

9. Appendix

9.1. Chapter 1

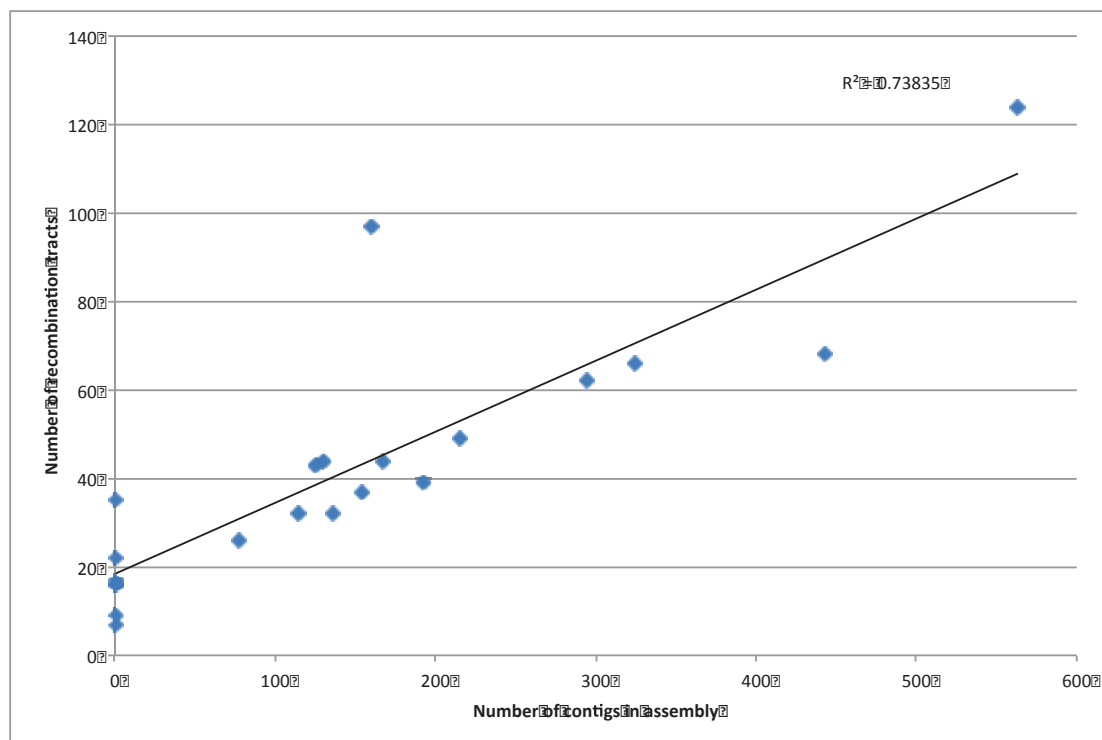


Figure 47 - Correlation between assembly quality and number of recombination events reported in Namouchi *et al.* 2012. The number of contigs in each assembly was found to correlate well with the number of recombination events detected, with very few being detected in complete genomes (1 contig). This suggests that the recombination events detected are likely to be artifactual, due to errors found at the end of contigs. This finding is part of a manuscript in preparation.

9.2. Chapter 2

Appendix table 1 – Metadata associated with analysis in Chapter 2. ERS accession number refers to data on the European Nucleotide Archive

Strain name	ERS number	Month of collection	Year of collection
2007-874	ERS016362	5	2007
2007-875	ERS016363	5	2007
A00301419	ERS007637	8	2003
A00400237	ERS007638	2	2004
A00400885	ERS007642	4	2004
A00401093	ERS007644	6	2004
A00401371	ERS013436	8	2004
A00500149	ERS007646	1	2005
A09900565	ERS007636	3	1999
A09901284	ERS007640	6	1999
B00001265	ERS007651	7	2000
B00600458	ERS007652	2	2006

B00801080	ERS007655	6	2008
B09601851	ERS007647	9	1996
B09601926	ERS007649	10	1996
B09701572	ERS007654	7	1997
C00401055	ERS007659	6	2004
C09400866	ERS007656	3	1994
C09601061	ERS007657	5	1996
D00000071	ERS007663	12	1999
D00000538	ERS007664	3	2000
D00501624	ERS007661	10	2005
D00700688	ERS007665	4	2007
E09700455	ERS007667	2	1997
E09701106	ERS007670	6	1997
E09701191	ERS007668	5	1997
E09701891	ERS007672	8	1997
E09801032	ERS007673	3	1998
EE0502463	ERS016332	4	2005
EE0503811	ERS016342	?	2005
EE0506178	ERS016360	9	2005
EE0506784	ERS016343	11	2005
F00001728	ERS007675	8	2000
F00002017	ERS013466	11	2000
F00201178	ERS007677	5	2002
F09900854	ERS007674	3	1999
G00000978	ERS007683	5	2000
G00001233	ERS007684	6	2000
G00101715	ERS007686	6	2001
G09801536	ERS007679	6	1998
G09901357	ERS007681	7	1999
H00200930	ERS007690	4	2002
H09601792	ERS007688	9	1996
I00200020	ERS007694	12	2001
I00300092	ERS013491	12	2002
I00300818	ERS013492	4	2003
I00601066	ERS013493	6	2006
I09400880	ERS007692	3	1994
I09400970	ERS007695	4	1994
I09601853	ERS013489	9	1996
I09702330	ERS007693	11	1997
I09800059	ERS013490	12	1997
J09400698	ERS013418	1	1994
J09401337	ERS013419	5	1994
J09402203	ERS013420	10	1994
J09500385	ERS013421	1	1995
J09500392	ERS013422	1	1995
J09602061	ERS013423	11	1996
J09700140	ERS013424	12	1996
J09700837	ERS013425	4	1997
J09701231	ERS013426	5	1997
J09701362	ERS016341	6	1997
J09701593	ERS013427	8	1997
J09701920	ERS013428	8	1997
J09800554	ERS013429	2	1998

J09800628	ERS013430	3	1998
J09800745	ERS013431	3	1998
J09900137	ERS013432	12	1998
J09900221	ERS013433	12	1998
J09900583	ERS013434	2	1999
J09902073	ERS013435	9	1999
K00101539	ERS007701	6	2001
K00200539	ERS007702	3	2002
K00201415	ERS007708	8	2002
K00500041	ERS007703	12	2004
K00500133	ERS007710	1	2005
K00700186	ERS016350	1	2007
K09600911	ERS007697	4	1996
K09700503	ERS007704	3	1997
K09900646	ERS007699	2	1999
K09901478	ERS013495	7	1999
K09901972	ERS007706	9	1999
L00201493	ERS007711	8	2002
L00401786	ERS007712	11	2004
M00018020	ERS013502	10	1993
M00102039	ERS007724	10	2001
M00102058	ERS007714	10	2001
M00201208	ERS007726	6	2002
M09400328	ERS007713	12	1993
M09400374	ERS013504	1	1994
M09400397	ERS007716	1	1994
M09400937	ERS007718	3	1994
M09401471	ERS007720	6	1994
M09402043	ERS013503	9	1994
M09500081	ERS013505	12	1994
M09502139	ERS007722	11	1995
N00000064	ERS016355	11	1999
N00000221	ERS007728	1	2000
N00000626	ERS007730	4	2000
N00001761	ERS007731	9	2000
N00001996	ERS013514	9	2000
N00200616	ERS013515	4	2002
N00302086	ERS013517	10	2003
N00400624	ERS016352	4	2004
N00400960	ERS013501	5	2004
N00401131	ERS013511	6	2004
N00500166	ERS013507	1	2005
N00500759	ERS013512	5	2005
N00501578	ERS016357	9	2005
N00501741	ERS016358	11	2005
N00701874	ERS013513	11	2007
N00800620	ERS016356	4	2008
N00800922	ERS013510	5	2008
N09501026	ERS013516	3	1995
N09900612	ERS016353	3	1999
N09900805	ERS013506	4	1999
N09900855	ERS013508	4	1999
N09901297	ERS007734	6	1999

N09901607	ERS016354	7	1999
N09901618	ERS007733	8	1999
N09901774	ERS007737	8	1999
N09901829	ERS013509	8	1999
N09902308	ERS007739	11	1999
O00100977	ERS013440	5	2001
O00200127	ERS016333	12	2001
O00401640	ERS013445	10	2004
O09401777	ERS013437	8	1994
O09501089	ERS013446	4	1995
O09501127	ERS013447	5	1995
O09501596	ERS013441	7	1995
O09700898	ERS013438	3	1997
O09700920	ERS013439	4	1997
O09701563	ERS013442	7	1997
O09801157	ERS013443	5	1998
O09801359	ERS013444	6	1998
P00301553	ERS013449	7	2003
P00401210	ERS016361	7	2004
P00401720	ERS013457	10	2004
P00601339	ERS007743	6	2006
P00601463	ERS007741	6	2006
P09501076	ERS013450	4	1995
P09501164	ERS013451	4	1995
P09501258	ERS016334	5	1994
P09501329	ERS013448	6	1995
P09501583	ERS013452	5	1994
P09501896	ERS013453	9	1995
P09502221	ERS013454	11	1995
P09600222	ERS013455	10	1995
P09701236	ERS013456	6	1997
Q00501124	ERS016337	6	2005
Q09600228	ERS013458	12	1995
Q09600750	ERS013459	4	1996
Q09701888	ERS016336	9	1997
Q09802318	ERS016335	10	1998
Q09900060	ERS013460	11	1998
Q09900131	ERS013461	12	1998
Q09900809	ERS013462	4	1999
Q09901139	ERS013463	5	1999
Q09901557	ERS013464	7	1999
Q09901859	ERS013465	9	1999
R00018412	ERS013474	11	1993
R00301759	ERS013468	10	2003
R00401166	ERS013473	7	2004
R09401256	ERS013469	5	1994
R09401839	ERS013470	7	1994
R09401899	ERS016338	9	1994
R09402296	ERS016339	11	1994
R09500613	ERS013471	2	1995
R09500614	ERS013472	2	1995
R09601315	ERS013467	6	1996
R09801836	ERS016340	8	1998

S00600143	ERS016344	1	2006
S00600351	ERS013475	1	2006
SAWC-507	ERS016364	?	?
T00200958	ERS013480	5	2002
T09601545	ERS013476	8	1996
T09800777	ERS013481	3	1998
T09800928	ERS013482	3	1998
T09900050	ERS013477	11	1998
T09900518	ERS013478	2	1999
T09901127	ERS013479	6	1999
U09801187	ERS016345	5	1998
U09801472	ERS013483	6	1998
V09501561	ERS016346	7	1995
V09601310	ERS013484	6	1996
W09900252	ERS016348	1	1999
W09900339	ERS016347	1	1999
W09900422	ERS013485	1	1999
W09900423	ERS013486	1	1999
W09900434	ERS013487	1	1999
W09900442	ERS013488	2	1999
X00800532	ERS013494	3	2008
X00800994	ERS016349	5	2008
Y00015573	ERS013496	7	1992
Y00015898	ERS013497	9	1992
Y09400034	ERS013498	12	1993
Y09500720	ERS013499	9	1992
Z09600572	ERS016351	3	1996
Z09901262	ERS013500	6	1999

9.3. Chapter 3

Appendix table 2 - Metadata associated with ReMoxTB study.

Patient number	Accession of primary isolate (a)	Accession of secondary isolate (b)	Time between episodes (weeks)	SNP distance	Site
2	ERS075344	ERS075345	36	64	Cape Town, SA
3	ERS075347	ERS075346	36	3	Stellenbosch, SA
4	ERS075348	ERS075349	48	6	Stellenbosch, SA
5	ERS075350	ERS075351	26	0	Stellenbosch, SA
6	ERS075352	ERS075353	26	0	Cape Town, SA
7	ERS075354	ERS075355	36	0	Stellenbosch, SA
8	ERS075356	ERS075357	26	48	Stellenbosch, SA
9	ERS075358	ERS075359	26	0	Stellenbosch, SA
10	ERS075360	ERS075361	48	1419	Cape Town, SA
11	ERS075363	ERS075362	26	0	Stellenbosch, SA

12	ERS075365	ERS075364	36	0	Stellenbosch, SA
13	ERS075366	ERS075367	36	1	Stellenbosch, SA
14	ERS075369	ERS075368	60	1340	Cape Town, SA
15	ERS075371	ERS075370	26	1364	Stellenbosch, SA
16	ERS075372	ERS075373	26	0	Cape Town, SA
17	ERS075374	ERS075375	26	0	Cape Town, SA
18	ERS075376	ERS075377	48	0	Stellenbosch, SA
19	ERS075378	ERS075379	36	0	Stellenbosch, SA
20	ERS075381	ERS075380	48	0	Stellenbosch, SA
21	ERS075382	ERS075383	36	1	Stellenbosch, SA
22	ERS075384	ERS075385	26	0	Cape Town, SA
23	ERS075386	ERS075387	36	0	Stellenbosch, SA
24	ERS075388	ERS075389	36	0	Cape Town, SA
25	ERS075390	ERS075391	48	0	Cape Town, SA
26	ERS075392	ERS075393	36	0	Cape Town, SA
27	ERS075394	ERS075395	36	0	Stellenbosch, SA
28	ERS075396	ERS075397	36	0	Stellenbosch, SA
29	ERS075398	ERS075399	36	0	Cape Town, SA
30	ERS075400	ERS075401	26	0	Stellenbosch, SA
31	ERS075402	ERS075403	26	0	Stellenbosch, SA
32	ERS124347	ERS124348	26	0	Durban, SA
33	ERS124349	ERS124350	60	0	Durban, SA
34	ERS124351	ERS124352	36	0	Durban, SA
35	ERS124353	ERS124354	17	1306	Durban, SA
36	ERS124355	ERS124356	28	898	Durban, SA
37	ERS124357	ERS124358	48	1207	Durban, SA
38	ERS124359	ERS124360	60	767	Durban, SA
40	ERS124363	ERS124364	36	0	Durban, SA
41	ERS124365	ERS124366	28	2	Johannesburg, SA
42	ERS124367	ERS124368	37	1	Brits, SA
43	ERS124369	ERS124370	36	1	Brits, SA
44	ERS124371	ERS124372	48	0	Brits, SA
45	ERS124374	ERS124373	17	1	Kuala Lumpur, MY
47	ERS124378	ERS124377	17	0	Kuala Lumpur, MY
48	ERS124379	ERS124380	36	0	Nonthaburi, TH
49	ERS124381	ERS124382	36	2	Nonthaburi, TH
50	ERS124383	ERS124384	36	0	Nonthaburi, TH

9.4. Chapter 4

Appendix table 3 - Number of assembled PE, PE-PGRS and PPE genes

Gene	Number of isolates for which is was assembled (total=48)	Gene	Number of isolates for which is was assembled (total=48)	Gene	Number of isolates for which is was assembled (total=48)
PE1	48	PE_PGRS1	48	PPE1	48
PE2	48	PE_PGRS2	48	PPE2	48
PE3	48	PE_PGRS3	7	PPE3	48
PE4	48	PE_PGRS4	40	PPE4	48
PE5	48	PE_PGRS5	48	PPE5	48
PE6	48	PE_PGRS6	47	PPE7	33
PE7	48	PE_PGRS7	48	PPE9	48
PE8	48	PE_PGRS8	48	PPE10	48
PE9	48	PE_PGRS9	44	PPE11	48
PE10	48	PE_PGRS10	44	PPE12	48
PE11	48	PE_PGRS11	48	PPE13	45
PE12	48	PE_PGRS13	48	PPE14	48
PE13	48	PE_PGRS14	48	PPE15	48
PE14	48	PE_PGRS15	48	PPE16	26
PE15	48	PE_PGRS16	48	PPE17	48
PE16	48	PE_PGRS17	7	PPE18	13
PE17	48	PE_PGRS18	19	PPE19	16
PE18	46	PE_PGRS19	36	PPE20	48
PE19	48	PE_PGRS20	17	PPE21	48
PE20	48	PE_PGRS21	46	PPE22	48
PE22	48	PE_PGRS22	38	PPE23	48
PE23	48	PE_PGRS23	48	PPE24	33
PE24	48	PE_PGRS24	48	PPE25	9
PE25	48	PE_PGRS25	48	PPE26	46
PE26	48	PE_PGRS26	48	PPE27	0
PE27A	39	PE_PGRS27	10	PPE28	48
PE27	48	PE_PGRS28	10	PPE29	48
PE29	9	PE_PGRS29	48	PPE30	48
PE31	48	PE_PGRS30	48	PPE31	48
PE32	48	PE_PGRS31	48	PPE32	48
PE33	48	PE_PGRS32	48	PPE33	48
PE34	48	PE_PGRS33	48	PPE34	20

PE35	48	PE_PGRS34	48	PPE35	48
PE36	48	PE_PGRS35	48	PPE36	48
		PE_PGRS36	48	PPE37	48
		PE_PGRS37	48	PPE38	6
		PE_PGRS38	48	PPE39	48
		PE_PGRS39	48	PPE40	14
		PE_PGRS40	48	PPE41	48
		PE_PGRS41	48	PPE42	48
		PE_PGRS42	48	PPE43	48
		PE_PGRS43	48	PPE44	48
		PE_PGRS44	48	PPE45	48
		PE_PGRS45	13	PPE46	9
		PE_PGRS46	48	PPE47	20
		PE_PGRS47	48	PPE49	44
		PE_PGRS48	48	PPE50	26
		PE_PGRS50	33	PPE51	48
		PE_PGRS51	48	PPE52	48
		PE_PGRS52	45	PPE53	20
		PE_PGRS53	45	PPE54	5
		PE_PGRS54	18	PPE55	43
		PE_PGRS55	11	PPE56	43
		PE_PGRS58	47	PPE57	21
		PE_PGRS57	0	PPE58	34
		PE_PGRS59	48	PPE59	20
		PE_PGRS60	48	PPE60	39
		PE_PGRS61	48	PPE61	48
		PE_PGRS62	48	PPE62	48
		PE_PGRS63	48	PPE63	48
		wag22	19	PPE64	48
				PPE65	48
				PPE66	46
				PPE68	48
				PPE69	46

9.5. Chapter 5

Appendix table 4 - Metadata associated with *M. abscessus* studies. Run accessions are specified as there were sometimes multiple runs for the same sample. Subspecies designations were inferred from whole genome data.

Strain name	Run accession	Sample accession	Month	Year	Subspecies
1_b	ERR119107	ERS075661	6	2008	abscessus sensu stricto
1_c	ERR115000	ERS075527	7	2008	abscessus sensu stricto
1_d	ERR115004	ERS075531	9	2008	abscessus sensu stricto
1_e	ERR115005	ERS075532	9	2008	abscessus sensu stricto
1_f	ERR115040	ERS075567	3	2010	abscessus sensu stricto
1_g	ERR115046	ERS075573	4	2010	abscessus sensu stricto
1_h	ERR115079	ERS075606	7	2010	abscessus sensu stricto
10_a	ERR115063	ERS075590	11	2010	bolletii
11_a	ERR114976	ERS075503	1	2008	abscessus sensu stricto
11_b	ERR114996	ERS075523	1	2008	abscessus sensu stricto
11_c	ERR114972	ERS075499	3	2009	abscessus sensu stricto
11_d	ERR115043	ERS075570	7	2009	abscessus sensu stricto
11_e	ERR115026	ERS075553	7	2009	abscessus sensu stricto
12_a	ERR115108	ERS075635	7	2008	massiliense
12_b	ERR115003	ERS075530	7	2008	massiliense
12_c	ERR115019	ERS075546	3	2009	massiliense
12_d	ERR115023	ERS075550	4	2009	massiliense
12_e	ERR119106	ERS075660	8	2009	massiliense
12_f	ERR115036	ERS075563	2	2010	massiliense
12_g	ERR115050	ERS075577	5	2010	massiliense
13_a	ERR115007	ERS075534	10	2008	massiliense
13_b	ERR115034	ERS075561	1	2010	massiliense
14_a	ERR115012	ERS075539	12	2008	massiliense
14_b	ERR115013	ERS075540	12	2008	massiliense
14_c	ERR119104	ERS075658	12	2008	massiliense
14_d	ERR119105	ERS075659	1	2009	massiliense
14_e	ERR115021	ERS075548	4	2009	massiliense
14_f	ERR115071	ERS075598	1	2011	massiliense
14_g	ERR115087	ERS075614	2	2011	massiliense
14_h	ERR115088	ERS075615	2	2011	massiliense
14_i	ERR115075	ERS075602	3	2011	massiliense
15_a	ERR115070	ERS075597	12	2010	abscessus sensu stricto
16_a	ERR115020	ERS075547	3	2009	mixed
16_b	ERR115025	ERS075552	5	2009	mixed
16_c	ERR119102	ERS075656	12	2009	mixed
16_d	ERR119103	ERS075657	3	2010	mixed
17_a	ERR115022	ERS075549	4	2009	massiliense
18_a	ERR115030	ERS075557	8	2009	massiliense
18_b	ERR119095	ERS075649	8	2009	massiliense
19_a	ERR119096	ERS075650	9	2009	massiliense
19_b	ERR115101	ERS075628	10	2009	massiliense
19_c	ERR119084	ERS075638	11	2009	massiliense
19_d	ERR119082	ERS075636	11	2009	massiliense
19_e	ERR119088	ERS075642	11	2009	massiliense
19_f	ERR119085	ERS075639	1	2010	massiliense
19_g	ERR119083	ERS075637	1	2010	massiliense
19_h	ERR119089	ERS075643	1	2010	massiliense

19_i	ERR115107	ERS075634	3	2010	massiliense
19_j	ERR115044	ERS075571	3	2010	massiliense
19_k	ERR119086	ERS075640	4	2010	massiliense
19_l	ERR119087	ERS075641	5	2010	massiliense
19_m	ERR115051	ERS075578	5	2010	massiliense
19_n	ERR115055	ERS075582	7	2010	massiliense
19_o	ERR115080	ERS075607	8	2010	massiliense
19_p	ERR115059	ERS075586	8	2010	massiliense
19_q	ERR115083	ERS075610	9	2010	massiliense
19_r	ERR115069	ERS075596	12	2010	massiliense
2_a	ERR114970	ERS075497	11	2007	massiliense
2_aa	ERR115053	ERS075580	6	2010	massiliense
2_ab	ERR115057	ERS075584	8	2010	massiliense
2_ac	ERR119108	ERS075662	11	2010	massiliense
2_ad	ERR115086	ERS075613	2	2011	massiliense
2_b	ERR114971	ERS075498	11	2007	massiliense
2_c	ERR114973	ERS075500	12	2007	massiliense
2_d	ERR115098	ERS075625	12	2007	massiliense
2_e	ERR115093	ERS075620	1	2008	massiliense
2_f	ERR114980	ERS075507	2	2008	massiliense
2_g	ERR114981	ERS075508	2	2008	massiliense
2_h	ERR114982	ERS075509	2	2008	massiliense
2_i	ERR114995	ERS075522	3	2008	massiliense
2_j	ERR114988	ERS075515	3	2008	massiliense
2_k	ERR114989	ERS075516	3	2008	massiliense
2_l	ERR114992	ERS075519	3	2008	massiliense
2_m	ERR114990	ERS075517	3	2008	massiliense
2_n	ERR114991	ERS075518	3	2008	massiliense
2_o	ERR114998	ERS075525	6	2008	massiliense
2_p	ERR115001	ERS075528	7	2008	massiliense
2_q	ERR115009	ERS075536	10	2008	massiliense
2_r	ERR115014	ERS075541	12	2008	massiliense
2_s	ERR115015	ERS075542	1	2009	massiliense
2_t	ERR115016	ERS075543	1	2009	massiliense
2_u	ERR119090	ERS075644	6	2009	massiliense
2_v	ERR119092	ERS075646	8	2009	massiliense
2_w	ERR119091	ERS075645	9	2009	massiliense
2_x	ERR119093	ERS075647	10	2009	massiliense
2_y	ERR119094	ERS075648	12	2009	massiliense
2_z	ERR115099	ERS075626	3	2010	massiliense
20_a	ERR115105	ERS075632	11	2009	massiliense
20_b	ERR115037	ERS075564	2	2010	massiliense
20_c	ERR115045	ERS075572	3	2010	massiliense
20_d	ERR115048	ERS075575	5	2010	massiliense
20_e	ERR115078	ERS075605	7	2010	massiliense
20_f	ERR115056	ERS075583	7	2010	massiliense
20_g	ERR115060	ERS075587	9	2010	massiliense
20_h	ERR115068	ERS075595	12	2010	massiliense
21_a	ERR115031	ERS075558	11	2009	abscessus sensu stricto
21_b	ERR115032	ERS075559	12	2009	abscessus sensu stricto
21_c	ERR115033	ERS075560	12	2009	abscessus sensu stricto
21_d	ERR115047	ERS075574	5	2010	abscessus sensu stricto
22_a	ERR119101	ERS075655	3	2010	massiliense

22_b	ERR115038	ERS075565	2	2010	massiliense
22_c	ERR115042	ERS075569	3	2010	massiliense
22_d	ERR115058	ERS075585	8	2010	massiliense
22_e	ERR115082	ERS075609	9	2010	massiliense
22_f	ERR115064	ERS075591	11	2010	massiliense
22_g	ERR115067	ERS075594	12	2010	massiliense
22_h	ERR115073	ERS075600	2	2011	massiliense
22_i	ERR115076	ERS075603	3	2011	massiliense
23_a	ERR115039	ERS075566	2	2010	abscessus sensu stricto
24_a	ERR115049	ERS075576	5	2010	abscessus sensu stricto
25_a	ERR115052	ERS075579	6	2010	massiliense
26_a	ERR115054	ERS075581	7	2010	abscessus sensu stricto
27_a	ERR115081	ERS075608	8	2010	massiliense
28_a	ERR115061	ERS075588	10	2010	massiliense
28_b	ERR115062	ERS075589	11	2010	massiliense
28_c	ERR115065	ERS075592	11	2010	massiliense
28_d	ERR115084	ERS075611	11	2010	massiliense
28_e	ERR115085	ERS075612	1	2011	massiliense
28_f	ERR115074	ERS075601	2	2011	massiliense
29_a	ERR115072	ERS075599	2	2011	massiliense
29_b	ERR115089	ERS075616	3	2011	massiliense
29_c	ERR115092	ERS075619	4	2011	massiliense
3_a	ERR114977	ERS075504	1	2008	bolletii
3_b	ERR114978	ERS075505	1	2008	bolletii
3_c	ERR115106	ERS075633	1	2008	bolletii
3_d	ERR114979	ERS075506	1	2008	bolletii
3_e	ERR114997	ERS075524	5	2008	bolletii
3_f	ERR115002	ERS075529	7	2008	bolletii
3_g	ERR115008	ERS075535	10	2008	bolletii
3_h	ERR115017	ERS075544	2	2009	bolletii
3_i	ERR115095	ERS075622	2	2009	bolletii
3_j	ERR115027	ERS075554	7	2009	bolletii
3_k	ERR115028	ERS075555	7	2009	bolletii
3_l	ERR115029	ERS075556	7	2009	bolletii
3_m	ERR115103	ERS075630	12	2009	bolletii
3_n	ERR119097	ERS075651	5	2010	bolletii
30_a	ERR115090	ERS075617	3	2011	massiliense
31_a	ERR115091	ERS075618	3	2011	abscessus sensu stricto
31_b	ERR115077	ERS075604	4	2011	abscessus sensu stricto
4_a	ERR114967	ERS075494	11	2007	abscessus sensu stricto
4_b	ERR115035	ERS075562	11	2007	abscessus sensu stricto
5_a	ERR115094	ERS075621	12	2007	abscessus sensu stricto
5_b	ERR114975	ERS075502	1	2008	abscessus sensu stricto
5_c	ERR115096	ERS075623	1	2008	abscessus sensu stricto
5_d	ERR114983	ERS075510	2	2008	abscessus sensu stricto
5_e	ERR114993	ERS075520	4	2008	abscessus sensu stricto
5_f	ERR114994	ERS075521	4	2008	abscessus sensu stricto
5_g	ERR115006	ERS075533	9	2008	abscessus sensu stricto
5_h	ERR115010	ERS075537	11	2008	abscessus sensu stricto
5_i	ERR115011	ERS075538	11	2008	abscessus sensu stricto
5_j	ERR115018	ERS075545	2	2009	abscessus sensu stricto
5_k	ERR115024	ERS075551	5	2009	abscessus sensu stricto
5_l	ERR119100	ERS075654	10	2009	abscessus sensu stricto

5_m	ERR119098	ERS075652	12	2009	abscessus sensu stricto
5_n	ERR115097	ERS075624	1	2010	abscessus sensu stricto
5_o	ERR119099	ERS075653	2	2010	abscessus sensu stricto
5_p	ERR115066	ERS075593	12	2010	abscessus sensu stricto
6_a	ERR114968	ERS075495	11	2007	abscessus sensu stricto
7_a	ERR115041	ERS075568	10	2007	abscessus sensu stricto
7_b	ERR114965	ERS075492	10	2007	abscessus sensu stricto
7_c	ERR114966	ERS075493	10	2007	abscessus sensu stricto
7_d	ERR114984	ERS075511	10	2007	abscessus sensu stricto
8_a	ERR114987	ERS075514	12	2007	massiliense
8_b	ERR115100	ERS075627	12	2007	massiliense
9_a	ERR114986	ERS075513	11	2007	abscessus sensu stricto
9_b	ERR115102	ERS075629	11	2007	abscessus sensu stricto
9_c	ERR114974	ERS075501	12	2007	abscessus sensu stricto
9_d	ERR115104	ERS075631	12	2007	abscessus sensu stricto

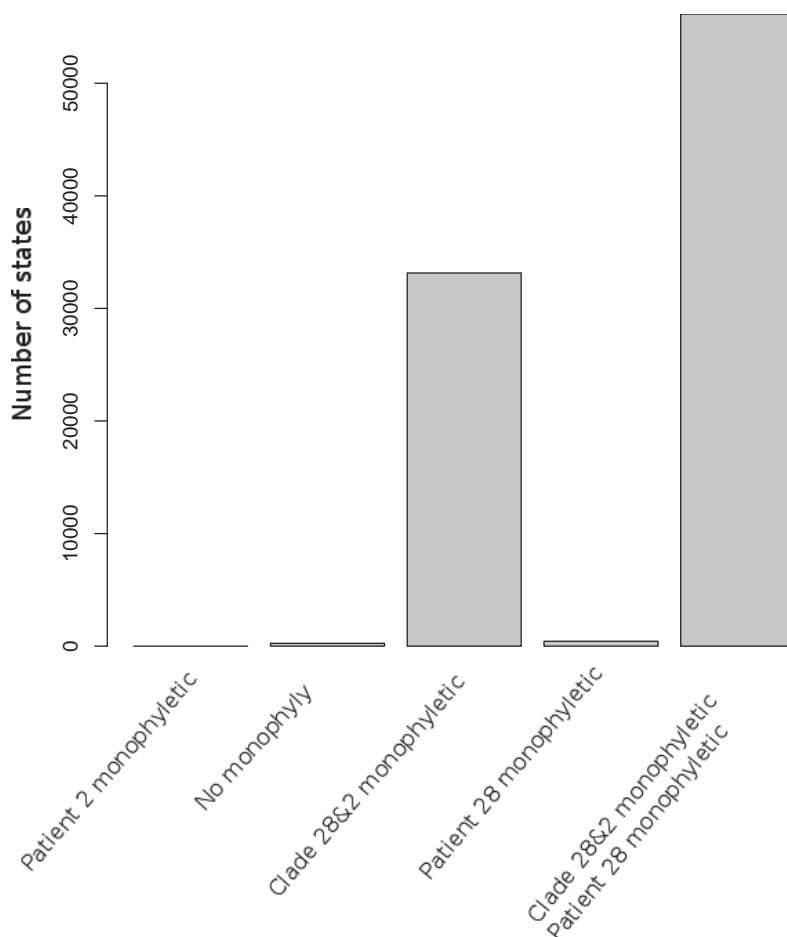


Figure 48 - Additional BEAST run of monophyly test reported in section 5.3.5

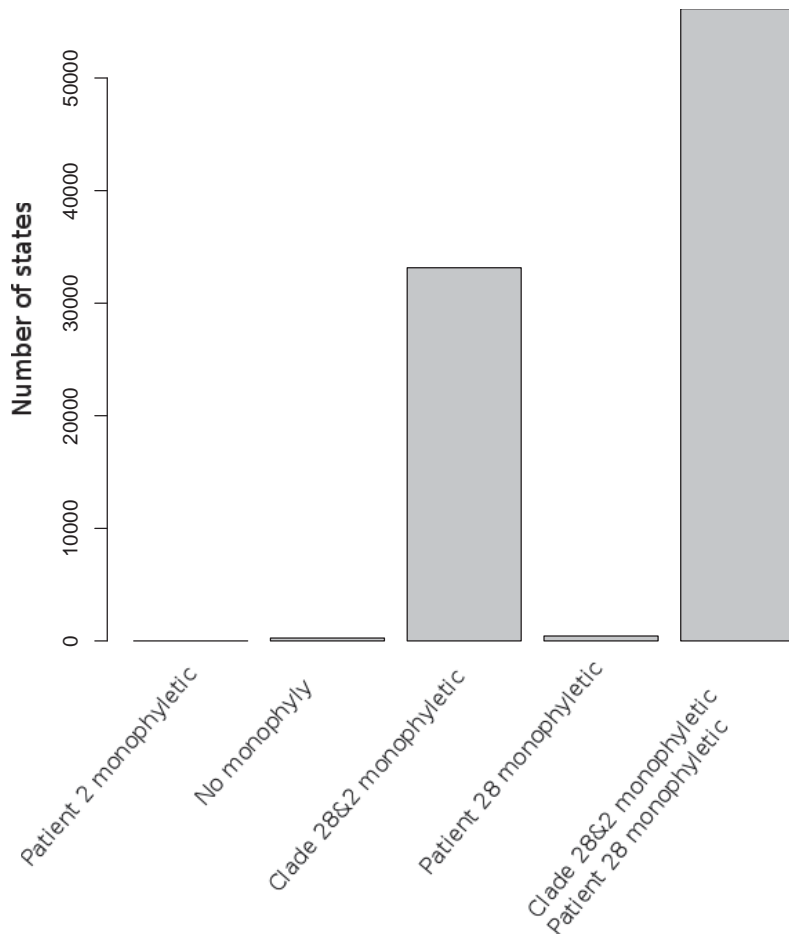


Figure 49. Additional BEAST run of monophyly test reported in section 5.3.5

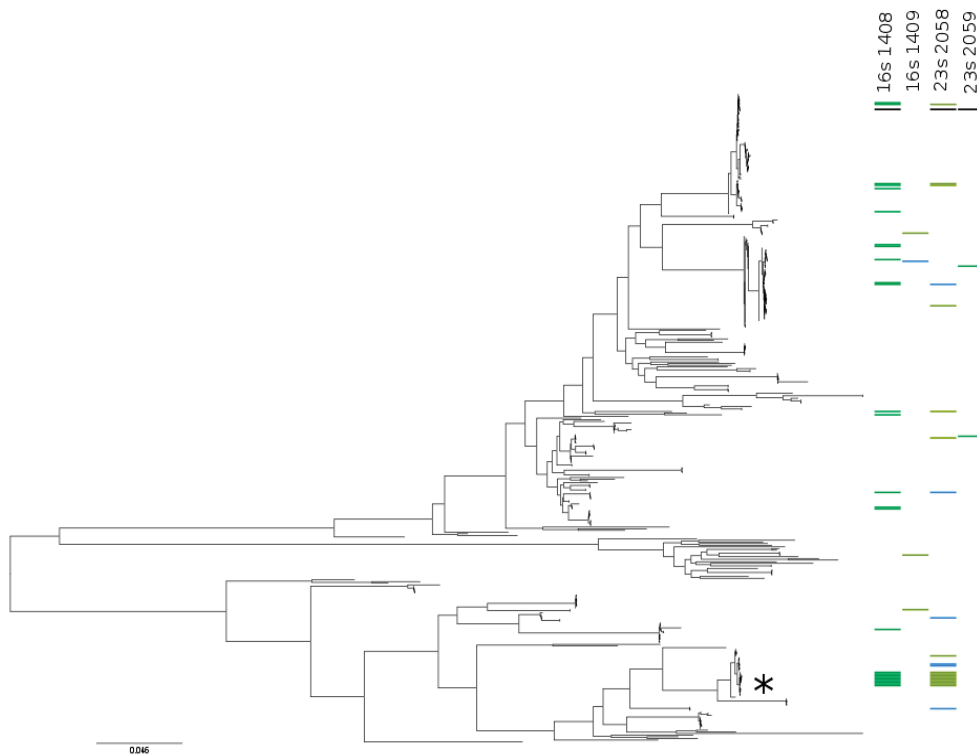


Figure 50. Amikacin and clarithromycin resistance in preliminary analysis of global collection of *M. abscessus* isolates. ML tree of first isolates collected from ~300 patients as part of global *M. abscessus* diversity project (unpublished data) constructed using RAxML (Stamatakis 2006). The alleles of loci known to confer resistance to amikacin or clarithromycin were extracted from the mapping data, and presented next to the corresponding isolate on the tree. Different colours represent different nucleotides. This demonstrates that resistance is rarely sustained in the population, except in the case of the Papworth *M. a. massiliense* transmission clusters (indicated with star).

9.6. Chapter 6

Appendix table 5 - Samples used in within-patient diversity sample and their colony morphotype.

R= rough, S= Smooth

Sample	Colony morphotype	Sample	Colony morphotype
11a	R	22h	S
11b	R	22i	S
11c	R	28a	R
11d	R	28b	R

11e	R	28c	R
12a	S	28d	R
12b	S	28e	R
12c	S	28f	R
12d	S	2a	R
12e	S	2aa	R
12f	S	2ac	R
12g	S	2ad	R
13a	R	2b	R
13b	R	2c	R
14b	S	2d	R
14c	S	2e	R
14d	S	2f	R
14e	S	2g	R
14g	R	2h	R
14h	S	2i	R
14i	R	2j	R
18a	R	2k	R
18b	R	2l	R
19a	S	2m	R
19b	S	2n	R
19c	S	2o	R
19d	S	2p	S
19e	S	2r	R
19f	S	2s	R
19g	S	2t	R
19h	S	2u	R
19i	S	2v	S
19j	S	2w	R
19k	S	2x	R
19l	S	2y	R
19m	S	2z	R
19n	S/R	3a	R
19o	S	3b	R
19p	S	3c	R
19q	S	3d	R
19r	S	3e	R
1a	S	3f	R
1c	R	3g	R
1d	S	3h	R
1e	S	3i	R
1f	R	3j	R
1g	R	3l	R
20a	S/R	3m	R
20b	S/R	3n	R
20c	S	5a	S

20d	S	5b	S
20e	S	5d	S
20f	S	5e	S
20g	S/R	5f	S
20h	S/R	5g	S
22a	S	5h	S
22b	S	5j	S/R
22c	S	5k	S
22e	R	5m	R
22f	S	5n	S
22g	S	5o	S
		5p	S

9.6.1. List of possible antibiotic resistance associated genes in *M. abscessus*

MAB_0035c
MAB_0036c
MAB_0313c
MAB_0327
MAB_0408c
MAB_0519
MAB_0951
MAB_1257
MAB_2000
MAB_2179
MAB_2297
MAB_2359
MAB_2875
MAB_3165c
MAB_3167c
MAB_3637c
MAB_3681
MAB_4395
MAB_4482
MAB_4901c
MAB_4910c
MAB_0330
MAB_0414
MAB_0696c
MAB_1114
MAB_1312
MAB_1386
MAB_1387
MAB_1870
MAB_2179

MAB_2314c
MAB_2833
MAB_2875
MAB_4006
MAB_4231
MAB_4755c
MAB_4800
MAB_4805
MAB_4947
MAB_r5051
MAB_r5052

Appendix table 6 – Frequency of recurrent minority variants identified in patient 2 and 28

Sam- ple	Date	MAB_01 40c	MAB_0 173	MAB_0 179	upstream MAB_0408c	of	MAB_04 16c	MAB_0 477	MAB_0 674	MAB_1 057	interge nic	MAB_1 683	MAB_2 618	MAB_2 742	MAB_3 072	upstream of MAB_3360c & MAB_3361
2a	11/30/0 7	0.00	0.51	0.06	0.47	0.50	0.00	0.00	0.00	0.14	0.03	0.50	0.55	0.00	0.00	0.00
2b	11/30/0 7	0.47	0.97	0.10	0.00	0.81	0.00	0.00	0.00	0.64	0.06	0.97	0.81	0.00	0.64	0.00
2c	12/13/0 7	0.00	0.95	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.99	0.94	0.00	0.00	0.00
2d	12/13/0 7	0.24	0.99	0.00	0.00	0.96	0.00	0.64	0.64	0.97	0.00	0.98	0.96	0.00	0.23	0.00
2e	1/28/08	0.21	0.82	0.00	0.06	0.59	0.11	0.00	0.00	0.30	0.00	0.92	0.72	0.00	0.16	0.00
2f	2/8/08	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00
2g	2/8/08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2h	2/9/08	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2i	3/5/08	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2j	3/15/08	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2k	3/18/08	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00
2l	3/18/08	0.00	0.99	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2m	3/19/08	0.00	0.96	0.00	0.00	0.92	0.40	0.00	0.00	0.39	0.00	0.96	0.93	0.00	0.00	0.00
2n	3/19/08	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.99	0.00	1.00	1.00	0.00	0.00	0.00
2o	6/4/08	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00	1.00	0.99	0.00	0.00	0.00
2p	7/29/08	0.00	0.97	0.00	0.00	0.96	0.00	0.99	0.99	0.99	0.00	0.97	0.95	0.00	0.00	0.00
2r	12/17/0 8	0.00	0.79	0.00	0.00	0.81	0.79	0.00	0.00	0.00	0.00	0.89	0.87	0.00	0.00	0.10
2s	1/7/09	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00	1.00	1.00	0.00	0.00	0.00
2t	1/21/09	0.00	1.00	0.00	0.00	1.00	0.99	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
2u	6/2/09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
2v	8/25/09	0.32	0.99	0.39	0.00	0.36	0.00	0.06	0.06	0.34	0.00	1.00	0.31	0.00	0.31	0.00
2w	9/30/09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
2x	10/17/0 9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2y	12/8/09	0.00	0.12	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.08	0.16	0.07	0.00	0.33
2z	3/31/10	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
2aa	6/11/10	0.00	0.12	0.12	0.36	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.35	0.00	0.00
2ac	11/12/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2ad	2/6/11	0.00	0.08	0.00	0.00	0.05	0.06	0.00	0.00	0.00	0.07	0.03	0.00	0.00	0.83
28a	26/10/2010	0.00	0.99	0.00	0.00	0.99	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
28b	08/11/2010	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
28c	09/11/2010	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
28d	24/11/2010	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
28e	23/01/2011	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.99	1.00	0.00	0.00	0.00
28f	28/02/2011	0.00	1.00	0.00	0.00	0.99	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00