

day

0

1

2

3

6

9

13

17

21



5S

DrrS

OD<sub>600</sub>

0.6

1.1

2.0

3.4

5.5

6

-

-

-



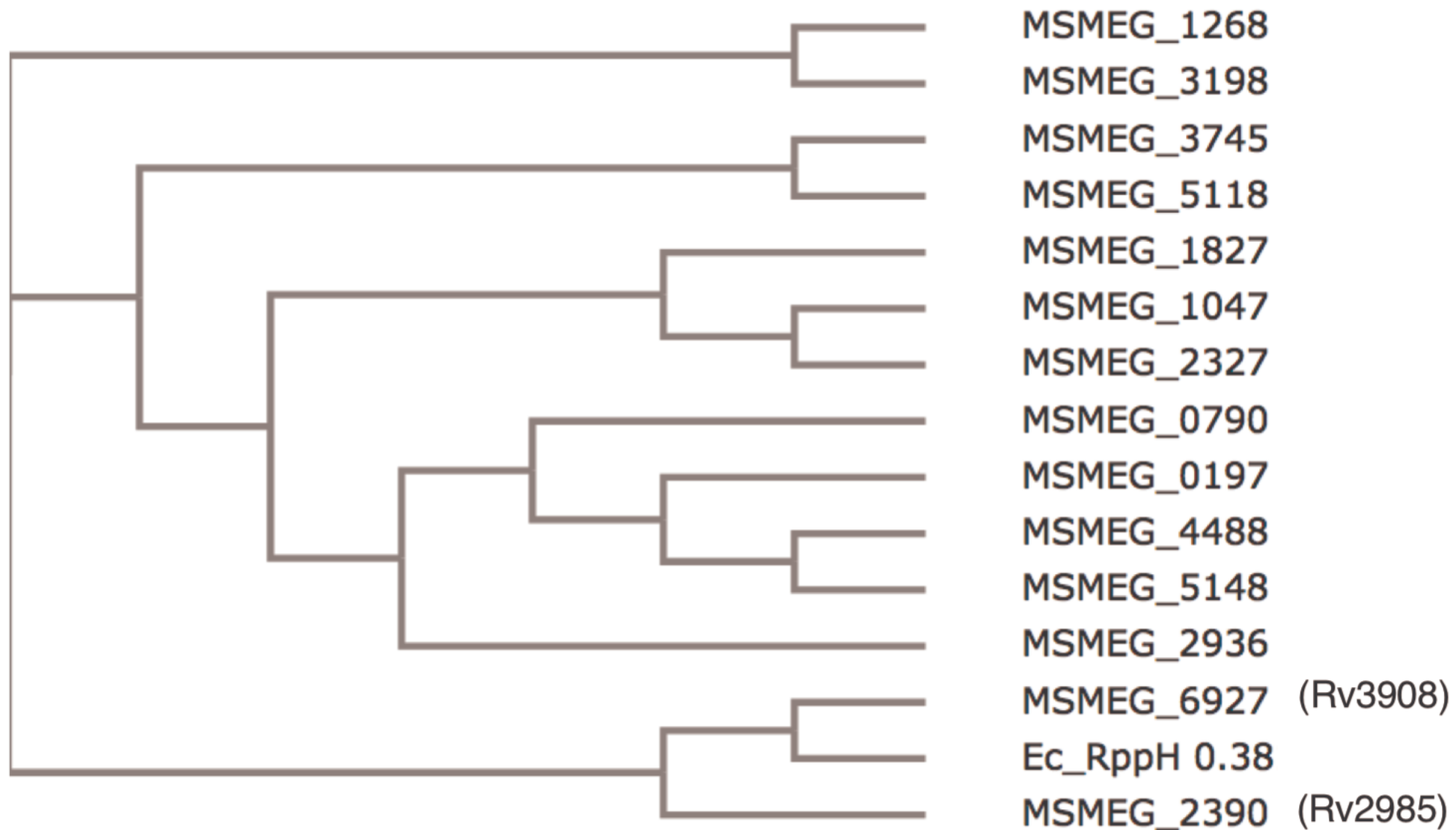


Table S1

DNA sequence	DrrS position				108	109	110	111	112	113	114	115	Total
	Sequence	U	C	C	U	C	A	U	C	C	U	C	
Wildtype 3' end (2 repeats) <b>aTCCTCaTCCTC</b>	Sequence	U	C	C	<b>U</b>	C	A	U	C	C	U	C	
	%				<b>85</b>	9	-	3	3				
	n of clones				29	3		1	1				34
Extended 3' end (3 repeats) <b>aTCCTCaTCCTCaTCCT</b>	Sequence	U	C	C	U	<b>C</b>	A	U	C	C	U	C	
	%			5	21	<b>42</b>	-	11	5	5	11		
	n of clones			<b>1</b>	4	8		2	1	1	2		19
Cropped 3' end (1 repeat) <b>aTCCT</b>	Sequence	U	C	C	<b>U</b>	C	U	C	G	A	G	A	
	%				<b>33</b>	6		28	28	-	6	-	
	n of clones				6	1		5	5		1		18

3' RACE results of DrrS variants expressed in *M. smegmatis*. A-residues were not assigned as the RACE was done by adding a poly-A tail.

**Table S2: extended 3' RACE of DrrS**

Clone No.	Position from TSS	No. of clones/total	Two nt*	Four nt*
<b>Extension 1 (CTTCGGGCAGATCCTCATCTGTTAC)</b>				
1	122	1/15	<b>C G</b>	<b>GC GG</b>
2	123	1/15	g g	cg gc
3	125	3/15	<b>C G</b>	<b>GC GC</b>
4				
5				
6	135	2/15	c a/a g	uc ag / ca gc
7				
8	162	1/15	<b>C G</b>	<b>GC GC</b>
9	164	2/15	<b>C G</b>	<b>GC GC</b>
10				
11	198	1/15	g g	cg gg
12	204	1/15	<b>C G</b>	<b>GC GU</b>
13	215	1/15	<b>C G</b>	<b>AC GG</b>
14	227	1/15	<b>C G</b>	<b>AC GU</b>
15	228	1/15	g u	cg ug
<b>Extension 2 (GTTACTGCGGCGCACC GCGTC)</b>				
16	138	1/21	c u	gc uc
17	140	3/21	<b>C G</b>	<b>UC GU</b>
18				
19				
20	142	1/21	u u	gu ug
21	146	1/21	u c	au cg
22	148	1/21	g a	cg ac
23	162	2/21	<b>C G</b>	<b>GC GC</b>
24				
25	164	4/21	<b>C G</b>	<b>GC GC</b>
26				
27				
28				
29	212	1/21	g c	ag ca
30	228	1/21	g u	cg ug
31	258	1/21	u u	gu ug
32	259	1/21	u g	uu gu
33	261	1/21	u g	gu gc
34	271	1/21	c c	gc cg
35	273	1/21	g a/a a	cg aa / ga aa
36	297	1/21	u g	gu gg

\* Two nt and four nt refer to the cleavage sites seen in a two-nucleotide and four-nucleotide context, respectively





Table S3

Oligonucleotide name	Sequence
<b>Riboprobes</b>	
5S_RP	GTCCCATTCCGAACCCGGAAGCTAAGCCTGCCAGCGCCTGTCTC
DrrS_RP	GATCTGCCCCGAAGTGCTGGGCGATTGAGCGGGTATGTACACCTGTCTC
DrrS_RPExt	GACCTACCGTCCCAAGACGGGGCTACCGCCTTCGGGCAGACCTGTCTC
MTS2823RP	GCACCCACGCGGAGTCATAGCCACGATAACGGCAGAAGCCTGTCTC
<b>DrrS promoter fusions in pEJ414</b>	
DrrS.coreF	CTAGATCCCGCCTGCTGTGTTTGGTGGCAGTATTGGTGATA
DrrS.coreR	AGCTTATCACCAATACTGCCACCAAACACAGCAGGCGGGAT
DrrS.coreStemloopf	CTAGATCCCGCCTGCTGTGTTTGGTGGCAGTATTGGTGATACCGGGGAAACCCGGTA
DrrS.coreStemloopr	AGCTTACCGGTTTCCCCGGTATCACCAATACTGCCACCAAACACAGCAGGCGGGAT
DrrS.DosR2f	CTAGACAGGCGAAGTTTTATTGTCGGATAAAGGGACTTTCGCCCTTCCCGCCTGCTGTGTTTGGTGGCAGTATTGGTGATA
DrrS.DosR2r	AGCTTATCACCAATACTGCCACCAAACACAGCAGGCGGGAAGGGGCGAAAGTCCCTTATCCGACAATAAAACTTCGCCTGT
DrrS.DosR2Stemloopf	CTAGACAGGCGAAGTTTTATTGTCGGATAAAGGGACTTTCGCCCTTCCCGCCTGCTGTGTTTGGTGGCAGTATTGGTGATACCGGGGAAACCCGGTA
DrrS.DosR2Stemloopr	AGCTTACCGGTTTCCCCGGTATCACCAATACTGCCACCAAACACAGCAGGCGGGAAGGGGCGAAAGTCCCTTATCCGACAATAAAACTTCGCCTGT
<b>DrrS wt, 3' variants and 5' extended in pIRaTE</b>	
DrrS.wtf	GCGCTCTCGAGAGGATGAGGAT
DrrS.wtr	TAACTTACTAGTACCGGGGAAACCC
DrrS.extended3'f	TATACTCGAGAGGATGAGGATGAGGATCT
DrrS.cropped3'f	TATACTCGAGAGGATCTGCCCGAAG
DrrS.3'r	TAATCCATGGTAGCTTCCTTAGCTCCTG
DrrS.5'A <sub>1</sub> r	TAACTTACTAGTAAACCGGGGAAACCC
DrrS.5'A <sub>2</sub> r	TAACTTACTAGTAAACCGGGGAAACCC
DrrS.5'A <sub>3</sub> r	TAACTTACTAGTAAAACCGGGGAAACCC
DrrS.5'A <sub>4</sub> r	TAACTTACTAGTAAAAACCGGGGAAACCC
<b>3' and 5' RACE oligonucleotides</b>	
DrrS.3'RACEf	GATCTGCCCCGAAGTGCTGGGCGAT
DrrS.Ext1RACEf	CTTCGGGCAGATCCTCATCCTGTTAC
DrrS.Ext2RACEf	GTTACTGCGGCGCACCGCGTC



Oligo(d)T	GCTGTCAACGATACGCTACGTAACGGCATGACAGTGT <sub>24</sub>
GeneRacer3'f	GCTGTCAACGATACGCTACGTAACG
GR5'	CGACTGGAGCACGAGGACACTGA
RNA linker	CGACUGGAGCACGAGGACACUGACAUGGACUGAAGGAGUAGAAA
DrrS.5'RACEr	AGGATCTGCCCGAAGGCGGTAGC
Mint	ACGAGGGGCATTACACCAGATTG
518R	TTTCCAGTCACGACGTTGTAAAA

**Table S4**

Plasmid ID	Plasmid name	Construction	Origin, Marker	Reference
pEJ414		Integrating promoterless <i>lacZ</i> reporter vector	Kan	[73]
pAM100	DrrS.core	Transcriptional fusion of DrrS core promoter region (-35 to +1) to <i>lacZ</i> ; insert amplified with DrrS.coref/DrrS.corer	pEJ414, KanR	This study
pAM101	DrrS.DBS2	Transcriptional fusion of DrrS core promoter region with 1DBS and 2 <sup>nd</sup> putative DosR binding site (-75 to +1) to <i>lacZ</i> ; insert amplified with DrrS.DosR2f/ DrrS.corer	pEJ414, KanR	This study
pAM102	DrrS.coreStemloop	Transcriptional fusion of DrrS core promoter region with the addition of DrrS 5' stem loop (ACCGGGGAAACCCGGT) to <i>lacZ</i> ; insert amplified with DrrS.coreStemloopf/DrrS.coreStemloopr	pAM100, Kan	This study
pAM103	DrrS.DBS2Stemloop	Transcriptional fusion of DrrS core promoter region with 1DBS and 2 <sup>nd</sup> putative DosR binding site with the addition of DrrS 5' stem loop (ACCGGGGAAACCCGGT) to <i>lacZ</i> ; insert amplified with DrrS.DosR2Stemloopf/ DrrS.DosR2Stemloopr	pAM101, Kan	This study
pEJ425		Integrating promoterless <i>lacZ</i> reporter vector	pEJ414, HygR	[72]
pKA425		Integrating promoterless <i>lacZ</i> reporter vector with NcoI site at <i>lacZ</i> ATG	pEJ425, HygR	This Study
pIRaTE		Integrating Regulator and Target Expression control plasmid, regulator overexpressed from <i>rnnB</i> (-80 to -8) promoter and terminated by SynB synthetic terminator	pKA425, HygR	This study
pIRaTE.001	DrrSwt	Wild type DrrS (+1 to +114) overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.wtf/DrrS.wtr	pIRaTE, HygR	This study
pIRaTE.002	DrrS.extended3'	DrrS with an extended 3'end (+1 to +114 plus CATCCT), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.extended3'f/DrrS.wtr	pIRaTE.001, HygR	This study
pIRaTE.003	DrrS.cropped3'	DrrS with a cropped 3'end (+1 to 109), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.cropped3'f/DrrS.wtr	pIRaTE.001, HygR	This study
pIRaTE.004	DrrS.5'A <sub>1</sub>	DrrS (+1 to +114) extended at the 5'end with one adenine (A), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.wtf/DrrS.5'A <sub>1</sub> r	pIRaTE, HygR	This study
pIRaTE.005	DrrS.5'A <sub>2</sub>	DrrS (+1 to +114) extended at the 5'end with two adenines (AA), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.wtf/DrrS.5'A <sub>2</sub> r	pIRaTE, HygR	This study
pIRaTE.006	DrrS.5'A <sub>3</sub>	DrrS (+1 to +114) extended at the 5'end with three adenines (AAA), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.wtf/DrrS.5'A <sub>3</sub> r	pIRaTE, HygR	This study
pIRaTE.007	DrrS.5'A <sub>4</sub>	DrrS (+1 to +114) extended at the 5'end with four adenines (AAAA), overexpressed from <i>rnnB</i> promoter; insert amplified with DrrS.wtf/DrrS.5'A <sub>4</sub> r	pIRaTE, HygR	This study