

Table S1. List of bacterial strains used in this study.

Name	Description/genotype	Marker	Reference
Strains			
<i>M. abscessus</i> Smooth (S)	<i>M. abscessus sensu stricto</i> , strain CIP104536 ^T , S morphotype	–	Laboratoire de Référence des Mycobactéries
<i>M. abscessus</i> Rough (R)	<i>M. abscessus sensu stricto</i> , strain CIP104536 ^T , R morphotype	–	Laboratoire de Référence des Mycobactéries
<i>M. massiliense</i> (R)	<i>M. abscessus massiliense</i> , strain CIP108297 ^T , R morphotype	–	Laboratoire de Référence des Mycobactéries
<i>M. bolletii</i> (S)	<i>M. abscessus bolletii</i> , strain CIP108541 ^T , S morphotype	–	Laboratoire de Référence des Mycobactéries
<i>M. abscessus</i> S 1298 (S)	<i>M. abscessus sensu stricto</i> , clinical isolate from a cystic fibrosis (CF) patient, S morphotype	–	(1)
<i>M. abscessus</i> S 2069 (S)	<i>M. abscessus sensu stricto</i> , clinical isolate from a non-CF patient, S morphotype	–	(1)
<i>M. abscessus</i> R 2648 (R)	<i>M. abscessus sensu stricto</i> , clinical isolate from a CF patient, R morphotype	–	(1)
<i>M. abscessus</i> R 3022 (R)	<i>M. abscessus sensu stricto</i> , clinical isolate from a non-CF patient, R morphotype	–	(1)
<i>M. abscessus</i> S - Δ erm(41)	erm(41) unmarked deletion mutant in the S variant of CIP104536 ^T	-	This study
<i>E. coli</i> XL1-Blue	recA1 endA1 gyrA96 thi-1 hsdR17 supE44 relA1 lac [F' proAB lacIqZ Δ M15 Tn10 (Tetr)].	Tet	Stratagene

Table S2. PCR primers used in this study. Fow and Rev stand for forward and reverse, respectively.

Primers	5' to 3' sequence
Cloning in pMV261_ <i>lacZ</i> derivatives	
P ₁₂₃ Fow	GGTATAT <u>CTAGAG</u> CGGCACGTTCTGACGAAAGAA (XbaI)
P ₁₂₃ Rev	GGTATAGGAT <u>CCGACG</u> CAGCACCATCATGAATA (BamHI)
P ₉₂ Fow	GGTATAT <u>CTAGAA</u> TGGCGACCGGGCCTTCTTCGTG (XbaI)
P ₆₁ Fow	GGTATAT <u>CTAGAG</u> AAACCAGTTGCATGCCCGATAT (XbaI)
P ₃₈ Fow	<u>CTAGAT</u> CCTTTGGAGCATGGGCATATTCATGATGGTGCTGCGT <u>CG</u> (XbaI)
P ₃₈ Rev	<u>GATCCG</u> ACGCAGCACCATCATGAATATGCCCATGCTCCAAAGAT (BamHI)
P _{Mut(B7)} Fow	<u>CTAGAG</u> GGGG CAGTTGCATGCCCGATATCTTTGGAGCATGGGCATATTCATGATGGTGCTGCGT <u>CG</u> (XbaI)
P _{Mut(B7)} Rev	<u>GATCCG</u> ACGCAGCACCATCATGAATATGCCCATGCTCCAAAGATA TCGGGGCATGCAACTG CCCC T (BamHI)
P _{Mut(-35)} Fow	<u>CTAGAG</u> AAACCAG CCATGC CCCCGATATCTTTGGAGCATGGGCATATTCATGATGGTGCTGCGT <u>CG</u> (XbaI)
P _{Mut(-35)} Rev	<u>GATCCG</u> ACGCAGCACCATCATGAATATGCCCATGCTCCAAAGATA TCGGGG GCATGG CTGGTTTCT (BamHI)
P _{Mut(B7/-35)} Fow	<u>CTAGAG</u> GGGG CAG CCATGC CCCCGATATCTTTGGAGCATGGGCATATTCATGATGGTGCTGCGT <u>CG</u> (XbaI)
P _{Mut(B7/-35)} Rev	<u>GATCCG</u> ACGCAGCACCATCATGAATATGCCCATGCTCCAAAGATA TCGGGG GCATGG CTG CCCC T (BamHI)
Cloning in pMV361-<i>ApraR</i>	
361- <i>whiB7</i> Fow	ACTTCGCAATGATGACCGTTGAAGTGGAG
361- <i>whiB7</i> Rev	CTAAGCGTAATCTGGAACATCGTATGGGTATGCCGCGGCGGTGTCGCGTC
Cloning in pMV261_P₁₂₃_tdTomato	
261-tdTomato Fow	GAGAGAGGAT <u>CCGTGAG</u> CAAGGGCGAGGAG (BamHI)
261-tdTomato Rev	GAGAGAAAGCTTCTACTTGTACAGCTCGTC (HindIII)
Cloning in pUX1-<i>katG</i>	
<i>erm(41)</i> KO_U_F	GAGAGACAATTGCGGATCTGCAGCCGTATATC (MfeI)
<i>erm(41)</i> KO_U_R	CCGTTGGCCGGACACGAC
<i>erm(41)</i> KO_D_F	TGGTGCTGCGTCGTGTCCGGCCAACGGGTGCTGGTGATCAGGCGGCGCTGA
<i>erm(41)</i> KO_D_R	GAGAGAGCTAGCTGCACCAGAACGGCGCGT (XbaI)
Sequencing	
pMV5' Ext	CGCCGGCCAGCGTAAGTAGC
<i>lacZ</i> intern Rev	GATACAGCGCGTCGTGATTA
<i>erm(41)</i> Fow	ACGCCGAGGCCGAGCGCCGTCACA
<i>erm(41)</i> Rev	CGCAGTATCGTTTCTCCAAAGGCC

^aRestriction sites are underlined and specified inside brackets.

^bMutagenized bases are shown in bold.

Tables S3. List of the plasmids used in this study.

Plasmids			
pTEC27	Multicopy <i>E. coli</i> /mycobacterial shuttle vector to express <i>tdTomato</i> under the control of a strong mycobacterial promoter	Hyg	Addgene (plasmid 30182)
pMV261	Multicopy <i>E. coli</i> /mycobacterial shuttle vector	Kan	(2)
pMV261_P _{<i>hsp60</i>} _lacZ	The <i>hsp60</i> promoter region is cloned upstream of <i>lacZ</i> into pMV261.	Kan	(3)
pMV261_P ₁₂₃ _lacZ	The full intergenic region of <i>erm(41)</i> of 123 bp is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P ₉₂ _lacZ	A truncated version of 92 bp of the <i>erm(41)</i> intergenic region is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P ₆₁ _lacZ	A truncated version of 61 bp of the <i>erm(41)</i> intergenic region is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P ₃₈ _lacZ	A truncated version of 38 bp of the <i>erm(41)</i> intergenic region is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P _{61_Mut(B7)} _lacZ	A truncated version of 61 bp of the <i>erm(41)</i> intergenic region containing mutations in the <i>whiB7</i> binding site is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P _{61_Mut(-35)} _lacZ	A truncated version of 61 bp of the <i>erm(41)</i> intergenic region containing mutation in the putative <i>erm(41)</i> -35 box is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_P _{61_Mut(B7/-35)} _lacZ	A truncated version of 61 bp of the <i>erm(41)</i> intergenic region containing mutation into the <i>whiB7</i> binding site and in the putative <i>erm(41)</i> -35 box is cloned upstream of <i>lacZ</i> into pMV261.	Kan	This study
pMV261_lacZ	The <i>lacZ</i> reporter gene is cloned into a promoter-less pMV261.	Kan	(3)
pMV261_P _{MAB_4384} _lacZ	pMV261_lacZ carrying the promoter region of <i>MAB_4384</i> cloned upstream of <i>lacZ</i>	Kan	(3)
pMV261_P ₁₂₃ _tdTomato	The red fluorescent marker <i>tdTomato</i> is cloned into the pMV261 under the control of the full/123bp <i>erm(41)</i> intergenic region.	Kan	This study
pMV361_whiB7	<i>whiB7</i> cloned into the integrative vector pMV361 under the control of the strong and constitutive <i>hsp60</i> promoter.	Apra	This study

Hyg, hygromycin; Kan, kanamycin; Apra, apramycin.

References

1. Singh S, Bouzinbi N, Chaturvedi V, Godreuil S, Kremer L. 2014. In vitro evaluation of a new drug combination against clinical isolates belonging to the *Mycobacterium abscessus* complex. *Clin Microbiol Infect* 20:O1124–O1127.
2. Stover CK, de la Cruz VF, Fuerst TR, Burlein JE, Benson LA, Bennett LT, Bansal GP, Young JF, Lee MH, Hatfull GF. 1991. New use of BCG for recombinant vaccines. *Nature* 351:456–460.
3. Richard M, Gutiérrez AV, Viljoen AJ, Ghigo E, Blaise M, Kremer L. 2018. Mechanistic and Structural Insights Into the Unique TetR-Dependent Regulation of a Drug Efflux Pump in *Mycobacterium abscessus*. *Front Microbiol* 9:649.

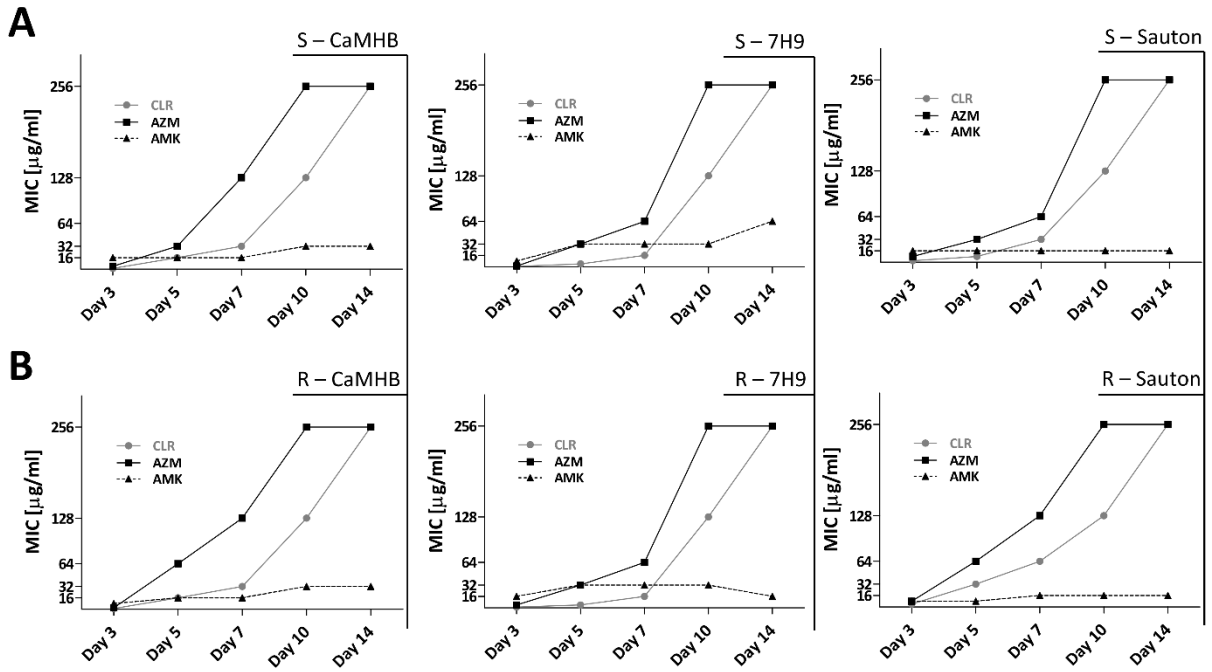


Figure S1. Macrolide-induced resistance profile of *M. abscessus* CIP104536^T smooth (A) and rough (B) variants in different broth media. MICs of the two morphotypes were assessed over a period of 14 days in CaMHB, Sauton's medium and Middlebrook 7H9-Glycerol broth. AMK was included as a non-related control drug.

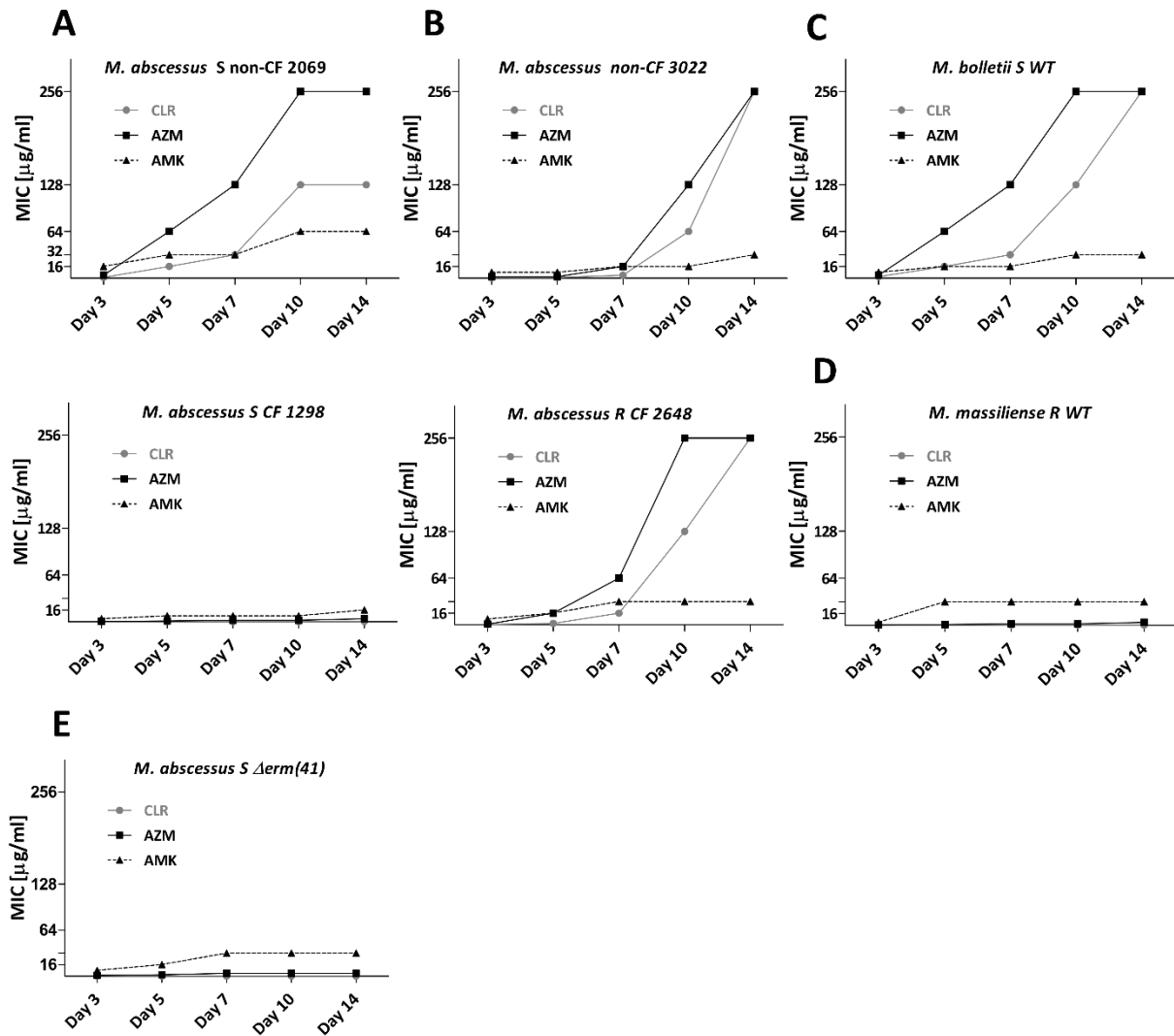


Figure S2. Macrolide-induced resistance profile of clinical isolates in CaMHB. (A) Smooth *M. abscessus* clinical isolates. **(B)** Rough *M. abscessus* clinical isolates. **(C)** Smooth *M. bolletii* CIP108541^T. **(D)** Rough *M. massiliense* CIP108297^T. **(E)** Smooth *M. abscessus* CIP104536^T in which the *erm(41)* gene has been deleted by double homologous recombination using the suicide-vector pUX1-*katG*. AMK was included as a non-related control drug.

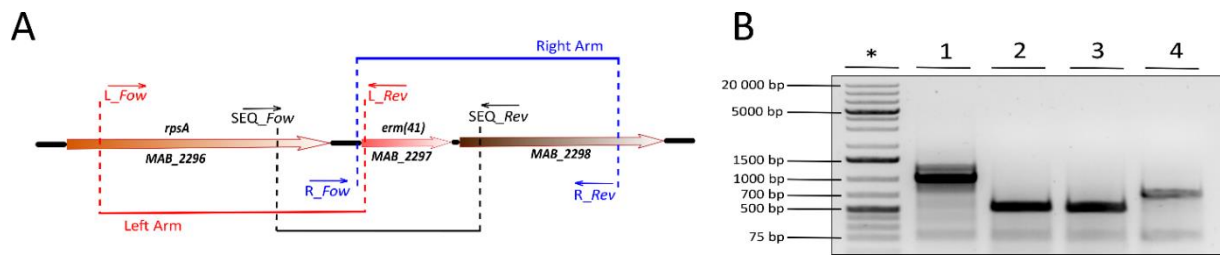


Figure S3. Unmarked deletion of the *erm(41)* gene. (A) Genomic environment of *erm(41)*. The L_Fow/L_Rev and the R_Fow/R_Rev primer sets were used to produce left and right arms, respectively, which were subsequently used to generate pUX1_ *katG-erm(41)* to delete *erm(41)* by double homologous recombination. (B) 1 % agarose gel of the amplicons using the SEQ_Fow and SEQ_Rev primers. The expected sizes are: *M. abscessus* WT (1034 bp; lane 1), *M. abscessus* Δ *erm(41)* Clone 1 (509 bp; lane 2), *M. abscessus* Δ *erm(41)* Clone 2 (509 bp; lane 3) and *M. massiliense* WT (758 bp; lane 4). (*) GeneRuler™ 1 kb Plus DNA Ladder.