Table 4. List of genes showing expression profiles that contrast between steroid -treated and untreated *B. burgdorferi* infected NHPs

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BB0011	Chromosome	None	U	BB0011 hypothetical protein	3	3	3	1
BB0023	Chromosome	None	R	BB0023 Holliday junction DNA helicase (ruvA) {Borrelia burgdorferi}	3	3	3	1
BB0057	Chromosome	None	IM	BB0057 glyceraldehyde 3-phosphate dehydrogenase (gap) {Borrelia burgdorferi}	2	2	2	0.5
BB0071	Chromosome	None	U	BB0071 hypothetical protein	2	0.5	0.5	0.5
BB0088	Chromosome	PF11	TF	BB0088 GTP-binding membrane protein (lepA) {Haemophilus influenzae}	3	3	2	0.5
BB0098	Chromosome	PF118	R	BB0098 DNA mismatch repair protein, putative {Synechocystis PCC6803}	2	0.5	0	0
BB0154	Chromosome	None	PE	BB0154 preprotein translocase subunit (secA) {Borrelia burgdorferi}	2	2	3	2
BB0182	Chromosome	PF120	F	BB0182 flagellar hook-associated protein 3 (flgL) {Borrelia burgdorferi}	3	2	3	3
BB0240	Chromosome	None	TP	BB0240 glycerol uptake facilitator (glpF) {Bacillus subtilis}	2	2	2	0.5
BB0241	Chromosome	None	IM	BB0241 glycerol kinase (glpK) {Escherichia coli}	3	3	3	2
BB0254	Chromosome	None	R	BB0254 single-stranded-DNA-specific exonuclease (recJ) {Haemophilus influenzae}	1	1	0	0
BB0271	Chromosome	None	F	BB0271 flagellar biosynthesis protein (flhA) {Borrelia burgdorferi}	3	3	3	1
BB0289	Chromosome	None	F	BB0289 flagellar assembly protein (fliH) {Borrelia burgdorferi}	2	2	1	0.5
BB0341	Chromosome	None	ARS	BB0341 Glu-tRNA(Gln) amidotransferase, subunit B (gatB) {Bacillus subtilis}	3	3	2	0.5
BB0342	Chromosome	None	ARS	BB0342 Glu-tRNA(Gln) amidotransferase, subunit A (gatA) {Bacillus subtilis}	3	3	3	1
BB0349	Chromosome	None	U	BB0349 hypothetical protein	2	2	2	0.5
BB0352	Chromosome	None	U	BB0352 hypothetical protein	1	1	0	0
BB0357	Chromosome	None	U	BB0357 hypothetical protein	2	2	2	0
BB0359	Chromosome	None	PD	BB0359 carboxyl-terminal protease (ctp) {Synechocystis PCC6803}	1	1	0	0
BB0364	Chromosome	None	HX	BB0364 conserved hypothetical protein {Bacillus subtilis}	1	1	1	0
BB0366	Chromosome	PF131	PD	BB0366 aminopeptidase I (yscI) {Borrelia burgdorferi}	2	2	2	0
BB0376	Chromosome	None	IM	BB0376 S-adenosylmethionine synthetase (metK) {Bacillus subtilis}	0.5	1	0.5	0.5
BB0380	Chromosome	None	TP	BB0380 Mg2+ transport protein (mgtE) {Borrelia burgdorferi}	3	3	3	2
BB0386	Chromosome	None	RP	BB0386 ribosomal protein S7 (rpsG) {Salmonella choleraesuis}	3	3	3	1
BB0387	Chromosome	None	B	BB0387 ribosome protein S12	1	2	0	0
BB0392	Chromosome	None	RP	BB0392 ribosomal protein L1 (rplA) {Bacillus stearothermophilus}	3	3	0.5	0
BB0403	Chromosome	None	U	BB0403 hypothetical protein	3	3	2	1
BB0442	Chromosome	None	CE	BB0442 inner membrane protein {Haemophilus influenzae}	3	0.5	0	0

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BB0444	Chromosome	None	IM	BB0444 nucleotide sugar epimerase {Vibrio cholerae}	2	2	2	0.5
BB0457	Chromosome	None	R	BB0457 excinuclease ABC, subunit C (uvrC) {Synechocystis PCC6803}	2	0.5	0.5	0.5
BB0472	Chromosome	None	CE	BB0472 UDP-N-acetylglucosamine 1-carboxyvinyltransferase (murA) {Enterobacter cloacae}	2	2	2	0
BB0492	Chromosome	None	RP	BB0492 ribosomal protein S8 (rpsH) {Synechocystis PCC6803}	3	3	2	0.5
BB0502	Chromosome	None	TR	BB0502 DNA-directed RNA polymerase (rpoA) {Bacillus subtilis}	2	1	1	1
BB0506	Chromosome	None	HE	BB0506 hemolysin (tlyA) {Serpulina hyodysenteriae}	3	3	0	0
BB0567	Chromosome	PF134	CH	BB0567 chemotaxis histidine kinase (cheA-1) {Borrelia burgdorferi}	1	1	1	0
BB0603	Chromosome	None	CE	BB0603 membrane-associated protein p66 {Borrelia burgdorferi}	2	2	2	1
BB0605	Chromosome	None	CE	BB0605 serine-type D-Ala-D-Ala carboxypeptidase (dacA) {Haemophilus influenzae}	3	3	2	0.5
BB0607	Chromosome	PF18	R	BB0607 rep helicase, single-stranded DNA-dependent ATPase (rep) {Haemophilus influenzae}	0	0	0.5	0.5
BB0615	Chromosome	None	RP	BB0615 ribosomal protein S4 (rpsD) {Haemophilus influenzae}	3	3	3	2
BB0620	Chromosome	PF21	IM	BB0620 beta-glucosidase, putative {Synechocystis PCC6803}	3	3	3	0.5
BB0629	Chromosome	None	TP	BB0629 PTS system, fructose-specific IIABC component (fruA-2) {Escherichia coli}	2	2	0.5	0
BB0634	Chromosome	None	R	BB0634 exodeoxyribonuclease V, gamma chain (recC) {Haemophilus influenzae}	3	3	3	2
BB0650	Chromosome	None	U	BB0650 hypothetical protein	2	2	2	0.5
BB0651	Chromosome	None	HX	BB0651 conserved hypothetical protein {Haemophilus influenzae}	2	0.5	0.5	0.5
BB0652	Chromosome	PF136	PE	BB0652 protein-export membrane protein (secD) {Escherichia coli}	3	3	3	2
BB0653	Chromosome	PF136	PE	BB0653 protein-export membrane protein (secF) {Haemophilus influenzae}	2	2	2	0.5
BB0661	Chromosome	None	U	BB0661 hypothetical protein	2	2	3	0.5
BB0662	Chromosome	None	U	BB0662 hypothetical protein	2	2	2	0.5
BB0665	Chromosome	None	U	BB0665 Hypothetical protein	2	2	0.5	0
BB0669	Chromosome	PF134	CH	BB0669 chemotaxis histidine kinase (cheA-2) {Borrelia burgdorferi}	3	3	3	1
BB0674	Chromosome	None	U	BB0674 hypothetical protein	2	2	2	0.5
BB0677	Chromosome	PF4	TP	BB0677 ribose/galactose ABC transporter, ATP-binding protein (mglA) {Mycoplasma genitalium}	2	2	2	0.5
BB0681	Chromosome	PF13	CH	BB0681 methyl-accepting chemotaxis protein (mcp-5) {Escherichia coli}	3	3	3	2
BB0690	Chromosome	None	X	BB0690 neutrophil activating protein (napA) {Haemophilus influenzae}	3	3	1	0.5
BB0696	Chromosome	None	HX	BB0696 conserved hypothetical protein {Mycobacterium tuberculosis}	1	1	2	1
BB0697	Chromosome	None	HX	BB0697 conserved hypothetical protein {Haemophilus influenzae}	3	3	1	0
BB0714	Chromosome	None	U	BB0714 hypothetical protein	3	0.5	0.5	0.5

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BB0715	Chromosome	PF9	CE	BB0715 rod shape-determining protein (mreB-1) {Escherichia coli}	1	2	2	2
BB0761	Chromosome	PF2	HX	BB0761 conserved hypothetical protein {Synechocystis PCC6803}	2	2	0.5	0
BB0785	Chromosome	None	X	BB0785 stage V sporulation protein G {Bacillus megaterium}	0	0	1	0
BB0807	Chromosome	None	U	BB0806 hypothetical protein	3	3	3	2
BB0821	Chromosome	None	ARS	BB0821 2-methylthio-N6-isopentyladenosine tRNA modification enzyme (miaA) {Escherichia coli}	3	3	3	0.5
BB0836	Chromosome	None	R	BB0836 excinuclease ABC, subunit B (uvrB) {Escherichia coli}	3	3	3	0.5
BB0837	Chromosome	None	R	BB0837 excinuclease ABC, subunit A (uvrA) {Escherichia coli}	3	3	3	2
BBA07	lp54	None	GM	BBA07 chpAI protein, putative {Escherichia coli}	3	3	2	0
BBA18	lp54	PF57	HX	BBA18 conserved hypothetical protein {Borrelia burgdorferi}	2	2	2	0.5
BBA34	lp54	PF37	TP	BBA34 oligopeptide ABC transporter, periplasmic oligopeptide-binding protein (oppAV) {Escherichia coli}	3	3	0.5	0
BBA50	lp54	None	U	BBA50 hypothetical protein	1	1	1	0.5
BBA59	lp54	None	CE	BBA59 lipoprotein {Borrelia burgdorferi}	1	2	1	1
BBA65	lp54	PF54	U	BBA65 hypothetical protein	1	1	0	0
BBA66	lp54	PF54	CE	BBA66 antigen, P35, putative {Borrelia burgdorferi}	1	2	1	1
BBA74	lp54	PF171	CE	BBA74 outer membrane porin (oms28) {Borrelia burgdorferi}	3	3	3	1
BBB01	cp26	None	HX	BBB01 conserved hypothetical protein {Escherichia coli}	3	1	1	1
BBB29	cp26	PF16	TP	BBB29 PTS system, maltose and glucose-specific IIABC component (malX) {Escherichia coli}	3	3	3	1
BBF10	lp28-1	None	U	BBF10 hypothetical protein	1	1	0	0
BBG04	lp28-2	None	U	BBG04 hypothetical protein	3	3	2	1
BBG05	lp28-2	PF82	X	BBG05 transposase-like protein, authentic frameshift {Borrelia burgdorferi}	2	2	0	0
BBG11	lp28-2	None	U	BBG11 hypothetical protein	3	3	3	1
BBG24	lp28-2	PF104	U	BBG24 hypothetical protein	3	3	2	0.5
BBG26	lp28-2	None	U	BBG26 hypothetical protein	3	3	3	1
BBG29	lp28-2	PF62	HX	BBG29 conserved hypothetical protein {Borrelia burgdorferi}	2	2	2	1
BBH12	lp28-3	None	U	BBH12 hypothetical protein	2	2	2	1
BBH14	lp28-3	None	U	BBH14 hypothetical protein	2	2	2	1
BBH40	lp28-3	PF82	X	BBH40 transposase-like protein, putative {Borrelia burgdorferi}	1	1	1	0.5
BBI04	lp28-4	None	U	BBI04 hypothetical protein	3	3	3	2
BBI05	lp28-4	None	U	BBI05 hypothetical protein	3	3	2	1

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BBI12	lp28-4	None	U	BBI12 hypothetical protein	1	1	0.5	0
BBI15	lp28-4	PF60	U	BBI15 hypothetical protein	2	2	2	0.5
BBI17	lp28-4	None	U	BBI17 hypothetical protein	3	3	1	0.5
BBI31	lp28-4	PF48	HX	BBI31 conserved hypothetical protein {Borrelia burgdorferi}	3	3	3	0
BBJ28	lp38	None	U	BBJ28 hypothetical protein	1	1	0	0
BBJ34	lp38	None	U	BBJ34 hypothetical protein	3	3	3	1
BBJ35	lp38	None	U	BBJ35 hypothetical protein	3	3	1	0
BBJ36	lp38	PF92	U	BBJ36 hypothetical protein	1	1	1	0
BBJ37	lp38	None	U	BBJ37 hypothetical protein	2	2	0	0
BBJ43	lp38	PF90	U	BBJ43 hypothetical protein	3	1	0.5	0.5
BBK21	lp36	PF32	HX	BBK21 plasmid partition protein, putative {Bacillus subtilis}	3	3	0.5	0
BBK46	lp36	PF75	CE	BBK46 immunogenic protein P37, authentic frameshift {Borrelia burgdorferi}	1	1	0	0
BBL05	cp32-8	PF148	U	BBL05 hypothetical protein	3	3	2	0.5
BBL06	cp32-8	PF149	HX	BBL06 conserved hypothetical protein {Borrelia burgdorferi}	2	0.5	0	0
BBL09	cp32-8	PF108	HX	BBL09 conserved hypothetical protein {Borrelia burgdorferi}	2	2	0	0
BBL12	cp32-8	PF153	U	BBL12 hypothetical protein	3	3	2	0.5
BBL21	cp32-8	PF141	HX	BBL21 conserved hypothetical protein {Borrelia burgdorferi}	2	0.5	0	0
BBL27	cp32-8	PF80	HX	BBL27 conserved hypothetical protein {Borrelia burgdorferi}	1	1	0	0
BBM08	cp32-6	PF107	HX	BBM08 conserved hypothetical protein {Borrelia burgdorferi}	3	3	0.5	0
BBM13	cp32-6	PF154	U	BBM13 hypothetical protein	2	2	2	0
BBM21	cp32-6	PF141	HX	BBM21 conserved hypothetical protein {Borrelia burgdorferi}	2	0	0	0
BBM22	cp32-6	PF142	HX	BBM22 conserved hypothetical protein {Borrelia burgdorferi}	2	0	0	0
BBM35	cp32-6	PF165	HX	BBM35 conserved hypothetical protein {Borrelia burgdorferi}	3	3	2	1
BBM40	cp32-6	None	U	BBM40 hypothetical protein	2	2	2	1
BBN04	cp32-9	PF148	U	BBN04 hypothetical protein	1	1	0.5	0
BBN05	cp32-9	PF148	U	BBN05 hypothetical protein, paralogous family 148, authentic frameshift	1	1	0.5	0
BBN07	cp32-9	PF150	HX	BBN07 conserved hypothetical protein {Borrelia burgdorferi}	3	3	2	1
BBN11	cp32-9	PF152	U	BBN11 hypothetical protein	2	2	2	1
BBN12	cp32-9	PF153	U	BBN12 hypothetical protein	2	2	2	1

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BBN13	cp32-9	PF154	U	BBN13 hypothetical protein, paralogous family 154, authentic frameshift	2	2	2	1
BBN15	cp32-9	PF156	U	BBN15 hypothetical protein	2	2	2	1
BBN35	cp32-9	PF165	HX	BBN35 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0.5
BBO02	cp32-7	PF147	U	BBO02 hypothetical protein	1	1	0.5	0
BBO05	cp32-7	PF148	U	BBO05 hypothetical protein	3	3	2	1
BBO12	cp32-7	PF153	U	BBO12 hypothetical protein	3	3	2	1
BBO13	cp32-7	PF154	U	BBO13 hypothetical protein	1	1	2	0.5
BBO14	cp32-7	PF155	U	BBO14 hypothetical protein	3	3	1	0.5
BBO16	cp32-7	PF157	U	BBO16 hypothetical protein	2	2	0.5	0
BBO17	cp32-7	PF159	U	BBO17 hypothetical protein	3	3	2	0.5
BBO18	cp32-7	PF160	U	BBO18 hypothetical protein	3	3	2	1
BBO21	cp32-7	PF141	HX	BBO21 conserved hypothetical protein {Borrelia burgdorferi}	2	2	0.5	0
BBO29	cp32-7	PF161	U	BBO29 hypothetical protein	1	1	0	0
BBO38	cp32-7	None	HX	BBO38 conserved hypothetical protein	3	3	0	0
BBP03	cp32-1	PF148	U	BBP03 hypothetical protein	1	1	1	0
BBP06	cp32-1	PF149	HX	BBP06 conserved hypothetical protein {Borrelia burgdorferi}	1	1	0.5	0
BBP08	cp32-1	PF107	HX	BBP08 conserved hypothetical protein {Borrelia burgdorferi}	3	2	0	0
BBP12	cp32-1	PF153	U	BBP12 hypothetical protein	3	3	2	0
BBP13	cp32-1	PF154	U	BBP13 hypothetical protein	3	3	2	1
BBQ13	lp56	PF149	HX	BBQ13 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0
BBQ14	lp56	PF150	HX	BBQ14 conserved hypothetical protein {Borrelia burgdorferi}	2	2	2	0.5
BBQ15	lp56	PF107	HX	BBQ15 conserved hypothetical protein {Borrelia burgdorferi}	1	1	0	0
BBQ16	lp56	PF108	U	BBQ16 hypothetical protein, paralogous family 108, authentic frameshift {REMOVE}	3	3	0	0
BBQ17	lp56	PF151	HX	BBQ17 conserved hypothetical protein {Borrelia burgdorferi}	2	0	0	0
BBQ19	lp56	PF153	U	BBQ19 hypothetical protein	2	2	2	0.5
BBQ20	lp56	PF154	U	BBQ20 hypothetical protein	2	2	1	0
BBQ22	lp56	PF156	U	BBQ22 hypothetical protein	2	2	1	0.5
BBQ24	lp56	PF159	U	BBQ24 hypothetical protein	1	1	0.5	0
BBQ28	lp56	PF141	HX	BBQ28 conserved hypothetical protein {Borrelia burgdorferi}	1	1	0	0

Gene *	Genetic element*	Paralogous family*	Functional group*	Description*	Dexa-treated medulla†	Dexa-treated heart†	Competent medulla‡	Competent‡ Heart
BBQ29	lp56	PF142	HX	BBQ29 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0.5
BBR03	cp32-4	PF148	U	BBR03 hypothetical protein	2	2	0	0
BBR05	cp32-4	PF148	U	BBR05 hypothetical protein	1	1	1	0
BBR06	cp32-4	PF149	HX	BBR06 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0
BBR07	cp32-4	PF150	HX	BBR07 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0.5
BBR11	cp32-9	PF152	U	BBR11 hypothetical protein	3	3	1	0
BBR12	cp32-4	PF153	U	BBR12 hypothetical protein	3	1	1	1
BBR19	cp32-4	PF139	HX	BBR19 conserved hypothetical protein {Borrelia burgdorferi}	2	2	1	0
BBR45	cp32-4	PF145	HX	BBR45 conserved hypothetical protein {Streptococcus thermophilus}	1	1	0.5	0
BBS05	cp32-3	PF148	U	BBS05 hypothetical protein	1	1	1	0.5
BBS06	cp32-3	PF149	HX	BBS06 conserved hypothetical protein {Borrelia burgdorferi}	1	1	1	0
BBS09	cp32-3	PF108	HX	BBS09 conserved hypothetical protein {Borrelia burgdorferi}	3	3	0.5	0
BBS11	cp32-3	PF152	U	BBS11 hypothetical protein	2	2	0.5	0
BBS14	cp32-3	PF155	U	BBS14 hypothetical protein	2	0	0	0
BBS15	cp32-3	PF156	U	BBS15 hypothetical protein	3	3	0.5	0
BBS18	cp32-3	PF160	U	BBS18 hypothetical protein	1	1	1	0
BBS19	cp32-3	PF139	HX	BBS19 conserved hypothetical protein {Borrelia burgdorferi}	1	0	0	0
BBS21	cp32-1	PF141	HX	BBS21 conserved hypothetical protein {Borrelia burgdorferi}	1	0.5	0	0
BBS34	cp32-1	PF50	HX	BBS34 conserved hypothetical protein {Borrelia burgdorferi}	1	0	0	0
BBS35	cp32-1	PF32	HX	BBS35 plasmid partition protein, putative {Bacillus subtilis}	1	0	0	0
BBS45	cp32-3	PF145	HX	BBS45 conserved hypothetical protein {Streptococcus thermophilus}	3	2	1	1

*All designations used are according to *B. burgdorferi* genome database (http://www.tigr.org/tigr-scripts/CMR2/GenomePage3.spl?database=gbb)

†DECAL performed on medulla and heart tissue samples taken from dexamethosone-treated NHPs.

‡DECAL performed on medulla and heart tissue samples taken from immunocompetent NHPs. The functional categories are: ARS, amino acid biosynthesis; B, biosynthesis; CE, cell envelope;

CH, chemotaxis proteins, D, cell division; F, flagellar biosynthesis; FM, fatty acid metabolism; GM, general metabolism; HE, hemolysins; HS, heat shock proteins; HX, conserved hypothetical proteins;

IM, intermediary metabolism; NM, nucleotide metabolism; PD, protein degradation; PE, protein export; R, replication; RP, ribosomal proteins; TF, translation factors;

TP, transport proteins; TR, transcription; U, hypothetical proteins; X, other.