>	OspB	4	13	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	2	11	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	2	12	Yes
	68	gi 15594948	<i>bb0603</i>	P66	27	60	Yes
	19	gi 15594380	<i>bb0034</i>	P13	3	18	Yes
VII	8	gi 11496908	bba62	Lp 6.6	3	38	Yes
	29	gi 11496927	<i>bba15</i>	OspA	20	66	Yes
	32	gi 11496910	<i>bba16</i>	OspB	6	25	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	3	17	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	4	25	Yes
	41	gi 15594580	bb0235	YchF	2	7	Yes
VIII	19	gi 15594380	<i>bb0034</i>	P13	5	32	Yes
	8	gi 11496908	<i>bba62</i>	Lp 6.6	2	38	Yes
	29	gi 11496927	<i>bba15</i>	OspA	18	65	Yes
	32	gi 11496910	<i>bba16</i>	OspB	5	18	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	2	11	Yes
	106	gi 15595182	bb0837	UvrA	2	2	Yes

	19	gi 15594380	<i>bb0034</i>	P13	6	37	Yes
	22	gi 15594750	bb0405	HP	3	20	Yes
IX	29	gi 11496927	<i>bba15</i>	OspA	18	56	Yes
	32	gi 11496910	<i>bba16</i>	OspB	4	13	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	3	17	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	7	33	Yes
	19	gi 15594380	<i>bb0034</i>	P13	6	37	Yes
	8	gi 11496908	<i>bba62</i>	Lp 6.6	2	38	Yes
	71	gi 15594612	bb0267	HP	2	4	No
	66	gi 15595180	bb0835	CpsG	2	7	No
	33	gi 11496904	bba52	OMP	2	9	Yes
	51	gi 15594487	bb0142	HP	3	8	Yes
X	29	gi 11496927	<i>bba15</i>	OspA	26	71	Yes
	32	gi 11496910	<i>bba16</i>	OspB	7	28	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	4	23	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	11	46	Yes
	19	gi 15594380	<i>bb0034</i>	P13	6	37	Yes
	8	gi 11496908	<i>bba62</i>	Lp 6.6	4	38	Yes
	35	gi 11496730	bbh37	HP	2	13	Yes
	22	gi 15594750	<i>bb0405</i>	HP	3	19	Yes
	59	gi 15594898	bb0553	HP	2	4	Yes
	19	gi 11496894	bba03	OMP	2	13	Yes
	95	gi 15595172	bb0827	HrpA	2	2	No
	36	gi 15594492	bb0147	flagellin	3	11	No
	68	gi 15594948	<i>bb0603</i>	P66	2	3	Yes
MGI	29	gi 11496927	<i>bba15</i>	OspA	18	61	Yes
	32	gi 11496910	<i>bba16</i>	OspB	6	25	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	4	22	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	10	47	Yes
	68	gi 15594948	<i>bb0603</i>	P66	19	46	Yes
	19	gi 15594380	<i>bb0034</i>	P13	4	28	Yes
	8	gi 11496908	<i>bba62</i>	Lp 6.6	2	38	Yes
	35	gi 11496730	<i>bbh37</i>	HP	3	19	Yes
	59	gi 15594898	<i>bb0553</i>	HP	2	9	Yes
	36	gi 15594492	<i>bb0147</i>	FlaB	7	26	No
	19	gi 11496894	<i>bba03</i>	OMP	4	40	Yes
	33	gi 11496762	bbi39	HP	6	26	Yes
	22	gi 15594710	bb0365	LA 7	4	25	Yes
	10	gi 15595086	bb0741	GroES	3	43	No
	19	gi 11497061	bbp38	ErpA	6	48	Yes
	34	gi 11496795	bbk01	HP	4	21	Yes
	24	gi 15594888	bb0543	HP	5	37	Yes
	35	gi 11496793	bbk45	P37, putative	2	9	Yes
MGII	29	gi 11496927	<i>bba15</i>	OspA	23	72	Yes
	32	gi 11496910	<i>bba16</i>	OspB	7	30	Yes
	18	gi 11497024	<i>bbb19</i>	OspC	7	35	Yes
	28	gi 11496832	<i>bbj09</i>	OspD	13	53	Yes
	19	gi 15594380	<i>bb0034</i>	P13	5	32	Yes
	8	gi 11496908	<i>bba62</i>	Lp 6.6	5	38	Yes
	35	gi 11496730	<i>bbh37</i>	HP	9	37	Yes
	22	gi 15594750	<i>bb0405</i>	HP	5	35	Yes
	59	gi 15594898	<i>bb0553</i>	HP	5	12	Yes
	36	gi 15594492	<i>bb0147</i>	FlaB	11	45	No
	33	gi 11496762	<i>bbi39</i>	HP	12	35	Yes

	24	gi 15594888	<i>bb0543</i>	HP	8	50	Yes
	19	gi 11496894	<i>bba03</i>	OMP	9	57	Yes
	37	gi 11496783	<i>bbk50</i>	P37	3	11	Yes
	35	gi 11496793	<i>bbk45</i>	P37, putative	11	38	Yes
	38	gi 15594454	<i>bb0108</i>	BMP	8	32	Yes
	22	gi 15594710	<i>bb0365</i>	LA 7	6	49	Yes
	32	gi 11496748	<i>bbi36</i>	antigen P35	2	37	Yes
	39	gi 15594763	<i>bb0418</i>	HP	5	21	Yes
	40	gi 11496856	<i>bbj34</i>	HP	6	21	Yes
	19	gi 11497061	<i>bbp38</i>	ErpA	9	66	Yes
	24	gi 11496820	<i>bbk19</i>	HP	4	29	Yes
	37	gi 11496830	<i>bbk47</i>	HP	5	20	Yes
	34	gi 11496686	<i>bbg01</i>	HP	4	35	Yes
	30	gi 11496954	<i>bba69</i>	HP	4	20	Yes
	44	gi 15594668	<i>bb0323</i>	HP	3	10	Yes
	37	gi 15594728	<i>bb0383</i>	BmpA	3	15	Yes
	53	gi 15594450	<i>bb0104</i>	HtrA	3	7	Yes
	20	gi 15594908	<i>bb0563</i>	HP	2	12	Yes
	20	gi 15594907	<i>bb0562</i>	HP	2	22	Yes
	27	gi 15594503	<i>bb0158</i>	antigen, S2	2	9	Yes
	23	gi 11496594	<i>bbd10</i>	HP	2	16	Yes
	27	gi 11496710	<i>bbh06</i>	HP	2	16	Yes
	27	gi 15594973	<i>bb0628</i>	HP	3	17	Yes
	16	gi 15595007	<i>bb0662</i>	HP	2	22	Yes
	39	gi 11496858	<i>bbj36</i>	HP	2	11	Yes
	25	gi 11496772	<i>bbi29</i>	HP	2	13	Yes

List of proteins are identified by Blue-native PAGE mass spectrometry. Compositions of protein complexes (I-X) and monomeric protein groups (MGI-II) are indicated. Designations of the open reading frame (ORF) and annotations are presented according to the JCVI database (<http://www.jcvi.org>). Abbreviations: Osp (outer surface protein), HP (hypothetical protein), Lp (lipoprotein), OMP (Outer membrane protein), Bmp (Basic membrane protein). Signal peptide predictions are derived using PSORT server (<http://psort.ims.u-tokyo.ac.jp/form.html>). First appearance of each subunit is indicated in bold face.

Table S2: Mass spectrometric identification of excised gel bands following second dimensional SDS-PAGE analysis

Gel band	Mass Theoretical (kDa)	ORF	Protein annotation	Peptides matched	Sequence coverage (%)	PSORT prediction
1	68	bb0603	P66	14	19	Yes
2	29	bba15	OspA	20	10	Yes
3	18	bbb19	OspC	11	49	Yes
	22	bb0405	HP	2	14	Yes
4	32	bba16	OspB*	4	10	Yes
5	68	bb0603	P66	18	33	Yes
6	29	bba15	OspA	19	58	Yes
7	18	bbb19	OspC	10	40	Yes
	19	bb0034	P13	2	13	Yes
8	32	bba16	OspB*	4	10	Yes
9	29	bba15	OspA	21	61	Yes
10	18	bbb19	OspC	11	49	Yes
	22	bb0405	HP	2	19	Yes
	19	bb0034	P13	2	12	Yes
11	32	bba16	OspB*	4	10	Yes
12	29	bba15	OspA	21	63	Yes
13	18	bbb19	OspC	14	51	Yes
14	32	bba16	OspB*	6	17	Yes
	22	bb0405	HP	2	14	Yes
15	29	bba15	OspA	21	61	Yes
	32	bbi36	P35, putative	2	9	Yes
16	18	bbb19	OspC	13	49	Yes
	22	bb0405	HP	5	29	Yes
	19	bbp38	ErpA	6	39	Yes
	19	bb0034	HP	2	12	Yes
	23	bbd10	HP	2	10	Yes
17	32	bba16	OspB*	8	23	Yes
18	68	bb0603	P66	16	23	Yes
	59	bb0553	HP	3	34	No
19	29	bba15	OspA	18	57	Yes
20	18	bbb19	OspC	10	48	Yes
	22	bb0365	LA 7	2	15	Yes
	22	bb0405	HP	5	32	Yes
	19	bb0034	P13	2	12	Yes
	23	bbd10	HP	4	15	Yes
	21	bba24	DbpA	2	19	Yes
	19	bbp38	ErpA	3	20	Yes
21	32	bba16	OspB*	5	10	Yes
22**	67	bb0648	Kinase, putative	2	6	No
23	36	bb0147	FlaB	9	28	No
	39	bbj36	HP	6	15	Yes
	39	bb0418	HP	3	12	Yes
	35	bbh37	HP	10	25	Yes

24	34	bbk01	HP	21	49	Yes
	38	bb0108	BMP	16	43	Yes
	33	bbi39	HP	14	37	Yes
	35	bbk45	P37, putative	8	32	Yes
	34	bbg01	HP	4	17	Yes
25	29	bba15	OspA	22	66	Yes
	29	bba68	HP	4	16	No
26	28	bbj09	OspD	7	25	Yes
	27	bb0158	Antigen S2	2	9	Yes
27	18	bbb19	OspC	18	58	Yes
	22	bb0365	LA 7	5	29	Yes
	22	bb0405	HP	11	40	Yes
	24	bb0543	HP	4	18	Yes
	19	bb0034	HP	2	12	Yes
	23	bbd10	HP	5	24	Yes
	20	bb0562	HP	2	12	Yes
	21	bba24	DbpA	2	19	Yes
	19	bbp38	ErpA	2	13	Yes
28	23	bb0739	HP	5	22	No
29	32	bba16	OspB*	7	22	Yes
	19	bba03	OMP	2	17	Yes
	21	bb0796	HP	3	19	No
30	8	bba62	Lp 6.6	2	35	Yes

List of proteins are identified by blue-native PAGE followed by second dimension SDS-PAGE mass spectrometry. Abbreviations: Osp (outer surface protein), HP (hypothetical protein), Lp (lipoprotein), OMP (Outer membrane protein), Bmp (Basic membrane protein). Designations of the open reading frame (ORF) and annotations are presented according to the JCVI database (<http://www.jcvi.org>). Signal peptide predictions are derived using PSORT server (<http://psort.ims.u-tokyo.ac.jp/form.html>). * Represented a truncated version of OspB that is known to migrate as a ~19-kDa in current *B. burgdorferi* B31 M1 derived isolate. **Spot 22 represents a 67-kDa protein without potential single peptide and likely reflects a monomeric protein.

Table S3: Proteins Complexes and subunit compositions in wild type *B. burgdorferi*

Protein complex no.	Mass (kDa)	ORF	Protein annotation	Peptides matched	Coverage (%)	Predicted membrane localization	Number of predicted membrane spanning regions including amino-terminal signal peptide
VI	29	<i>bba15</i>	OspA	21	68	Yes	1
VI	32	<i>bba16</i>	OspB	4	13	Yes	1
VI	18	<i>bbb19</i>	OspC	2	11	Yes	1
VI	28	<i>bbj09</i>	OspD	2	12	Yes	1
VI	66	<i>bb0603</i>	P66	27	60	Yes	6
VI	8	<i>bba62</i>	Lp 6.6	3	38	Yes	1
VII	29	<i>bba15</i>	OspA	20	66	Yes	1
VII	32	<i>bba16</i>	OspB	6	25	Yes	1
VII	18	<i>bbb19</i>	OspC	3	17	Yes	1
VII	28	<i>bbj09</i>	OspD	4	25	Yes	1
VII	19	<i>bb0034</i>	P13	5	32	Yes	5
VII	8	<i>bba62</i>	Lp 6.6	2	38	Yes	1
VIII	29	<i>bba15</i>	OspA	18	65	Yes	1
VIII	32	<i>bba16</i>	OspB	5	18	Yes	1
VIII	18	<i>bbb19</i>	OspC	2	11	Yes	1
VIII	19	<i>bb0034</i>	P13	6	37	Yes	5
VIII	22	<i>bb0405</i>	HP	3	20	Yes	4
IX	29	<i>bba15</i>	OspA	18	56	Yes	1
IX	32	<i>bba16</i>	OspB	4	13	Yes	1
IX	18	<i>bbb19</i>	OspC	3	17	Yes	1
IX	28	<i>bbj09</i>	OspD	7	33	Yes	1
IX	19	<i>bb0034</i>	P13	6	37	Yes	5
IX	8	<i>bba62</i>	Lp 6.6	2	38	Yes	1
IX	71	<i>bb0267</i>	HP	2	4	No	1
IX	33	<i>bba52</i>	OMP	2	9	Yes	1
X	29	<i>bba15</i>	OspA	26	71	Yes	1
X	32	<i>bba16</i>	OspB	7	28	Yes	1
X	18	<i>bbb19</i>	OspC	4	23	Yes	1
X	28	<i>bbj09</i>	OspD	11	46	Yes	1
X	19	<i>bb0034</i>	P13	6	37	Yes	5
X	8	<i>bba62</i>	Lp 6.6	4	38	Yes	1
X	22	<i>bb0405</i>	HP	3	19	Yes	4
MGI	29	<i>bba15</i>	OspA	18	61	Yes	1
MGI	32	<i>bba16</i>	OspB	6	25	Yes	1
MGI	18	<i>bbb19</i>	OspC	4	22	Yes	1
MGI	28	<i>bbj09</i>	OspD	10	47	Yes	1
MGI	66	<i>*bb0603</i>	P66	19	46	Yes	6
MGI	19	<i>bb0034</i>	P13	4	28	Yes	5
MGI	8	<i>bba62</i>	Lp 6.6	2	38	Yes	1
MGI	22	<i>bb0365</i>	LA 7	6	49	Yes	1
MGI	59	<i>*bb0553</i>	HP	2	9	Yes	1
MGI	10	<i>bb0741</i>	GroES	3	43	No	0
MGI	19	<i>bbp38</i>	ErpA	6	48	Yes	1
MGII	29	<i>bba15</i>	OspA	23	72	Yes	1
MGII	32	<i>bba16</i>	OspB	7	30	Yes	1
MGII	18	<i>bbb19</i>	OspC	7	35	Yes	1
MGII	28	<i>bbj09</i>	OspD	13	53	Yes	1

MGII	19	bb0034	P13	5	32	Yes	5
MGII	8	bba62	Lp 6.6	5	38	Yes	1
MGII	22	bb0405	HP	5	35	Yes	4
MGII	35	<i>bbh37</i>	HP	9	37	Yes	1
MGII	36	<i>bb0147</i>	FlaB	11	45	No	2
MGII	33	<i>bbi39</i>	HP	12	35	Yes	1
MGII	24	<i>bb0543</i>	HP	8	50	Yes	5
MGII	19	<i>bba03</i>	OMP	9	57	Yes	1
MGII	35	<i>bbk45</i>	P37/FlaA	11	38	Yes	1
MGII	38	<i>bb0108</i>	Bmp	8	32	Yes	1
MGII	22	<i>bb0365</i>	La 7	6	49	Yes	1
MGII	39	<i>bb0418</i>	HP	5	21	Yes	5
MGII	19	<i>bbp38</i>	ErpA	9	66	Yes	1
MGII	34	<i>bbg01</i>	HP	4	35	Yes	1
MGII	37	<i>bb0383</i>	BmpA	3	15	Yes	1
MGII	20	<i>bb0562</i>	HP	2	22	Yes	5
MGII	27	<i>bb0158</i>	S2	2	9	Yes	1
MGII	23	<i>bbd10</i>	HP	2	16	Yes	1
MGII	39	<i>bbj36</i>	HP	2	11	Yes	3

List of proteins are identified by Blue-native PAGE mass spectrometry and further verified by either second dimension SDS-PAGE mass spectrometry and/or immunoblot analysis. Compositions of protein complexes (I-X) and monomeric protein groups (MGI-II) are indicated. Designations of the open reading frame (ORF) and annotations are presented according to the JCVI database (<http://www.jcvi.org>). Abbreviations: Osp (outer surface protein), HP (hypothetical protein), Lp (lipoprotein), OMP (Outer membrane protein), Bmp (Basic membrane protein). Signal peptide predictions are derived using PSORT server (<http://psort.ims.u-tokyo.ac.jp/form.html>). Predictions of transmembrane regions were made using TMPred server (http://www.ch.embnet.org/software/TMPRED_form.html). ORF with most ubiquitous distributions in membrane protein complexes are indicated in bold face. * Based on the molecular weight, P66 or *bb0553* is monomeric in MGI.

Table S4: Proteins Complexes and subunits in *osp* mutant *B. burgdorferi* isolate B314

Protein complex	Mass (kDa)	ORF	Protein annotation	Peptides matched	Coverage (%)	Predicted membrane localization	Putative transmembrane regions including signal peptide
VI	68	bb0603	P66	48	67	Yes	6
	22	bbb19	OspC	17	53	Yes	1
	19	bb0034	P13	2	16	Yes	5
X	68	<i>bb0603</i>	P66	23	51	Yes	6
	22	bb0406*	CHP	3	22	Yes	3
	18	<i>bbb19</i>	OspC	25	58	Yes	1
	39	bb0028*	HP	4	24	Yes	2
	94	bb0795*	OMP	2	4	Yes	8
	79	bb0744*	P83/100	12	25	Yes	1
	19	<i>bb0034</i>	P13	3	21	Yes	5
	22	bb0405	HP	7	45	Yes	4
MGI	68	<i>bb0603</i>	P66	13	39	Yes	6
	18	<i>bbb19</i>	OspC	35	67	Yes	1
	19	<i>bb0034</i>	P13	8	32	Yes	5
	38	bb0418	CHP	2	9	Yes	5
	49	bb0142	OMP efflux protein	2	7	Yes	4
	65	bb0835	Phosphomannomutase	2	7	No	2
MGII	18	<i>bbb19</i>	OspC	31	62	Yes	1
	19	<i>bb0034</i>	P13	5	32	Yes	5
	38	<i>bb0418</i>	CHP	2	9	Yes	5

List of proteins are identified by Blue-native PAGE mass spectrometry and further verified by either second dimension SDS-PAGE mass spectrometry and/or immunoblot analysis. Compositions of protein complexes (VI and X) and monomeric protein groups (MGI-II) are indicated. Abbreviations: Osp (outer surface protein), HP (hypothetical protein), CHP (Conserved hypothetical protein), LP (lipoprotein), OMP (Outer membrane protein). Designations of the open reading frame (ORF), and annotations are presented according to the JCVI database (www.jcvi.org). *Proteins that remained absent in Blue-native PAGE mass spectrometric analysis of wild type (Table S1). First appearance of each subunit is indicated in bold face.

Table S5: Proteins Complexes and subunit compositions in Osp mutant 297 isolate

Protein complex	Mass (kDa)	ORF	Protein annotation	Peptides matched	Coverage (%)	Predicted membrane localization	Putative transmembrane regions including signal peptide
VI	42	bb0323 *	HP	8	22	Yes	1
	23	bbq35 *	MlpJ	4	26	Yes	2
	7	bba62	Lp6.6	2	38	Yes	1
	32	bbp27 *	RevA1	7	28	Yes	1
	14	bbs26 *	HP	2	10	Yes	1
	24	bb0543	HP	6	26	Yes	2
	27	bb0158	S2	2	9	Yes	6
	34	bbp35 *	BppA1	12	45	Yes	3
	14	bb0324 *	HP	2	21	Yes	2
	19	bba01 *	HP	2	17	Yes	3
	23	bbd10	HP	5	30	Yes	1
	19	bb0034	P13	4	28	Yes	5
	40	bb0028	HP	2	9	Yes	2
	27	bb0125	CHP	2	9	Yes	3
	60	bbi16 *	vraA	8	22	Yes	2
	18	bb0563 *	CHP	2	12	Yes	5
	95	bb0795	OMP	16	23	Yes	8
	22	bb0365	La7	7	56	Yes	1
	26	bbi29	HP	10	48	Yes	4
	52	bb0104 *	<i>htrA</i>	5	13	Yes	5
68	bb0603	P66	3	31	Yes	6	
19	bbn38 *	ErpP	5	38	Yes	1	
18	bba07 *	chpAI	4	26	Yes	1	
IX	49	bb0142	OMP	4	12	Yes	4
	34	<i>bbp35</i>	BppA1	9	41	Yes	3
	7	<i>bba62</i>	Lp6.6	2	38	Yes	1
	19	<i>bb0034</i>	P13	5	32	Yes	5
	44	<i>bb0323</i>	HP	2	7	Yes	1
	95	<i>bb0795</i>	OMP	9	10	Yes	8
IXa	7	<i>bba01</i>	HP	2	38	Yes	3
	35	<i>bbp35</i>	BppA1	5	25	Yes	3
	19	<i>bb0034</i>	P13	2	14	Yes	5
X	44	<i>bb0323</i>	HP	3	11	Yes	1
	32	<i>bbp27</i>	RevA1	2	11	Yes	1
	7	<i>bba62</i>	Lp6.6	2	38	Yes	1
	35	<i>bbp35</i>	BppA1	9	38	Yes	3
	28	bba74	Oms28	5	23	Yes	1
	19	<i>bb0034</i>	P13	2	14	Yes	5

List of proteins are identified by blue-native PAGE followed by second dimension SDS-PAGE mass spectrometry. Abbreviations: HP (hypothetical protein), CHP (conserved hypothetical protein), OMP (Outer membrane protein),. Designations of the open reading frame (ORF) and annotations are presented according to the JCVI database (<http://www.jcvi.org>). Signal peptide predictions are derived using PSORT server (<http://psort.ims.u-tokyo.ac.jp/form.html>). Predictions of transmembrane regions were made using TMPred server (http://www.ch.embnet.org/software/TMPRED_form.html). * Proteins that remained absent in Blue-native PAGE mass spectrometric analysis of B31 isolate (Table S1). First appearance of each subunit is indicated in bold face.

Table S6: Oligonucleotide primers used in the study.

Sequence (5' to 3')	Purpose
AGTACTATGACAGATTTTGAC	Forward primer for <i>p66</i> qRT-PCR or RT-PCR.
TGCCCAATTCTGTGTTTTTGC	Reverse primer for <i>p66</i> qRT-PCR or RT-PCR.
ACTCTTAAAGAAATTAACAG	Forward primer for <i>bb0602</i> RT-PCR.
AGCACTATATGTTAACCCCAA	Reverse primer for <i>bb0602</i> RT-PCR.
TAGTATTACTAGTTGCATGG	Forward primer for <i>bb0604</i> RT-PCR.
AACTATTGTTATTGTCATAG	Reverse primer for <i>bb0604</i> RT-PCR.
AAGAATTCTCAAGCG AATCCA TATTTTAC	Forward primer for amplification of <i>bb0028</i> . The italicized <i>EcoRI</i> site is attached for cloning.
AACTCGAGTTATTCTTTAGTTA ATTTTCTGTTTTCCAA	Reverse primer for amplification of <i>bb0028</i> . The italicized <i>XhoI</i> site is attached for cloning.
CGGGATCCGAATATTTCAAAT CGGAAGG	Primer P1, forward primer used to amplify the 3' flanking region to generate the <i>p66</i> mutant. The <i>BamHI</i> site is included for cloning.
TCCCCGCGGCAGCAAAGAA GGGCTTTGG	Primer P2, reverse primer used to amplify the 3' flanking region to generate the <i>p66</i> mutant. The <i>SacII</i> site is included for cloning.
GGGGTACCAATTATACCTTCC TGTTGTA	Primer P3, forward primer used to amplify the 5' flanking region to generate the <i>p66</i> mutant. The <i>KpnI</i> site is included for cloning.
CCGCTCGAGGCATTCCAAC TA ATACTTCC	Primer P4, reverse primer used to amplify the 5' flanking region to generate the <i>p66</i> mutant. The <i>XhoI</i> site is included for cloning.
AACCTCATAGCGGATCTCAGG	Primer P7, forward primer upstream of <i>p66</i> locus used to confirm the deletion of <i>p66</i> .
GGTTGCATTTCGATTCCTGTT	Primer P5, forward primer used for the detection of insertion of Kanamycin cassette.
ATTCCGACTCGTCCAACATC	Primer P6, reverse primer used for the detection of insertion of Kanamycin cassette.
TTGTGTTTACTATTCCCAAG	Primer P8, reverse primer downstream of <i>p66</i> used to confirm the deletion of <i>p66</i> .