

Table S2. Serodiagnostic Antigens for Culture+ vs Culture-RB+ populations.

Locus Tag	Name	COG(s)	Product Description	Mean C+	Mean C-RB+	BH p value
BMEII0173		-	hypothetical protein	2045.911	9095.142	0.004
BMEII0029	virB5	-	VirB5	2504.804	9092.798	0.040
BMEII0182		-	hypothetical protein	2011.495	8260.142	0.005
BMEII0054		-	hypothetical protein	2351.301	7632.944	0.010
BMEII1049		-	hypothetical protein	1417.519	6901.952	0.004
BMEII0558		-	rhodocoxin reductase	2241.801	6846.522	0.022
BMEII0532		-	hypothetical protein	1286.087	5830.910	0.015
BMEII0892		-	hypothetical protein	1259.926	5756.133	0.004
BMEI1502	apl	COG0586S	alkaline phosphatase like protein	1977.664	5390.722	0.040
BMEII0720		-	transcriptional regulator	1735.819	5240.118	0.040

Table S3. Enriching analysis of COGs and computationally predicted features for serodominant, serodiagnostic and cross reactive antigens selected from comparison: Culture + vs Peruvian naïve. Significant enrichment or underrepresentation are in bold and underlined.

S3A. COG functional categories

COG Definition	proteins on chip	Serodominant			Serodiagnostic			Cross reactive		
		Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value
B Chromatin structure and dynamics	1	0	0.0	1.000	0	0.0	1.000	0	0.0	1.000
C Energy production and conversion	179	10	1.4	0.227	4	2.2	0.101	6	1.2	0.642
D Cell division, chromosome partitioning	23	2	2.3	0.222	0	0.0	1.000	2	3.0	0.139
E Amino acid transport and metabolism	323	10	0.8	0.544	1	0.3	0.249	9	1.0	1.000
F Nucleotide transport and metabolism	72	1	0.4	0.527	0	0.0	1.000	1	0.5	0.723
G Carbohydrate transport, metabolism	183	3	0.4	0.162	0	0.0	0.258	3	0.6	0.489
H coenzyme metabolism	130	4	0.8	0.817	1	0.8	1.000	3	0.8	1.000
I Lipid metabolism	107	5	1.2	0.606	2	1.9	0.292	3	1.0	1.000
J Translation, ribosomal biogenesis	161	5	0.8	0.833	0	0.0	0.407	5	1.1	0.807
K Transcription	176	1	<u>0.1</u>	<u>0.014</u>	0	0.0	0.419	1	0.2	0.061
L DNA replication, recombination, repair	122	3	0.6	0.629	0	0.0	0.633	3	0.9	1.000
M Cell envelope biogenesis	166	13	<u>2.0</u>	<u>0.012</u>	3	1.8	0.231	10	<u>2.1</u>	<u>0.026</u>
N Cell motility and secretion	30	4	<u>3.5</u>	<u>0.027</u>	1	3.3	0.262	3	3.5	0.053
O Posttranslational modification, turnover	114	13	<u>3.0</u>	<u>3.54E-04</u>	3	2.6	0.104	10	<u>3.1</u>	<u>0.001</u>
P Inorganic ion transport and metabolism	149	4	0.7	0.661	2	1.3	0.660	2	0.5	0.443
Q Secondary metabolites biosynthesis	63	2	0.8	1.000	0	0.0	1.000	2	1.1	0.701
R General function prediction only	311	6	0.5	0.063	2	0.6	0.765	4	0.5	0.104
S Function unknown	223	10	1.2	0.588	5	2.2	0.069	5	0.8	0.834
T Signal transduction mechanisms	88	3	0.9	1.000	1	1.1	0.593	2	0.8	1.000
U Intracellular trafficking and secretion	48	8	<u>4.3</u>	<u>4.05E-04</u>	3	<u>6.2</u>	<u>0.012</u>	5	<u>3.6</u>	<u>0.011</u>
V Defense mechanisms	38	3	2.0	0.179	0	0.0	1.000	3	2.8	0.093
W Extracellular Structure	2	0	0.0	1.000	0	0.0	1.000	0	0.0	1.000
Other COGs	39	2	1.3	0.662	0	0.0	1.000	2	1.8	0.307
Not in COGs	543	15	0.7	0.179	5	0.9	1.000	10	0.6	0.157
Total	3291	127			33			94		

S3B. Computational Predictions

Computational Predictions	proteins	Serodominant			Serodiagnostic			Cross-reactive		
	on chip	Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value	Hits	FoldEnrich	p-value
TMHMM=0	2361	76	0.8	9.49E-05	18	0.7	0.003	58	0.8	0.007
TMHMM=1	204	35	4.3	1.44E-14	11	5.0	4.87E-06	24	4.0	1.21E-09
TMHMM>1	481	11	0.6	0.041	4	0.8	0.810	7	0.5	0.038
TMHMM>=5	297	2	0.2	5.03E-04	1	0.3	0.367	1	0.1	0.002
TMHMM>=10	96	2	0.5	0.591	1	1.0	1.000	1	0.4	0.529
Signal P>=0.7	337	41	3.0	8.46E-12	13	3.6	2.16E-05	28	2.8	1.09E-07
Signal P<0.7	2709	81	0.7	8.46E-12	20	0.7	2.16E-05	61	0.8	1.09E-07
pSortb Cytoplasmic	1146	32	0.7	0.008	6	0.5	0.019	26	0.8	0.119
pSortb Cytoplasmic Membrane	502	14	0.7	0.136	3	0.6	0.346	11	0.7	0.383
pSortb Extracellular	3	0	0.0	1.000	0	0.0	1.000	0	0.0	1.000
pSortb Outer Membrane	32	5	3.9	0.008	4	11.5	3.32E-04	1	1.1	0.615
pSortb Periplasmic	88	12	3.4	1.53E-04	4	4.2	0.014	8	3.1	0.004
pSortb Unknown	1275	59	1.2	0.160	16	1.2	0.480	43	1.2	0.231
pI 0-5	242	16	1.7	0.039	2	0.8	1.000	14	2.0	0.014
pI 5-7	1470	65	1.1	0.268	17	1.1	0.729	48	1.1	0.284
pI 7-9	441	18	1.0	0.896	5	1.0	0.806	13	1.0	1.000
pI 9-14	893	23	0.6	0.008	9	0.9	1.000	14	0.5	0.004
Total ORFs	3046	122			33			89		

Table S4. *B. abortus* proteins expression detected by mass spectrometry during log phase growth.

ID	<i>B. melitensis</i>	*Peptide Number	Expression condition	On chip	Protein Description
rho	BMEI0003	2	intact bacteria prep only	Y	Transcription termination factor Rho
gidB	BMEI0008	1	intact bacteria prep only	Y	Glucose-inhibited division protein B
parB	BMEI0010	3	intact bacteria prep only	Y	ParB, chromosome partitioning protein ParB
BruAb1_2028	BMEI0015	1	intact bacteria prep only	Y	ABC transporter, periplasmic substrate-binding protein, hypothetical
accA	BMEI0039	1	intact bacteria prep only	Y	Acetyl-CoA carboxylase alpha subunit
rpmB	BMEI0056	1	intact bacteria prep only	Y	50S ribosomal protein L28
ppa	BMEI0076	3	intact bacteria prep only	N	Inorganic pyrophosphatase
hisC	BMEI0080	1	intact bacteria prep only	Y	Histidinol-phosphate aminotransferase
etfA	BMEI0097	1	intact bacteria prep only	Y	EtfA, electron transfer flavoprotein, alpha subunit
hbd	BMEI0099	2	intact bacteria prep only	Y	3-hydroxybutyryl-CoA dehydrogenase
BruAb1_1919	BMEI0123	1	intact bacteria prep only	Y	Peptidyl-prolyl cis-trans isomerase
argJ	BMEI0124	1	intact bacteria prep only	Y	Bifunctional ornithine acetyltransferase/N-acetylglutamate synthase
BMEI0141	BMEI0141	2	intact bacteria prep only	Y	Dihydrolipoamide succinyl transferase
lpdA-2	BMEI0145	1	intact bacteria prep only	Y	Dihydrolipoamide dehydrogenase
rplS	BMEI0156	3	intact bacteria prep only	Y	50S ribosomal protein L19
BruAb1_1881	BMEI0158	2	intact bacteria prep only	Y	Acetyltransferase, GNAT family
sdhB	BMEI0162	1	intact bacteria prep only	N	Succinate dehydrogenase catalytic subunit
BruAb1_1867	BMEI0173	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1867
hemC	BMEI0176	1	intact bacteria prep only	Y	Porphobilinogen deaminase
prfA	BMEI0191	1	intact bacteria prep only	Y	Peptide chain release factor 1
BruAb1_1844	BMEI0194	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1844
BruAb1_1841	BMEI0196	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1841
rplU	BMEI0201	2	intact bacteria prep only	Y	RplU, ribosomal protein L21
BR1829	BMEI0222	2	intact bacteria prep only	Y	Carbonic anhydrase, putative
rpsP	BMEI0227	3	intact bacteria prep only	Y	RpsP, ribosomal protein S16
BruAb1_1785	BMEI0244	6	intact bacteria prep only	Y	Transaldolase
atpH	BMEI0248	2	intact bacteria prep only	Y	ATP synthase subunit D
atpA	BMEI0249	5	intact bacteria prep only	Y	ATP synthase subunit A
atpG	BMEI0250	1	intact bacteria prep only	Y	ATP synthase subunit C
atpC	BMEI0252	1	intact bacteria prep only	Y	ATP synthase subunit epsilon
BruAb1_1776	BMEI0253	1	intact bacteria prep only	Y	Transcriptional regulator, MarR family
BruAb1_1767	BMEI0263	2	intact bacteria prep only	Y	Hypothetical branched-chain amino acid ABC transporter
BR1782	BMEI0265	1	intact bacteria prep only	Y	Branched-chain amino acid ABC transporter
BruAb1_1757	BMEI0273	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1757
fdxA	BMEI0278	1	intact bacteria prep only	Y	FdxA, ferredoxin A
BruAb1_1737	BMEI0289	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1737
pyk	BMEI0292	1	intact bacteria prep only	Y	Pyruvate kinase

BruAb1_1722	BMEI0303	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_1722
pgk	BMEI0309	1	intact bacteria prep only	Y	Phosphoglycerate kinase
BruAb1_1710	BMEI0312	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1710
BruAb1_1702	BMEI0321	5	intact bacteria prep only	Y	Hypothetical protein BruAb1_1702
BruAb1_1696	BMEI0326	1	intact bacteria prep only	Y	Inositol monophosphatase family protein
serC	BMEI0347	2	intact bacteria prep only	Y	Phosphoserine aminotransferase
dut	BMEI0358	2	intact bacteria prep only	Y	Deoxyuridine 5'-triphosphate nucleotidohydrolase
BruAb1_1649	BMEI0366	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1649
BruAb1_1648	BMEI0368	3	intact bacteria prep only	Y	Hypothetical protein BruAb1_1648
BruAb1_1644	BMEI0372	1	intact bacteria prep only	Y	Two-component response regulator
gabD	BMEI0386	1	intact bacteria prep only	Y	GabD, succinate-semialdehyde dehydrogenase
BruAb1_1617	BMEI0394	2	intact bacteria prep only	Y	Short chain dehydrogenase
BruAb1_1615	BMEI0397	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_1615
BruAb1_1612	BMEI0400	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1612
ctrA	BMEI0423	2	intact bacteria prep only	Y	CtrA, cell cycle transcriptional regulator CtrA
BruAb1_1585	BMEI0424	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1585
hemF	BMEI0467	1	intact bacteria prep only	Y	Coproporphyrinogen III oxidase
BruAb1_1516	BMEI0489	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_1516
BruAb1_1512	BMEI0493	1	intact bacteria prep only	Y	Hypothetical transcriptional regulatory protein OmpR
BruAb1_1506	BMEI0498	1	intact bacteria prep only	Y	Cold-shock family protein
greA	BMEI0508	4	intact bacteria prep only	Y	Transcription elongation factor GreA
aspC	BMEI0516	2	intact bacteria prep only	Y	Aspartate aminotransferase
rpoD	BMEI0532	1	intact bacteria prep only	Y	RNA polymerase sigma factor
bp26	BMEI0536	1	intact bacteria prep only	Y	Bp26
ftsZ	BMEI0585	2	intact bacteria prep only	Y	Cell division protein FtsZ
BruAb1_1395	BMEI0607	6	intact bacteria prep only	Y	Hypothetical protein BruAb1_1395
hflK	BMEI0610	1	intact bacteria prep only	Y	HflK, hflK protein
ureG-2	BMEI0644	1	intact bacteria prep only	Y	UreG-2, urease accessory protein UreG
ureA-2	BMEI0649	1	intact bacteria prep only	Y	UreA-2, urease, gamma subunit
map	BMEI0719	1	intact bacteria prep only	Y	Methionine aminopeptidase
BruAb1_1279	BMEI0721	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_1279
gloA	BMEI0730	1	intact bacteria prep only	N	GloA, lactoylglutathione lyase
BruAb1_1264	BMEI0735	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_1264
BruAb1_1258	BMEI0740	1	intact bacteria prep only	Y	CBS domain protein
secE	BMEI0743	1	intact bacteria prep only	Y	Translocase
rplA	BMEI0746	4	intact bacteria prep only	Y	50S ribosomal protein L1
rplJ	BMEI0747	1	intact bacteria prep only	Y	50S ribosomal protein L10
rpsG	BMEI0753	6	intact bacteria prep only	Y	30S ribosomal protein S7
fusA	BMEI0754	2	intact bacteria prep only	Y	Elongation factor EF-2
rplC	BMEI0757	2	intact bacteria prep only	Y	50S ribosomal protein L3
rplD	BMEI0758	4	intact bacteria prep only	Y	50S ribosomal protein L4
rplB	BMEI0760	1	intact bacteria prep only	Y	50S ribosomal protein L2
rplV	BMEI0762	2	intact bacteria prep only	Y	50S ribosomal protein L22

rpsC	BMEI0763	2	intact bacteria prep only	N	30S ribosomal protein S3
rplP	BMEI0764	1	intact bacteria prep only	Y	50S ribosomal protein L16
rpsQ	BMEI0766	1	intact bacteria prep only	Y	30S ribosomal protein S17
rplN	BMEI0767	2	intact bacteria prep only	Y	50S ribosomal protein L14
rplX	BMEI0768	3	intact bacteria prep only	Y	50S ribosomal protein L24
rplE	BMEI0769	4	intact bacteria prep only	Y	50S ribosomal protein L5
rpsN	BMEI0770	2	intact bacteria prep only	Y	30S ribosomal protein S14
rpsH	BMEI0771	5	intact bacteria prep only	Y	30S ribosomal protein S8
rpmD	BMEI0775	2	intact bacteria prep only	Y	50S ribosomal protein L30
rplO	BMEI0776	4	intact bacteria prep only	Y	RplO, ribosomal protein L15
adk	BMEI0778	3	intact bacteria prep only	Y	Adenylate kinase
rpsM	BMEI0779	5	intact bacteria prep only	Y	30S ribosomal protein S13
rpoA	BMEI0781	5	intact bacteria prep only	N	DNA-directed RNA polymerase alpha subunit
BruAb1_1172	BMEI0819	1	intact bacteria prep only	Y	Glycerophosphoryl diester phosphodiesterase family protein
BruAb1_1171	BMEI0820	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1171
rpsB	BMEI0823	6	intact bacteria prep only	Y	30S ribosomal protein S2
gltA	BMEI0836	1	intact bacteria prep only	Y	Citrate synthase
BruAb1_1145	BMEI0845	2	intact bacteria prep only	Y	Rotamase family protein
kdsA	BMEI0850	1	intact bacteria prep only	Y	2-dehydro-3-deoxyphosphooctonate aldolase
eno	BMEI0851	3	intact bacteria prep only	Y	Enolase
pdhA	BMEI0854	1	intact bacteria prep only	Y	PdhA, pyruvate dehydrogenase complex, E1 component, alpha subunit
pdhB	BMEI0855	2	intact bacteria prep only	Y	Dihydrolipoamide acetyltransferase
ntrX	BMEI0868	1	intact bacteria prep only	Y	NtrX, nitrogen regulation protein NtrX
hfq	BMEI0872	1	intact bacteria prep only	Y	RNA-binding protein Hfq
clpP	BMEI0874	1	intact bacteria prep only	Y	ATP-dependent Clp protease proteolytic subunit
clpX	BMEI0875	1	intact bacteria prep only	Y	ATP-dependent protease ATP-binding subunit
BruAb1_1111	BMEI0877	2	intact bacteria prep only	Y	DNA-binding protein HU
BruAb1_1108	BMEI0880	1	intact bacteria prep only	Y	Single-stranded DNA-binding protein family
BruAb1_1099	BMEI0888	2	intact bacteria prep only	Y	Peptidyl-prolyl cis-trans isomerase, cyclophilin-type
BruAb1_1060	BMEI0931	1	intact bacteria prep only	Y	Rhodanese family protein
BruAb1_1053	BMEI0937	2	intact bacteria prep only	Y	CinA-related protein
BruAb1_1031	BMEI0959	1	intact bacteria prep only	Y	Ferredoxin, 2Fe-2S
BruAb1_1029	BMEI0961	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_1029
BruAb1_0953	BMEI1030	1	intact bacteria prep only	Y	Protein-L-isoaspartate O-methyltransferase, hypothetical
BruAb1_0951	BMEI1032	1	intact bacteria prep only	Y	Heavy-metal-associated domain protein
BruAb1_0943	BMEI1039	1	intact bacteria prep only	Y	Aminotransferase, class V
BruAb1_0941	BMEI1041	1	intact bacteria prep only	Y	ABC transporter, ATP-binding protein
tig	BMEI1069	12	intact bacteria prep only	Y	Trigger factor
BruAb1_0880	BMEI1098	1	intact bacteria prep only	Y	Transcriptional regulator, AsnC family
BruAb1_0867	BMEI1111	3	intact bacteria prep only	Y	Acyl carrier protein
BruAb1_0866	BMEI1112	1	intact bacteria prep only	Y	3-oxoacyl-(acyl carrier protein) synthase
BruAb1_0856	BMEI1121	4	intact bacteria prep only	Y	Hypothetical protein BruAb1_0856
purC	BMEI1122	1	intact bacteria prep only	Y	Phosphoribosylaminoimidazole-succinocarboxamide synthase

BruAb1_0854	BMEI1123	1	intact bacteria prep only	Y	Phosphoribosylformylglycinamide synthase
BruAb1_0849	BMEI1128	1	intact bacteria prep only	Y	BolA-related protein
BruAb1_0848	BMEI1129	3	intact bacteria prep only	N	Glutaredoxin-related protein
rpsD	BMEI1133	8	intact bacteria prep only	Y	30S ribosomal protein S4
nuoE	BMEI1154	1	intact bacteria prep only	Y	ATP synthase subunit E
BruAb1_0807	BMEI1166	2	intact bacteria prep only	Y	O-acetylhomoserine sulfhydrylase
BruAb1_0779	BMEI1193	2	intact bacteria prep only	Y	Peptidoglycan-binding protein, hypothetical
BruAb1_0764	BMEI1206	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0764
ndk	BMEI1256	4	intact bacteria prep only	Y	Nucleoside diphosphate kinase
BruAb1_0708	BMEI1261	2	intact bacteria prep only	Y	Leucyl aminopeptidase
BruAb1_0704	BMEI1264	3	intact bacteria prep only	Y	Organic solvent tolerance, hypothetical
BruAb1_0677	BMEI1288	1	intact bacteria prep only	Y	Signal peptidase I
rpoZ	BMEI1297	4	intact bacteria prep only	Y	DNA-directed RNA polymerase omega subunit
BruAb1_0591	BMEI1364	2	intact bacteria prep only	Y	Transcriptional regulator
BruAb1_0588	BMEI1367	2	intact bacteria prep only	Y	Fe-Mn superoxide dismutase
BruAb1_0585	BMEI1370	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0585
BruAb1_0584	BMEI1371	3	intact bacteria prep only	Y	Hypothetical protein BruAb1_0584
rfbE	BMEI1416	1	intact bacteria prep only	Y	RfbE, O-antigen export system ATP-binding protein RfbE
BruAb1_0530	BMEI1429	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0530
BruAb1_0518	BMEI1440	2	intact bacteria prep only	Y	Twin-arginine translocation signal domain protein
BruAb1_0500	BMEI1456	2	intact bacteria prep only	Y	AhpC/TSA family protein
BruAb1_0488	BMEI1467	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0488
acpP	BMEI1475	1	intact bacteria prep only	Y	Acyl carrier protein
fabG	BMEI1477	2	intact bacteria prep only	Y	3-ketoacyl-(acyl-carrier-protein) reductase
fabD	BMEI1478	1	intact bacteria prep only	Y	Acyl-carrier-protein S-malonyltransferase
rpsF	BMEI1480	5	intact bacteria prep only	Y	30S ribosomal protein S6
rpsR	BMEI1481	1	intact bacteria prep only	Y	30S ribosomal protein S18
rpII	BMEI1483	9	intact bacteria prep only	Y	50S ribosomal protein L9
BruAb1_0470	BMEI1487	1	intact bacteria prep only	Y	Colicin V production protein, hypothetical
BruAb1_0449	BMEI1507	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0449
fabI-1	BMEI1512	1	intact bacteria prep only	Y	Enoyl-(acyl carrier protein) reductase
BruAb1_0415	BMEI1539	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_0415
atpF	BMEI1543	1	intact bacteria prep only	Y	ATP synthase subunit B
BruAb1_0409	BMEI1544	1	intact bacteria prep only	Y	ATP synthase subunit B
BruAb1_0346	BMEI1603	1	intact bacteria prep only	Y	Polysaccharide deacetylase family protein
pip	BMEI1608	1	intact bacteria prep only	Y	Pip, proline iminopeptidase
pgi	BMEI1636	2	intact bacteria prep only	Y	Glucose-6-phosphate isomerase
hisD	BMEI1668	1	intact bacteria prep only	Y	Histidinol dehydrogenase
infA	BMEI1671	1	intact bacteria prep only	Y	Translation initiation factor IF-1
BruAb1_0238	BMEI1709	1	intact bacteria prep only	Y	Oxidoreductase, short chain dehydrogenase/reductase family
BruAb1_0220	BMEI1725	2	intact bacteria prep only	Y	ABC transporter, periplasmic substrate-binding protein, hypothetical
BruAb1_0186	BMEI1757	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0186
grpE	BMEI1777	8	intact bacteria prep only	Y	GrpE, heat shock protein

yfiA	BMEI1787	3	intact bacteria prep only	Y	YfiA, ribosomal subunit interface protein
ihfB	BMEI1794	3	intact bacteria prep only	Y	Integration host factor beta subunit
BruAb1_0134	BMEI1811	1	intact bacteria prep only	Y	DNA-binding response regulator
acnA	BMEI1855	1	intact bacteria prep only	Y	Aconitate hydratase
BruAb1_0078	BMEI1866	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0078
argG	BMEI1870	4	intact bacteria prep only	Y	Argininosuccinate synthase
BruAb1_0039	BMEI1903	1	intact bacteria prep only	Y	Cytochrome c, membrane-bound
BruAb1_0033	BMEI1909	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_0033
BruAb1_0024	BMEI1918	2	intact bacteria prep only	Y	Hypothetical protein BruAb1_0024
rpsT	BMEI1944	1	intact bacteria prep only	Y	30S ribosomal protein S20
BruAb1_2157	BMEI1945	1	intact bacteria prep only	Y	Enoyl-coa hydratase
fabA	BMEI1956	1	intact bacteria prep only	Y	3-hydroxydecanoyl-ACP dehydratase
fabI-2	BMEI1958	1	intact bacteria prep only	Y	Enoyl-(acyl carrier protein) reductase
pnp	BMEI1961	3	intact bacteria prep only	Y	Pnp, polyribonucleotide nucleotidyltransferase
infB	BMEI1965	1	intact bacteria prep only	Y	Translation initiation factor IF-2
nusA	BMEI1967	8	intact bacteria prep only	N	Transcription elongation factor NusA
BruAb1_2135	BMEI1968	1	intact bacteria prep only	Y	Hypothetical protein BruAb1_2135
BruAb1_2123	BMEI1980	5	intact bacteria prep only	Y	DNA protection during starvation conditions
pepS	BMEI1981	1	intact bacteria prep only	Y	PepS, aminopeptidase
dnaJ	BMEI2001	1	intact bacteria prep only	Y	DnaJ, chaperone protein DnaJ
rpmI	BMEI2008	1	intact bacteria prep only	Y	50S ribosomal protein L35
accD	BMEI2020	1	intact bacteria prep only	Y	Acetyl-CoA carboxylase beta subunit
trx-1	BMEI2022	5	intact bacteria prep only	Y	Trx-1, thioredoxin
BruAb1_2069	BMEI2032	1	intact bacteria prep only	Y	PTS system, IIA component
bvrR	BMEI2036	1	intact bacteria prep only	Y	Regulatory protein BvrR
hisE	BMEI2040	1	intact bacteria prep only	Y	Phosphoribosyl-atp pyrophosphatase
hslU	BMEI2048	1	intact bacteria prep only	Y	ATP-dependent protease ATP-binding subunit
secB	BMEI2055	1	intact bacteria prep only	N	Export protein SecB
BruAb2_0084	BMEI2009	2	intact bacteria prep only	Y	keto-hydroxyglutarate-aldolase/keto-deoxy-phosphogluconate aldolase
galU	BMEI2023	1	intact bacteria prep only	Y	GalU, UTP--glucose-1-phosphate uridylyltransferase
BruAb2_1129	BMEI2103	1	intact bacteria prep only	Y	Hypothetical branched-chain amino acid ABC transporter
dapB	BMEI20249	1	intact bacteria prep only	Y	Dihydrodipicolinate reductase
BruAb2_0967	BMEI20271	1	intact bacteria prep only	Y	Conserved hypothetical protein TIGR00730, hypothetical
BruAb2_0953	BMEI20283	1	intact bacteria prep only	Y	3-ketoacyl-(acyl-carrier-protein) reductase
BruAb2_0952	BMEI20284	1	intact bacteria prep only	Y	ABC transporter, periplasmic substrate-binding protein
BruAb2_0273	BMEI20338	2	intact bacteria prep only	Y	Lipoprotein, YaeC family
BruAb2_0280	BMEI20344	1	intact bacteria prep only	Y	Hypothetical branched-chain amino acid ABC transporter
BruAb2_0292	BMEI20355	1	intact bacteria prep only	Y	D-galactose 1-dehydrogenase, hypothetical
dgoK	BMEI20357	3	intact bacteria prep only	Y	DgoK, 2-dehydro-3-deoxygalactonokinase
BruAb2_0308	BMEI20372	1	intact bacteria prep only	N	Transcriptional regulator, hypothetical
BruAb2_0341	BMEI20403	1	intact bacteria prep only	Y	Hypothetical protein BruAb2_0341
BMEI20409	BMEI20409	1	intact bacteria prep only	Y	Organic peroxide resistance protein
fbaA	BMEI20423	1	intact bacteria prep only	Y	Fructose-bisphosphate aldolase

BruAb2_0362	BMEII0424	2	intact bacteria prep only	Y	Ribose-5-phosphate isomerase B
BruAb2_0445	BMEII0503	1	intact bacteria prep only	Y	Hypothetical protein BruAb2_0445
BruAb2_0453	BMEII0512	2	intact bacteria prep only	Y	6-phosphogluconolactonase
zwf	BMEII0513	5	intact bacteria prep only	Y	Glucose-6-phosphate 1-dehydrogenase
gcvH	BMEII0560	1	intact bacteria prep only	Y	Glycine cleavage system protein H
ahpC	BMEII0577	5	intact bacteria prep only	Y	AhpC, alkyl hydroperoxide reductase C
ahpD	BMEII0578	2	intact bacteria prep only	Y	AhpD, alkyl hydroperoxide reductase D
BruAb2_0553	BMEII0607	1	intact bacteria prep only	Y	Iron compound ABC transporter, periplasmic iron
BruAb2_0559	BMEII0612	1	intact bacteria prep only	Y	Branched-chain amino acid aminotransferase
ugpB	BMEII0625	1	intact bacteria prep only	Y	UgbB, glycerol-3-phosphate ABC transporter
BruAb2_0603	BMEII0652	1	intact bacteria prep only	Y	Hypothetical protein BruAb2_0603
rpmG	BMEII0661	1	intact bacteria prep only	Y	50S ribosomal protein L33
BruAb2_0628	BMEII0673	3	intact bacteria prep only	Y	Metal-dependent hydrolase
BruAb2_0649	BMEII0692	1	intact bacteria prep only	N	Hypothetical protein BruAb2_0649
bfr	BMEII0704	2	intact bacteria prep only	Y	Bfr, bacterioferritin
BruAb2_0662	BMEII0707	1	intact bacteria prep only	Y	RrF2 family protein
BruAb2_0698	BMEII0746	1	intact bacteria prep only	Y	Dihydrolipoamide acetyltransferase
ybgT	BMEII0758	1	intact bacteria prep only	Y	YbgT
BruAb2_0745	BMEII0787	1	intact bacteria prep only	Y	Hypothetical protein BruAb2_0745
BRA0471	BMEII0794	1	intact bacteria prep only	Y	Transporter, putative
serA-2	BMEII0813	1	intact bacteria prep only	Y	SerA-2, D-3-phosphoglycerate dehydrogenase
katA	BMEII0893	1	intact bacteria prep only	Y	KatA, catalase
guaB	BMEII0896	1	intact bacteria prep only	Y	Inositol-5-monophosphate dehydrogenase
BruAb2_0845	BMEII0913	2	intact bacteria prep only	Y	Hypothetical protein BruAb2_0845
BruAb2_0856	BMEII0924	3	intact bacteria prep only	Y	Hypothetical protein BruAb2_0856
minD	BMEII0926	1	intact bacteria prep only	N	MinD, septum site-determining protein
BRA0266	BMEII0982	1	intact bacteria prep only	Y	Sugar ABC transporter, ATP-binding protein, putative
BruAb2_0209	BMEII1031	2	intact bacteria prep only	Y	Hypothetical protein BruAb2_0209
hisS	BMEII1056	1	intact bacteria prep only	Y	Histidyl-trna synthetase
BruAb2_0178	BMEII1060	1	intact bacteria prep only	Y	Oxidoreductase, aldo/keto reductase family
BruAb2_0117	BMEII1116	1	intact bacteria prep only	Y	Transcriptional regulator, LuxR family
etfB	BMEI0096	3	intact bacteria & cell envelope prep	Y	Electron transfer flavoprotein, beta subunit
BMEI1305	BMEI0135	2	intact bacteria & cell envelope prep	Y	Lipoprotein
BMEI0137	BMEI0137	9	intact bacteria & cell envelope prep	Y	Malate Dehydrogenase
sucC	BMEI0138	6	intact bacteria & cell envelope prep	Y	Succinyl-CoA synthetase subunit beta
BMEI0139	BMEI0139	6	intact bacteria & cell envelope prep	Y	Succinyl-CoA ligase alpha chain
clpB	BMEI0195	3	intact bacteria & cell envelope prep	N	ATP-dependent clp protease, ATP-binding Subunit ClpB
BruAb1_1816	BMEI0214	2	intact bacteria & cell envelope prep	Y	Carboxyl-terminal protease
atpD	BMEI0251	4	intact bacteria & cell envelope prep	Y	ATP synthase F1, beta subunit
BMEI0310	BMEI0310	4	intact bacteria & cell envelope prep	Y	Glyceraldehyde 3-phosphate dehydrogenase
tolB	BMEI0339	5	intact bacteria & cell envelope prep	Y	Protein tolB precursor
BruAb1_1680	BMEI0340	7	intact bacteria & cell envelope prep	Y	Lipoprotein, Pal family
BMEI0393	BMEI0393	4	intact bacteria & cell envelope prep	Y	D-ribose-binding periplasmic protein

BMEI0396	BMEI0396	1	intact bacteria & cell envelope prep	N	Dihydroxyacetone kinase
BruAb1_1583	BMEI0425	2	intact bacteria & cell envelope prep	Y	Hypothetical protein BruAb1_1583
BMEI0441	BMEI0441	3	intact bacteria & cell envelope prep	Y	Glycine betaine/l-proline-binding protein prox
BMEI0451	BMEI0451	2	intact bacteria & cell envelope prep	Y	2-isopropylmalate synthase
BMEI0481	BMEI0481	3	intact bacteria & cell envelope prep	Y	LSU ribosomal protein L25P
BMEI0535	BMEI0535	1	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BruAb1_1464	BMEI0542	4	intact bacteria & cell envelope prep	Y	Hypothetical protein BruAb1_1464
BruAb1_1463	BMEI0543	5	intact bacteria & cell envelope prep	Y	Choloylglycine hydrolase family protein
BMEI0587	BMEI0587	3	intact bacteria & cell envelope prep	Y	ComI, competence lipoprotein
BruAb1_1334	BMEI0668	3	intact bacteria & cell envelope prep	Y	Hypothetical acid-shock protein
BMEI0673	BMEI0673	4	intact bacteria & cell envelope prep	Y	Thiosulfate-binding protein
BMEI0687	BMEI0687	1	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BMEI0711	BMEI0711	3	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BMEI0723	BMEI0723	4	intact bacteria & cell envelope prep	Y	Hypothetical Protein
tuf	BMEI0742	10	intact bacteria & cell envelope prep	Y	Protein Translation Elongation Factor Tu (EF-TU)
nusG	BMEI0744	2	intact bacteria & cell envelope prep	Y	Transcription antitermination protein NusG
rplK	BMEI0745	3	intact bacteria & cell envelope prep	Y	50S ribosomal protein L11
rplL	BMEI0748	3	intact bacteria & cell envelope prep	Y	50S ribosomal protein L7/L12
rpsJ	BMEI0756	2	intact bacteria & cell envelope prep	Y	30S ribosomal protein S10
BMEI0759	BMEI0759	2	intact bacteria & cell envelope prep	Y	LSU ribosomal protein L23P
rpsS	BMEI0761	4	intact bacteria & cell envelope prep	Y	30S ribosomal protein S19
rpmC	BMEI0765	2	intact bacteria & cell envelope prep	Y	RpmC, ribosomal protein L29
rplR	BMEI0773	1	intact bacteria & cell envelope prep	Y	Ribosomal protein L18
rpsE	BMEI0774	2	intact bacteria & cell envelope prep	Y	30S ribosomal protein S5
rplQ	BMEI0782	2	intact bacteria & cell envelope prep	Y	Ribosomal protein L17
BMEI0786	BMEI0786	6	intact bacteria & cell envelope prep	Y	Outer membrane protein
BR1199	BMEI0791	1	intact bacteria & cell envelope prep	Y	Isocitrate dehydrogenase, NADP-dependent
BR1194	BMEI0796	2	intact bacteria & cell envelope prep	Y	TRAP transporter solute receptor, TAXI family
BruAb1_1188	BMEI0805	3	intact bacteria & cell envelope prep	Y	Hypothetical protein BruAb1_1188
tsf	BMEI0824	3	intact bacteria & cell envelope prep	Y	Protein Translation Elongation Factor Ts (EF-Ts)
frr	BMEI0826	3	intact bacteria & cell envelope prep	Y	Ribosome Recycling Factor (RRF)
BMEI0830	BMEI0830	15	intact bacteria & cell envelope prep	Y	Outer membrane protein
BMEI0887	BMEI0887	2	intact bacteria & cell envelope prep	Y	Probable peptidyl-prolyl cis-trans isomerase precursor
BMEI0933	BMEI0933	2	intact bacteria & cell envelope prep	Y	Cysteine synthase
BMEI0973	BMEI0973	4	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BMEI1092	BMEI1092	2	intact bacteria & cell envelope prep	Y	Hypothetical protein
BMEI1169	BMEI1169	4	intact bacteria & cell envelope prep	Y	SSU ribosomal protein S9P
BMEI1179	BMEI1179	2	intact bacteria & cell envelope prep	Y	Integration host factor subunit alpha
BMEI1184	BMEI1184	2	intact bacteria & cell envelope prep	Y	Small protein a
ribH	BMEI1187	1	intact bacteria & cell envelope prep	Y	Riboflavin synthase subunit beta
BMEI1201	BMEI1201	1	intact bacteria & cell envelope prep	Y	Hypothetical Cytosolic Protein
BMEI1214	BMEI1214	2	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BMEI1242	BMEI1242	3	intact bacteria & cell envelope prep	Y	Hypothetical Membrane Spanning Protein

omp2a	BMEI1305	4	intact bacteria & cell envelope prep	Y	Porin
BMEI1311	BMEI1311	1	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BruAb1_0635	BMEI1330	8	intact bacteria & cell envelope prep	Y	Immunoreactive stress response protein
BMEI1369	BMEI1369	2	intact bacteria & cell envelope prep	Y	Protein ybis
BMEI1449	BMEI1449	3	intact bacteria & cell envelope prep	Y	Hypothetical Protein
BMEI1584	BMEI1584	6	intact bacteria & cell envelope prep	Y	Invasion protein B homolog BMEI1584 precursor
BMEI1716	BMEI1716	4	intact bacteria & cell envelope prep	Y	Trehalose/maltose binding protein
BruAb1_0066	BMEI1879	2	intact bacteria & cell envelope prep	Y	Hypothetical protein BruAb1_0066
BMEI1962	BMEI1962	1	intact bacteria & cell envelope prep	Y	SSU ribosomal protein S15P
dnaK	BMEI2002	12	intact bacteria & cell envelope prep	N	Chaperone protein dnaK
BMEI0069	BMEI0069	1	intact bacteria & cell envelope prep	Y	Leu-, Ile-, Val-, Thr-, and Ala-binding protein
BMEI0248	BMEI0248	3	intact bacteria & cell envelope prep	Y	Phosphoglyceromutase
BMEI0435	BMEI0435	5	intact bacteria & cell envelope prep	Y	D-ribose-binding periplasmic protein
BMEI0581	BMEI0581	4	intact bacteria & cell envelope prep	Y	Superoxide dismutase [Cu-Zn] precursor
BMEI0584	BMEI0584	2	intact bacteria & cell envelope prep	Y	Iron binding protein FbpA precursor-like protein
P61711	BMEI0589	1	intact bacteria & cell envelope prep	Y	E Chain E, Crystal Structure Of Lumazine Synthase
BMEI0590	BMEI0590	5	intact bacteria & cell envelope prep	Y	Immunogenic 39-kDa protein
BMEI0601	BMEI0601	2	intact bacteria & cell envelope prep	Y	Cystine-binding periplasmic protein
BMEI0734	BMEI0734	3	intact bacteria & cell envelope prep	Y	Periplasmic oligopeptide-binding protein
BMEI0735	BMEI0735	2	intact bacteria & cell envelope prep	Y	Periplasmic oligopeptide-binding protein
BMEI0885	BMEI0885	1	intact bacteria & cell envelope prep	N	19 kDa periplasmic protein
BMEI0983	BMEI0983	7	intact bacteria & cell envelope prep	Y	D-galactose-binding periplasmic protein
BMEI1042	BMEI1042	2	intact bacteria & cell envelope prep	Y	Hypothetical protein
groES	BMEI1047	5	intact bacteria & cell envelope prep	Y	Co-chaperonin GroES
groEL	BMEI1048	12	intact bacteria & cell envelope prep	Y	Chaperonin GroEL
Q8YJL2	BMEI0071	3	cell envelope prep only	Y	AF527607_1 hypothetical protein
BMEI0223	BMEI0223	1	cell envelope prep only	Y	Membrane-bound lytic murein transglycosylase b
BMEI0243	BMEI0243	1	cell envelope prep only	Y	Hypothetical Protein
BMEI0402	BMEI0402	5	cell envelope prep only	Y	31 kDa outer-membrane immunogenic protein
BMEI0454	BMEI0454	5	cell envelope prep only	Y	Outer membrane protein w
BMEI0473	BMEI0473	1	cell envelope prep only	Y	Ubiquinol-cytochrome c reductase iron-sulfur subunit
BMEI0484	BMEI0484	1	cell envelope prep only	Y	Hypothetical Protein
BruAb1_1501	BMEI0504	1	cell envelope prep only	Y	Hypothetical protein BruAb1_1501
BMEI0657	BMEI0657	9	cell envelope prep only	Y	Metal chelate outer membrane receptor
BMEI0680	BMEI0680	1	cell envelope prep only	Y	Protein translocase subunit secD / protein translocase subunit secE
BR1321	BMEI0683	1	cell envelope prep only	Y	Conserved hypothetical protein
BMEI0717	BMEI0717	7	cell envelope prep only	Y	22 kDa outer membrane protein
BruAb1_1278	BMEI0722	1	cell envelope prep only	Y	Conserved hypothetical protein
BMEI0772	BMEI0772	1	cell envelope prep only	N	LSU ribosomal protein L6P
moeA	BMEI0841	1	cell envelope prep only	Y	MoeA, molybdopterin biosynthesis protein MoeA
BMEI0857	BMEI0857	1	cell envelope prep only	Y	Dihydrolipoyl dehydrogenase
BMEI0962	BMEI0962	3	cell envelope prep only	Y	Membrane lipoprotein lipid attachment site containing protein
glnB	BMEI0978	1	cell envelope prep only	Y	GlnB, nitrogen regulatory protein P-II

BruAb1_0926	BMEI1055	1	cell envelope prep only	Y	Penicillin-binding protein 1A, hypothetical
BruAb1_0907	BMEI1072	4	cell envelope prep only	Y	Hypothetical protein BruAb1_0907
BruAb1_0841	BMEI1135	1	cell envelope prep only	Y	Hypothetical protein BruAb1_0841
BMEI1165	BMEI1165	1	cell envelope prep only	Y	Hypothetical Membrane Spanning Protein
omp25	BMEI1249	9	cell envelope prep only	Y	Immunogenic protein
BMEI1265	BMEI1265	3	cell envelope prep only	Y	Survival protein sura
omp2b	BMEI1306	2	cell envelope prep only	Y	Porin, omp2b
BruAb1_0632	BMEI1328	1	cell envelope prep only	Y	Sensor histidine kinase
BMEI1335	BMEI1335	2	cell envelope prep only	Y	17 kd surface antigen
BMEI1494	BMEI1494	1	cell envelope prep only	Y	Hypothetical Protein
BMEI1531	BMEI1531	1	cell envelope prep only	Y	Tetratricopeptide repeat family protein
ccoO	BMEI1565	1	cell envelope prep only	Y	CcoO, cytochrome c oxidase, cbb3-type, subunit II
BMEI1594	BMEI1594	1	cell envelope prep only	Y	Hypothetical Protein
BMEI1723	BMEI1723	1	cell envelope prep only	Y	NADP-specific glutamate dehydrogenase
BMEI1760	BMEI1760	1	cell envelope prep only	Y	Hypothetical Protein
BruAb1_0116	BMEI1829	7	cell envelope prep only	Y	Outer membrane protein, hypothetical
BruAb1_0115	BMEI1830	1	cell envelope prep only	Y	Outer membrane protein, hypothetical
BruAb1_0086	BMEI1859	1	cell envelope prep only	Y	Hypothetical membrane protein
BMEI1890	BMEI1890	1	cell envelope prep only	Y	Transporter, putative
BMEI1893	BMEI1893	1	cell envelope prep only	Y	Protein ybis
BMEI1895	BMEI1895	3	cell envelope prep only	Y	Outer membrane protein
BMEI1915	BMEI1915	3	cell envelope prep only	Y	SSU ribosomal protein S1P
BMEI1948	BMEI1948	1	cell envelope prep only	Y	Cytosol aminopeptidase
BR2146	BMEI1982	1	cell envelope prep only	Y	Lipoprotein, putative
BR2145	BMEI1983	1	cell envelope prep only	Y	Lipoprotein, putative
BMEI1989	BMEI1989	1	cell envelope prep only	Y	Phosphate-binding periplasmic protein
omp10	BMEI0017	1	cell envelope prep only	Y	Lipoprotein Omp10
BMEI0105	BMEI0105	15	cell envelope prep only	Y	Iron-regulated outer membrane protein FrpB
BMEI0297	BMEI0297	2	cell envelope prep only	Y	Outer membrane protein nosa
BMEI0334	BMEI0334	3	cell envelope prep only	Y	Tetratricopeptide repeat family protein
BRA0875	BMEI0419	1	cell envelope prep only	Y	GTP-binding protein TypA
rbsC-3	BMEI0433	1	cell envelope prep only	Y	Ribose ABC transporter, permease protein
BruAb2_0497	BMEI0552	1	cell envelope prep only	Y	Immunoreactive 14 kDa protein BA14k
Omp31	BMEI0844	1	cell envelope prep only	Y	Outer membrane protein Omp31
BruAb2_0561	-	2	cell envelope prep only		Hypothetical protein

*peptide number data was from *in vitro* growth of *B. abortus* detected by mass spectrometry. Samples were processed for intact bacteria or cell envelope preparations. When a protein was detected in both preps, an average number of peptide identified was used for that protein.