

Table S2. Molecular and epidemiological characteristics of the 130 MRSA isolates

Isolate	Year	Animal host	Pathology	District	Clone	IEC <sup>d</sup>	Resistance genes	Enterotoxins genes	Spa-type
26023	2010	Horse	Reproductive tract	33	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
31749 <sup>a</sup>	2011	Horse	Reproductive tract	61	CC8-IV, EMRSA-14	no	<i>aacA-aphD, tet(M), dfrS1, fosB</i>	none	t064
32084	2011	Horse	Reproductive tract	50	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), dfrS1, fosB</i>	<i>seb/sek/seq</i>	t1952
32085	2011	Horse	Reproductive tract	50	CC8-IV, EMRSA-14	no	<i>erm(C), tet(M), dfrS1, fosB</i>	none	t1952
32090	2011	Horse	Reproductive tract	50	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32141	2012	Horse	SSTI <sup>b</sup>	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32145	2012	Horse	SSTI	78	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	<i>sek/seq</i>	t011
32147	2012	Horse	Reproductive tract	74	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t779
32150	2012	Horse	SSTI	76	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32151	2012	Horse	Reproductive tract	50	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
32166	2012	Horse	Reproductive tract	50	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t779
32167	2012	Horse	SSTI	34	CC398-IV	type B	<i>vga(A), tet(M)</i>	none	t899
32347	2012	Horse	Reproductive tract	33	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
32716	2012	Horse	SSTI	49	CC398-IV	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t011
32718	2012	Horse	Bone infection	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32719	2012	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32720	2012	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32721	2012	Horse	SSTI	91	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32722	2012	Horse	Reproductive tract	10	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32723	2012	Horse	Respiratory tract infection	1	<b>CC130-XI<sup>c</sup></b>	no	none	none	t6220
32777	2012	Horse	SSTI	10	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32779	2012	Horse	SSTI	89	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32780	2012	Horse	SSTI	92	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32781	2012	Horse	Respiratory tract infection	67	CC8-atypical SCCmec, Hannover clone	no	<i>aacA-aphD, aph3, sat, tet(M), fosB</i>	<i>seb/sek/seq</i>	t009
32782	2012	Horse	SSTI	90	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32960	2012	Horse	Reproductive tract	1	CC398-IV	type B	<i>aacA-aphD, tet(M)</i>	none	t011
32970	2013	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32971	2012	Horse	SSTI	44	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011

32973	2013	Horse	SSTI	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32975	2012	Horse	SSTI	78	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
32976	2013	Horse	SSTI	92	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
32977	2012	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
33329	2013	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
33330	2013	Horse	Respiratory tract infection	78	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
33584	2013	Horse	NP	12	CC398-IV	type B	<i>erm(B), vga(A), tet(M), dfrS1</i>	none	t899
33589	2013	Horse	Reproductive tract	50	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
33594	2013	Horse	Bone infection	61	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
33709	2013	Horse	Reproductive tract	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t108
33710	2013	Horse	Abdominal surgery	77	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
33868	2013	Horse	Bone infection	61	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
33871	2013	Horse	Reproductive tract	61	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
33996	2013	Horse	SSTI	95	<b>CC49-XI</b>	no	none	<i>sec/sel</i>	t208
35412	2013	Horse	SSTI	76	<b>CC130-XI</b>	no	none	none	t1736
35846	2013	Horse	NP	74	CC398-IV	type B	<i>aacA-aphD, tet(M)</i>	none	t011
35847	2013	Horse	NP	16	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
35851	2014	Horse	SSTI	92	CC8-IV, USA500	no	<i>erm(C), aacA-aphD, tet(M), cat, dfrS1, fosB</i>	<i>seb/sek/seq</i>	t394
35855	2014	Horse	SSTI	47	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	txAJ
38399	2014	Horse	Reproductive tract	31	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38400	2014	Horse	Abdominal surgery	77	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38414	2014	Horse	Reproductive tract	61	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
38423	2014	Horse	SSTI	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38425	2014	Horse	Bone infection	61	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
38494	2014	Horse	Reproductive tract	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38497	2013	Horse	NP	NP	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38570	2014	Horse	SSTI	45	<b>CC130-XI</b>	no	none	none	t11050
38571	2014	Horse	Abdominal surgery	37	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38713	2014	Horse	SSTI	77	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
38719	2014	Horse	SSTI	14	CC398-IV	no	<i>aacA-aphD, tet(M), dfrS1, qacC</i>	none	t011
38720	2014	Horse	SSTI	33	CC398-IV	no	<i>aacA-aphD, tet(K), tet(M)</i>	none	t1451
39653	2015	Horse	Reproductive tract	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
39655	2015	Horse	SSTI	77	CC398-IV	no	<i>aacA-aphD, tet(M), cat</i>	none	t011
39680	2015	Horse	Reproductive tract	19	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
39681	2014	Horse	SSTI	75	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
40087	2015	Horse	SSTI	78	CC398-IV	no	<i>erm(C), aacA-aphD, tet(M)</i>	none	t011

40088	2015	Horse	SSTI	94	CC398-IV	type B	<i>aacA-aphD, tet(M)</i>	none	t011
40089	2015	Horse	Reproductive tract	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
40090	2015	Horse	Reproductive tract	14	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
40096	2015	Horse	Reproductive tract	61	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
<u>25175</u>	2011	Cat	SSTI	6	CC5-IV, Paediatric clone	no	<i>erm(C), aadD, fosB</i>	<i>seg/sei/sem/sen/seo/seu</i>	t002
<u>26451</u>	2011	Cat	Digestive tract infection	76	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t068
<u>26693</u>	2011	Cat	Respiratory tract infection	94	CC5-VI, New Paediatric Clone	no	<i>fosB</i>	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t777
<u>26695</u>	2011	Cat	NP	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t574
<u>26741</u>	2012	Cat	NP	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t574
<u>27101</u>	2011	Cat	Respiratory tract infection	94	CC5-VI, New Paediatric Clone	no	<i>fosB</i>	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t777
<u>27272</u>	2011	Cat	NP	94	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
<u>27744</u>	2011	Cat	NP	94	CC22-IV, Barnim clone	type B	none	<i>seg/sei/sem/sen/seo/seu</i>	t032
<u>31929</u>	2011	Cat	Bone infection	54	CC5-II	type A	<i>erm(A), fosB</i>	<i>sea/sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t003
<u>32305</u>	2012	Cat	Urinary tract	6	CC8-IV, Lyon Clone	type D	<i>aadD, fosB</i>	<i>sea/sed/sej/ser</i>	t008
<u>32610</u>	2012	Cat	Urinary tract	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t008
32615	2012	Cat	SSTI	56	CC398-V, Dutch LA-MRSA	no	<i>erm(C), tet(K), tet(M), fexA</i>	none	t034
32616	2012	Cat	Urinary tract	56	CC398-V, Dutch LA-MRSA	no	<i>erm(C), tet(K), tet(M), fexA</i>	none	t034
32654	2012	Cat	SSTI	92	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
<u>32664</u>	2012	Cat	SSTI	94	CC8-IV, Lyon Clone	no	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t008
32665	2012	Cat	Urinary tract	56	CC398-V, Dutch LA-MRSA	no	<i>tet(M), fexA</i>	none	t034
32691	2011	Cat	SSTI	77	CC398-IV	type D	<i>aacA-aphD, tet(M)</i>	none	t011
<u>32698</u>	2011	Cat	NP	92	CC8-IV, Lyon Clone variant sea-neg	no	<i>aadD</i>	<i>sed/sej/ser</i>	t622
<u>32775</u>	2012	Cat	Urinary tract	14	CC5-II	no	<i>erm(A), aadD</i>	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t003
<u>32810</u>	2012	Cat	Urinary tract	45	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD</i>	<i>sea</i>	t008
<u>32811</u>	2012	Cat	SSTI	57	CC5-I, Geraldine clone	type B	<i>aadD</i>	<i>sec/sed/seg/sei/sej/sel/sem/sen/seo/ser/seu</i>	t002
<u>32814</u>	2012	Cat	SSTI	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD</i>	<i>sea</i>	t008
<u>32820</u>	2012	Cat	Respiratory tract infection	92	CC5-IV, Paediatric clone	no	none	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t777
<u>33648</u>	2013	Cat	Urinary tract	62	CC5-II	type B	<i>erm(A), aadD, fosB</i>	<i>sed/seg/sei/sej/sem/sen/seo/sep(sea) /ser/seu,</i>	t003

33704	2013	Cat	SSTI	26	CC398-IV	type D	<i>aacA-aphD, tet(M)</i>	none	t011
<u>34007</u>	2013	Cat	Respiratory tract infection	92	CC8-IV, Lyon Clone	type D	none	<i>sea/sed/sej/ser</i>	t008
35964	2014	Cat	SSTI	92	<b>CC130-XI</b>	no	none	none	t843
38508	2014	Cat	NP	NP	CC398-IV	no	<i>dfrS1, tet(M), fexA</i>	none	t2922
38705	2014	Cat	NP	75	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB, qacA</i>	<i>sea</i>	t3291
<u>39614</u>	2014	Cat	Urinary tract	93	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t008
<u>39665</u>	2015	Cat	NP	59	CC8-IV, Lyon Clone	type D	<i>fosB</i>	<i>sea</i>	t008
<u>39667</u>	2015	Cat	NP	44	CC5-IV, Paediatric clone	type B	<i>aadD, fosB</i>	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t067
<u>39669</u>	2014	Cat	Urinary tract	92	CC8-IV, Lyon Clone	type D	<i>aadD, cat, fosB</i>	<i>sea</i>	t622
39819	2014	Cat	NP	38	CC398-IV	type B	<i>vga(A), dfrS1, tet(M)</i>	none	t15493
<u>26982</u>	2011	Dog	SSTI	54	CC8-IV, Lyon Clone	type D	<i>erm(C), aadD, fosB</i>	<i>sea/sed/sej/ser</i>	t008
27095	2011	Dog	SSTI	94	CC8-IV, EMRSA-14	no	<i>fosB, tetEfflux</i>	none	t121
<u>27134</u>	2011	Dog	NP	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea</i>	t008
<u>27139</u>	2011	Dog	SSTI	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, tet(K), fosB</i>	<i>sea</i>	t008
27262	2011	Dog	NP	12	CC398-IV	no	<i>aadD, dfrA, tet(M), fexA, fosB, tetEfflux</i>	none	t2922
27267	2011	Dog	NP	94	Unassigned (CC8)	type D	<i>erm(A), fosB, tetEfflux</i>	<i>sea</i>	t2054
<u>27741</u>	2011	Dog	SSTI	94	CC8-IV, Lyon Clone	type D	<i>vga(A), fosB</i>	<i>sea/sed/sej/ser</i>	t211
<u>32078</u>	2011	Dog	SSTI	30	CC8-IV Paediatric clone	type B	<i>aadD, fosB</i>	<i>seg/sei/sem/sen/seo/seu</i>	t002
<u>32310</u>	2012	Dog	NP	6	CC8-IV, Lyon Clone	type D	<i>aadD, fosB</i>	<i>sea/sed/sej/ser</i>	t1343
<u>32313</u>	2012	Dog	SSTI	6	CC8-IV+ccrA4B4, EMRSA-12/13	type D	<i>fosB</i>	<i>sea/sed/sej/ser</i>	t008
32326	2012	Dog	SSTI	30	Unassigned (CC30-)	type D	none	<i>seg/sei/sem/sen/seo/seu</i>	t012
<u>32643</u>	2012	Dog	Respiratory tract infection	66	CC8-IV, Paediatric clone	type B	<i>fusC, fosB</i>	<i>seg/sei/sem/sen/seo/seu</i>	t311
<u>32700</u>	2011	Dog	NP	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB</i>	<i>sea/sed/sej/ser</i>	t008
32706	2012	Dog	NP	75	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t008
32732	2012	Dog	SSTI	4	CC398-IV	type B	<i>vga(A), tet(M)</i>	none	t899
<u>32784</u>	2012	Dog	Abdominal surgery	75	CC45-IV, Barnim clone	type B	<i>erm(C)</i>	<i>sec/seg/sei/sel/sem/sen/seo/seu</i>	t025
32978	2012	Dog	Otitis	91	CC398-IV	no	<i>aacA-aphD, tet(M)</i>	none	t011
<u>32983</u>	2012	Dog	Respiratory tract infection	13	CC59-V	type B	<i>msr(A), farI, mupA, qacC</i>	<i>seb/sek/seq</i>	t316
33012	2012	Dog	NP	92	CC398-IV	type D	<i>aacA-aphD, tet(M)</i>	none	t011
<u>33635</u>	2013	Dog	SSTI	57	CC5-II	no	<i>erm(A), fosB</i>	<i>sed/seg/sei/sej/sem/sen/seo/ser/seu</i>	t003
33658	2013	Dog	NP	94	CC8-IV, Lyon Clone	type D	<i>erm(A), aadD, fosB, qacC</i>	<i>sea</i>	t460
33729	2013	Dog	Reproductive tract	16	CC398-IV	no	<i>aadD, dfrS1, tet(M), fexA</i>	none	t2922
<u>33875</u>	2013	Dog	Bone infection	14	CC5-II	type B	<i>erm(A), aadD, fosB</i>	<i>seg/sei/sem/sen/seo/seu</i>	t586
<u>38710</u>	2014	Dog	SSTI	42	CC1-IV/SCCfus	no	<i>fusC</i>	<i>seh</i>	t127

<u>39617</u>	2014	Dog	Reproductive tract	92	CC8-IV, Lyon Clone	type D	<i>aadD, fosB</i>	<i>sea/sed/sej/ser</i>	t622
<u>39643</u>	2014	Dog	NP	92	CC8-IV, Lyon Clone	type D	<i>aadD, cat, fosB</i>	<i>sea/sed/sej/ser</i>	t622
<u>39659</u>	2014	Dog	Otitis	6	CC22-IV, Barnim clone	type B	none	<i>seg/sei/sem/sen/seo/seu</i>	t15634
40091	2015	Dog	SSTI	85	Unassigned (CC5)	type B	<i>fusC, fosB</i>	<i>sec/sed/seg/sei/sej/sel/sem/sen/seo/ser/seu</i>	t450

<sup>a</sup> underlined are all strains considered as belonging to human-related clones

<sup>b</sup> SSTI: skin and soft tissue infection

<sup>c</sup> In bold and italics are the *mecC*-positive isolates

<sup>d</sup> IEC: Immune Evasion Cluster