

**Supplementary Table 1.** List of transcription levels for host genes related to the antibacterial response, for mice infected with USA300, USA400 and M92 MRSA strains (Day 4).

	Comparison with Saline control			Comparison between strains		
	USA300- C2406 vs Saline (fold regulation)	USA400- CMRSA7 vs Saline (fold regulation)	M92 vs Saline (fold regulation)	USA300- C2406 vs USA400- CMRSA7 (fold regulation)	USA300- C2406 vs M92 (fold regulation)	USA4000- CMRSA7 vs M92 (fold regulation)
<b>Toll-Like Receptor (TLR) Signaling</b>						
Akt1	-	5.17	2.39	-4.49	-2.07	2.17
Casp8	3.13 **	2.78	3.26 *	-	-	-
Cd14	53.3 *	50.71	74.14	-	-	-
Fadd	-	-	-	-	-2.07	-
Irak1	-	-	-	-	-	-
Irak3	-	3.12	2.61 *	-2.43	-2.03 *	-
Irf5	-	2.22	-	-3.38	-	2.28
Irf7	5.16 *	6.46	8.2	-	-	-
Lbp	12.32 **	3.72 *	5.44 *	3.31 *	2.26 *	-
Ly96	3.42	2.47	3.96	-	-	-
Map3k7	-	-	-	-	-	-
Myd88	-	2.53	2.81	-	-	-
Pik3ca	-	-	-	-	-	-
Pstpip1	5.82 **	4.99	6.23	-	-	-
Rac1	-	-	-	-	-	-
Ripk1	-	-	-	-	-	-
Ticam1	-	-	-	-	-	-
Ticam2	4.63	6.04 ***	4.17	-	-	-
Tirap	-	-	-	-	-	-
Tlr1	22.63 **	14.37	24.33	-	-	-
Tlr2	6.75 *	7.49	9.56	-	-	-
Tlr4	7.46 *	5.78	4.88	-	-	-
Tlr5	-	-	-	-	-	-
Tlr6	4.17 *	11.43	3.83	-2.74	-	2.98
Tlr9	2.07	6.75	5.29	-3.26	-2.56	-
Tollip	-2.3 *	-	-	-2.69 *	-	-
Traf6	-	-	-	-	-	-
<b>NOD-Like Receptor (NLR) Signaling</b>						
Birc3	2.52 **	4.71	3.89 *	-	-	-
Card6	2.65 *	5.33	3.92	-2.01	-	-
Card9	3.83	5.35	4.68	-	-	-
Casp1	2.04	3.03	4.21	-	-2.06	-
Casp8	3.13 **	2.78	3.26 *	-	-	-
Hsp90aa1	3.27	2.54	2.26	-	-	-
Mefv	9.11 *	14.07	7	-	-	2.01
Naip1	-	5.17	2.39	-3.81	-	2.17
Nlrc4	2.71	5.17	3.27	-	-	-
Nlrp1a	-	7.54	2.25	-6.41	-	3.36
Nlrp3	39	48.98	48.21	-	-	-
Nod1	-	-	-	-	-	-

Nod2	-	3.11	-	-2.21	-	-
Pycard	-	-	-	-	-2.92	-
Ripk2	-	-	-	-	-2.32 **	-
Sugt1	-	-	-	-	-	-
Tnf	23.03 *	19.44	20.61	-	-	-
Xiap	-	-	2.2	-	-	-
<b>Other Bacterial Pattern Recognition Receptors (PRRs)</b>						
Apcs	6.36	5.17	5.17	-	2.67	2.17
Crp	4.63	5.17	5.17	-	-	2.17
Dmbt1	-	5.17	5.17	-4.49	-	2.17
Zbp1	7.04 **	5.16	5.16	-	-	-2.48
<b>Signaling Downstream of Antibacterial Responses</b>						
Chuk	-	-	-	-	-	-
Ikbkb	-	-	-	-	-	-
Jun	-	-	-	-	-	2.27 *
Map2k1	-	-	-	-	-	-
Map2k3	-3.55 ***	-	-2.68	-2.08 *	-	-
Map2k4	-	-	-	-	-	-
Mapk1	-	-	-	-	-	-
Mapk14	-	-	-	-	-	-
Mapk3	-	-	-	-2.13 *	-	-
Mapk8	-	-	-	-	-	-
Nfkb1	-	-	-	-	-	-
Nfkbia	-	4.09	2.72 *	-2.12	-	-
Rela	-	-	-	-	-	-
Tnfrsf1a	-	-	-	-	-	-
<b>Apoptosis</b>						
Akt1	-	5.17	2.39	-4.49	-2.07	2.17
Birc3	2.52 **	4.71	3.89 *	-	-	-
Card6	2.65 *	5.33	3.92	-2.01	-	-
Card9	3.83	5.35	4.68	-	-	-
Casp1	2.04	3.03	4.21	-	-2.06	-
Casp8	3.13 **	2.78	3.26 *	-	-	-
Cd14	53.3 *	50.71	74.14	-	-	-
Fadd	-	-	-	-	-2.07	-
Ifnb1	-	5.17	2.39	-4.49	-2.07	2.17
Ikbkb	-	-	-	-	-	-
Il12a	-	-	-	-3.2	-	-
Il12b	-	6.72	3.08	-5.83	-2.68	2.18
Il1b	420.87 *	553.19	697.25	-	-	-
Il6	3.32	5.17	6.81	-	-2.05	-
Irak1	-	-	-	-	-	-
Jun	-	-	-	-	-	2.27 *
Map3k7	-	-	-	-	-	-
Mapk1	-	-	-	-	-	-
Mapk8	-	-	-	-	-	-
Mpo	-	2.27	-	-	-	-
Nfkb1	-	-	-	-	-	-
Nfkbia	-	4.09	2.72 *	-2.12	-	-
Pik3ca	-	-	-	-	-	-

Pycard	-	-	-	-	-2.92	-
Rac1	-	-	-	-	-	-
Ripk1	-	-	-	-	-	-
Ripk2	-	-	-	-	-2.32 **	-
Tnf	23.03 *	19.44	20.61	-	-	-
Tnfrsf1a	-	-	-	-	-	-
Traf6	-	-	-	-	-	-
<b>Inflammatory Response</b>						
Akt1	-	5.17	2.39	-4.49	-2.07	2.17
Apcs	6.36	5.17	2.39	-	2.67	2.17
Ccl3	494.23 *	512.99	251.09	-	-	2.04
Ccl5	7.88 *	13.59	34.57	-	-4.39	-2.54
Cd14	53.3 *	50.71	74.14	-	-	-
Crp	4.63	5.17	2.39	-	-	2.17
Cxcl1	40.56 ***	18.23	15.9	2.23	2.55	-
Cxcl3	284.86	389.05	181.64	-	-2.07	2.14
Il1b	420.87 *	553.19	697.25	-	-	-
Il6	3.32	5.17	6.81	-	-2.05	-
Lbp	12.32 **	3.72 *	5.44 *	3.31 *	2.26 *	-
Ly96	3.42	2.47	3.96	-	-	-
Lyz2	6.15 ***	6	9.71	-	-	-
Mefv	9.11 *	14.07	7	-	-	2.01
Myd88	-	2.53	2.81	-	-	-
Nfkb1	-	-	-	-	-	-
Nlrc4	2.71	5.17	3.27	-	-	-
Nlrp3	39	48.98	48.21	-	-	-
Nod1	-	-	-	-	-	-
Rac1	-	-	-	-	-	-
Rela	-	-	-	-	-	-
Ripk2	-	-	-	-	-2.32 **	-
Slc11a1	15.39	18.89	17.15	-	-	-
Ticam2	4.63	6.04 ***	4.17	-	-	-
Tirap	-	-	-	-	-	-
Tlr1	22.63 **	14.37	24.33	-	-	-
Tlr2	6.75 *	7.49	9.56	-	-	-
Tlr4	7.46 *	5.78	4.88	-	-	-
Tlr5	-	-	-	-	-	-
Tlr6	4.17 *	11.43	3.83	-2.74	-	2.98
Tlr9	2.07	6.75	5.29	-3.26	-2.56	-
Tnf	23.03 *	19.44	20.61	-	-	-
Tnfrsf1a	-	-	-	-	-	-
Tollip	-2.3 *	-	-	-2.69 *	-	-
<b>Cytokines &amp; Chemokines</b>						
Ccl3	494.23 *	512.99	251.09	-	-	2.04
Ccl4	147.75 *	244.17	101.82	-	-	2.4
Ccl5	7.88 *	13.59	34.57	-	-4.39	-2.54
Cxcl1	40.56 ***	18.23	15.9	2.23	2.55	-
Cxcl3	284.86	389.05	181.64	-	-2.07	2.14
Ifna9	-	5.17	2.39	-4.49	-2.07	2.17
Ifnb1	-	5.17	2.39	-4.49	-2.07	2.17
Il12a	-	-	-	-3.2	-	-

Il12b	-	6.72	3.08	-5.83	-2.68	2.18
Il18	-2.69 *	-	-	-3.22 *	-3.39 *	-
Il1b	420.87 *	553.19	697.25	-	-	-
Il6	3.32	5.17	6.81	-	-2.05	-

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#### Antimicrobial Peptides

Bpi	-	5.17	2.39	-4.49	-2.07	2.17
Camp	2.77	6.63	2.39	-2.4	-	2.78
Ctsg	-	5.17	2.39	-4.05	-	2.17
Lcn2	178.32 **	115.53	71.33 *	-	2.5	-
Ltf	2.98	10.74	4.93	-3.61	-	2.18
Lyz2	6.15 ***	6	9.71	-	-	-
Mpo	-	2.27	-	-	-	-
Prtn3	-	5.17	2.39	-3.79	-	2.17
Slpi	218.77 *	59.32	86.65	3.69	2.52	-

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Note: Tested using Qiagen mouse antibacterial response PCR array. Targets are listed for each host response and some may be present in more than one group. -, transcriptional fold change was less than 2; \*p<0.05; \*\*p<0.01; \*\*\*, p<0.001. A negative fold change is highlighted grey.

**Supplementary Table 2.** Cytokine and Chemokine profiles for mice on days 7 post infection with M92, USA400 and USA300 MRSA strains.

Role	Cytokine/ Chemokine	Saline conc.	M92 conc.	USA400- CMRSA7 conc.	USA300-C2406			
					USA300-C2406 conc.	vs. Saline	vs. M92	vs. USA400- CMRSA7
Protection	IL-17A	0.0064 (0.0000-0.0065)	5.8311 (2.7381-9.6017)	2.6865 (0.3306-7.4144)	6.8417 (1.1541-22.2026)			
	IL-1a	27.8669 (16.5961-37.7149)	23.9215 (10.6024-33.7854)	16.6723 (9.6481-30.9802)	24.974 (14.5240-35.9588)			
	IL-1b	0.3361 (0.1769-0.5097)	2.2705 (0.4712-3.6375)	5.4559 (0.7044-10.4625)	3.4462 (2.6744-4.0097)			
Severity	IL-4	0.0076 (0.0025-0.0133)	0.0187 (0.0094-0.0275)	0.026 (0.0075-0.0406)	0.0434 (0.0218-0.0790)	*		
	IL-6	0.006 (0.0000-0.0115)	0.3748 (0.0204-1.3718)	0.9438 (0.0153-2.0750)	2.473 (0.3275-3.4872)	*	*	
	IFN $\gamma$	0.000 (0.0000-0.0000)	0.0806 (0.0000-0.1983)	0.0888 (0.0000-0.2734)	0.082 (0.0128-0.1413)			
	TNFa	0.0129 (0.0000-0.0327)	0.3213 (0.1059-0.5318)	0.5811 (0.1456-0.9594)	0.7073 (0.4138-1.0201)			
	GM-CSF	0.1813 (0.0000-0.4786)	0.6594 (0.1814-0.9258)	1.7784 (0.3983-5.2089)	1.1752 (0.9162-1.5529)			
	G-CSF	0.063 (0.0000-0.2607)	20.8058 (7.8732-50.6940)	16.1263 (1.9153-29.0040)	101.1745 (51.4449-156.3516)	**	*	*
	M-CSF	0.0504 (0.0337-0.0848)	0.1659 (0.0596-0.2600)	3.0254 (0.5272-11.3227)	6.2339 (1.4453-13.5583)			
	KC	1.7457 (0.6750-3.0163)	16.1875 (10.8424-25.7155)	22.6019 (5.2889-34.9305)	34.5549 (24.9047-39.7983)	**		
	MIP-2	0.5972 (0.4312-0.8887)	242.2743 (102.5125-382.2458)	363.2926** (48.8692-773.4953)	304.0403 (180.8457-367.8683)	*		
	IL-12(p70)	0.0503 (0.0178-0.0613)	0.1486 (0.0680-0.3024)	0.2452 (0.0517-0.5429)	0.2442 (0.1419-0.3256)			
	IL-12(p40)	0.0065 (0.0000-0.0324)	0.0693 (0.0088-0.2145)	0.0801 (0.0000-0.1464)	0.0342 (0.0141-0.0713)			
	Rantes	0.0188 (0.0000-0.0373)	1.4881* (0.4954-1.9930)	1.2797 (0.4053-2.1539)	0.3402 (0.2881-0.5208)			
	IL-15	0.7654 (0.4542-0.9879)	0.5073 (0.2194-0.8512)	1.1964 (0.0000-2.1386)	0.7485 (0.5604-1.1173)			
	IL-10	0.1322 (0.0635-0.2418)	0.1755 (0.0726-0.3122)	0.304 (0.1719-0.4953)	0.3224 (0.1984-0.4373)			
Growth Factor	VEGF	0.0939 (0.0504-0.1242)	0.8789 (0.0840-1.4280)	0.7044 (0.3731-1.0589)	1.5284 (1.0060-2.4036)			
Remaining Th1 and Th2 cytokines	IL-2	0.3695 (0.1740-0.6000)	0.2807 (0.2042-0.4673)	0.7114 (0.3525-2.0768)	0.3137 (0.2695-0.5203)			
	IL-9	2.8583 (1.2723-4.3150)	2.0577 (1.2930-2.8546)	5.4341 (1.9044-14.9804)	2.2019 (1.1574-2.6652)			
	IL-13	0.0019 (0.0000-0.0094)	0.1588* (0.0000-0.3500)	0.0258 (0.0000-0.1291)	0.0945 (0.0682-0.1356)			
Other cytokines (tissue injury, infection, allergic diseases)	IL-5	0.0029 (0.0000-0.0145)	0.0151 (0.0026-0.0176)	0.0278 (0.0033-0.0625)	0.0603 (0.0188-0.1244)	*		
	LIF	0.0247 (0.0194-0.0333)	0.1672 (0.0888-0.2542)	0.2240 (0.0822-0.4214)	1.4260 (0.9997-2.0134)	**	**	**
	LIX	0.0141 (0.0000-0.0707)	0.2613 (0.0000-0.8485)	1.7353 (0.0000-3.7464)	0.9390 (0.2325-3.1900)			
	MCP-1	0.1763	6.5930**	6.2802**	5.7833	**		

		(0.0972-0.2994)	(3.7755-10.3710)	(2.4292-10.9643)	(4.5943-7.4064)		
	MIP-1a	0.6297 (0.3223-0.8892)	6.1064 (2.2334-8.6202)	10.1674 (2.6456-14.9219)	19.877 (10.5216-42.7847)	*	
	MIP-1b	0.1724 (0.0000-0.4046)	2.5765 (1.2222-4.7883)	4.0204 (1.1225-6.4906)	6.7130 (4.3510-13.0127)	**	
	MIG	2.7518 (1.1075-4.3453)	30.4542* (6.5758-49.6708)	44.9457** (26.6448-59.7023)	7.3863 (2.0267-9.3277)		**
	IP-10	0.058 (0.0283-0.0879)	1.1581 (0.2423-2.9123)	1.7927* (0.5939-3.8250)	0.6901 (0.5343-0.8172)		
Other cytokines (immune cell development, virus infection, aging)	Eotaxin	0.4300 (0.2158-0.7535)	5.9608* (3.3142-9.7373)	4.7119 (1.2508-6.6821)	5.7658* (2.1140-9.3413)		
	IL-3	0.0092 (0.0000-0.0458)	0.0731 (0.0496-0.1003)	0.1553 (0.0854-0.2589)	0.1225 (0.0426-0.2510)		
	IL-7	0.1688 (0.0000-0.3013)	0.1278 (0.0000-0.2479)	0.4066 (0.1032-1.1554)	0.2674 (0.1374-0.5000)		

Note: Con., mean concentration (pg/mg) and range (minimal-maximum); P value: \*\* $P < 0.01$ ; \* $P < 0.05$ ; vs. saline: compared with saline control group; vs. USA400: compared with USA400-CMRSA-7 group; vs. M92: compared with M92 group.

**Supplementary Table 3.** Cytokine and Chemokine profiles for mice on days 15 post infection with M92, USA400 and USA300 MRSA strains.

Role	Cytokine/ Chemokine	Saline conc.	M92 conc.	USA400- CMRSA7 conc.	USA300-C2406			
					USA300- C2406 conc.	vs. Saline	vs. M92	vs. USA400- CMRSA7
Protection	IL-17A	0.0090 (0.0029-0.0212)	1.0281 (0.0000-3.3931)	0.1857 (0.0107-0.5135)	0.0735 (0.0045-0.2346)			
	IL-1a	29.4422 (22.6123-39.1998)	27.7803 (20.5775-34.5938)	22.9545 (8.4360-33.7729)	13.6385 (6.0992-29.4676)			
	IL-1b	0.3546 (0.2725-0.5471)	2.5540 (0.2000-7.6919)	0.8182 (0.5510-1.2965)	0.3609 (0.2563-0.1788)			
Severity	IL-4	0.0113 (0.0046-0.0192)	0.0143 (0.0061-0.0144)	0.0170 (0.0076-0.0263)	0.0108 (0.0100-0.0115)			
	IL-6	0.0152 (0.0087-0.0216)	0.0896 (0.0184-0.1975)	1.4700 (0.0607-5.5447)	0.1444 (0.0307-0.4224)			
	IFN $\gamma$	0.0000 (0.0000-0.0000)	0.0666 (0.0000-0.2663)	0.0332 (0.0000-0.1329)	0.0000 (0.0000-0.0000)			
	TNFa	0.0421 (0.0233-0.0580)	0.3565 (0.0486-0.7644)	0.2022 (0.1102-0.2792)	0.0928 (0.0716-0.1364)			
	GM-CSF	0.2183 (0.0000-0.8731)	0.5481 (0.0688-1.2781)	0.5328 (0.0000-0.9740)	0.4241 (0.1738-0.6341)			
	G-CSF	0.0205 (0.0000-0.0231)	0.6450 (0.0000-2.2750)	1.1249 (0.0362-2.9980)	1.4913 (0.0637-5.0381)			
	M-CSF	0.0395 (0.0250-0.0708)	0.1489* (0.0461-0.2163)	0.0981 (0.0417-0.1553)	0.1041 (0.0626-0.1506)			
	KC	1.1661 (0.9109-1.6779)	6.7590 (1.0127-18.1375)	5.7285 (1.7078-11.9637)	1.6732 (0.6454-2.8646)			
	MIP-2	0.4294 (0.3077-0.5814)	4.9329 (0.8691-14.2294)	8.9785 (0.5083-22.1577)	1.2638 (0.3497-2.2843)			
	IL-12(p70)	0.044 (0.0356-0.0525)	0.1478 (0.0598-0.2756)	0.0870 (0.0486-0.1444)	0.1031 (0.0565-0.1548)			
	IL-12(p40)	0.0073 (0.0000-0.0125)	0.0198 (0.0000-0.0430)	0.0098 (0.0000-0.0390)	0.0005 (0.0000-0.0023)			
	Rantes	0.0101 (0.0000-0.0404)	13.1815 (0.0505-45.1938)	1.6185 (0.3200-3.0024)	0.4126 (0.0887-1.1489)			
	IL-15	0.8604 (0.6116-1.4154)	1.6896 (0.5209-2.0494)	1.0279 (0.4502-1.9673)	0.4760 (0.1556-0.8995)			*
	IL-10	0.1416 (0.0558-0.2984)	0.2258 (0.0693-0.3869)	0.0738 (0.0000-0.2097)	0.0894 (0.0237-0.1571)			
Growth Factor	VEGF	0.0481 (0.0216-0.0696)	0.6309 (0.0761-1.7319)	0.3147 (0.0510-0.4547)	0.2878 (0.0280-0.8604)			
Remaining Th1 and Th2 cytokines	IL-2	0.3407 (0.2680-0.5141)	0.5277 (0.3391-0.5763)	0.4925 (0.2278-0.9776)	0.2682 (0.0497-0.6425)			
	IL-9	2.149 (1.6946-3.0917)	4.6561 (2.2207-6.0481)	3.505 (2.2521-5.3816)	1.9686 (1.0104-3.6475)			*
	IL-13	0.000 (0.0000-0.0000)	0.0075 (0.0000-0.0300)	0.0814 (0.0000-0.2981)	0.0000 (0.0000-0.0000)			
Other cytokines (tissue injury, infection, allergic diseases)	IL-5	0.0124 (0.0000-0.0284)	0.0147 (0.0050-0.0245)	0.0403 (0.0212-0.0796)	0.0227 (0.0186-0.02448)			
	LIF	0.0278 (0.0104-0.0587)	0.2737 (0.0230-0.6988)	0.1521 (0.0795-0.1248)	0.1222 (0.1057-0.1329)			
	LIX	0.0000 (0.0000-0.0000)	0.0370 (0.0000-0.1481)	0.0000 (0.0000-0.0000)	0.0000 (0.0000-0.0000)			
	MCP-1	0.2798 (0.2110-0.3102)	7.8279 (0.3741-25.9475)	2.3032 (1.6291-3.0486)	1.9772 (1.2228-2.3272)			

	MIP-1a	0.3600 (0.2896-0.4827)	2.4247 (0.6000-6.2544)	0.9225 (0.2205-1.4191)	0.3675 (0.1697-0.9529)	
	MIP-1b	0.0659 (0.0000-0.2637)	1.4033 (0.0000-3.8269)	0.7749 (0.3169-1.0397)	0.3043 (0.2222-0.5454)	
	MIG	2.1910 (0.9971-4.7288)	69.3482* (3.0230-132.9413)	22.5006 (2.7523-36.8708)	12.3011 (0.5971-38.7418)	*
Other cytokines (immune cell development, virus infection, aging)	IP-10	0.0493 (0.0311-0.0673)	1.3861 (0.0500-4.0469)	0.3682 (0.1093-0.5528)	0.2124 (0.0465-0.5418)	
	Eotaxin	0.2368 (0.2038-0.2827)	2.5170 (0.3016-5.7044)	0.7363 (0.6500-0.9188)	1.1944 (0.6307-3.2329)	
	IL-3	0.0033 (0.0000-0.0032)	0.0506 (0.0250-0.0975)	0.0314 (0.0000-0.0796)	0.0531 (0.0288-0.1271)	
	IL-7	0.0493 (0.0000-0.0981)	0.2192 (0.0000-0.4519)	0.2090 (0.1067-0.2533)	0.1509 (0.0892-0.1681)	

Note: Con., mean concentration (pg/mg) and range (minimal-maximum); P value: \*\*P<0.01; \*P <0.05; vs. saline: compared with saline control group; vs. USA400: compared with USA400-CMRSA-7 group; vs. M92: compared with M92 group.