

Table S1. The MICs of anti-TB drugs of mc²51 and mc²155;

MIC	INH (mg/L)	H ₂ O ₂ (mM)	STR (mg/L)	EMB (mg/L)	RFP (mg/L)	CIP (mg/L)	Kan (mg/L)	Amp (mg/L)
mc ² 155	10	0.05	0.25	0.25	5	0.125	0.625	31.25
mc ² 51	0.1	2.5	0.25	0.25	5	0.125	0.625	125

Table S2. Mutations identified in mc²51;

Mutation position	Gene	Protein	Reference nucleotide	Substitute nucleotide	Reference amino acid	Substitute amino acid
185148	MSMEG_0161	formate dehydrogenase subunit alpha	G	A	Cys	Tyr
272276	MSMEG_0241	MmpL11	A	T	Tyr	Stop
934523	MSMEG_0850	hypothetical protein	C	T	Ala	Val
1475729	MSMEG_1375	tagatose-1,6-bisphosphate aldolase, GatY	G	A	-	-
1693605	MSMEG_1606	benzoylformate decarboxylase	C	T	-	-
3501569	MSMEG_3430	SAM-dependent methyltransferase	G	A	Asp	Asn
3526423			C	T		
3526518	MSMEG_3460	ferric uptake regulation protein, FurB	C	T	Ala	Val
3667399	MSMEG_3603	oxidoreductase, zinc-binding dehydrogenase	G	A	Ala	Val
3919450	MSMEG_3847	tyramine oxidase, TynA	G	T	Cys	Stop
4212322			C	A		
4214321	MSMEG_4134	pseudogene	G	T		
4214326	MSMEG_4134	pseudogene	C	A		
4214347	MSMEG_4134	pseudogene	A	C		
5118221	MSMEG_5021	alcohol dehydrogenase	G	A	-	-
5141995	MSMEG_5044	ATPase	G	T	Ser	Ile
5295214	MSMEG_5197	long-chain specific acyl-CoA dehydrogenase	T	C	Asp	Gly
5584311			A	C		
5953123	MSMEG_5893	hypothetical protein	G	C	Gln	Glu
5979886	MSMEG_5920	FMN-dependent monooxygenase	T	C	Asp	Ala
6915055	MSMEG_6866	peptide ABC transporter permease	C	A	Ala	Glu
6915059	MSMEG_6866	peptide ABC transporter permease	G	T	-	-

Table S3. The effects of Fur overexpression on the INH and H₂O₂ resistance in mc²51.

MIC	mc ² 155	mc ² 51		
	pMV361	pMV361	pMV361-L-fur	pMV361-fur
H ₂ O ₂ (mM)	<0.0244	3.125	0.3906	0.3906
INH(mg/L)	6.25	0.0195	0.3906	1.526

Table S4. Strains and Plasmids used in this study

Name	Relevant genotype or description	Reference
Strains		
<i>M. smegmatis</i>		
mc ² 155	wild type	W.R. Jacobs
mc ² 51	An high H ₂ O ₂ resistance strain	This work
mc ² 155 (pMV261)	mc ² 155 containing pMV261 vector	This work
mc ² 155 (pMV361)	mc ² 155 integrating pMV361 vector	This work
mc ² 51 (pMV261)	mc ² 51 containing pMV261 vector	This work
mc ² 51 (pMV361)	mc ² 51 integrating pMV361 vector	This work
mc ² 51 (pMV361-L- <i>fur</i>)	mc ² 51 integrating pMV361-L- <i>fur</i> vector	This work
mc ² 51 (pMV361- <i>fur</i>)	mc ² 51 integrating pMV361 - <i>fur</i> vector	This work
<i>E. coli</i>		
DH5α	F ⁻ recA1 hsdR17 thi-1 gyrA96 supE44 endA1relA1 recA1 deoR Δ(lacZYA-argF)U169 (φ80lacZΔM15)	
Plasmids		
pMV261	Mycobacterial extrachromosomal expression vector, Km ^R	(1)
pMV361	Mycobacterial integrative expression vector, Km ^R	(1)
pMV361-L- <i>fur</i>	pMV361 containing full sequence of <i>fur</i> and its 39 nt 5'-UTR, Km ^R	This work
pMV361- <i>fur</i>	pMV361 containing full sequence of <i>fur</i> , Km ^R	This work

(1) Stover,C.K., de la Cruz,V.F., Fuerst,T.R., Burlein,J.E., Benson,L.A., Bennett,L.T., Bansal,G.P., Young,J.F., Lee,M.H., Hatfull,G.F. et al. (1991) New use of BCG for recombinant vaccines. Nature, 351, 456–460

Msmeg5920mvR	GCTGAAGCTTAGTGGTGATGGTGATGGTGCAGCAG CGCGGCGAGTTC
Msmeg6866mvF	GCCTCAATTGCGCATATGGCGATGACTGACCTGTTG
Msmeg6866mvR	GCTGAAGCTTAGTGGTGATGGTGATGGTGTCGGCC GAGCCTCACTCTC
