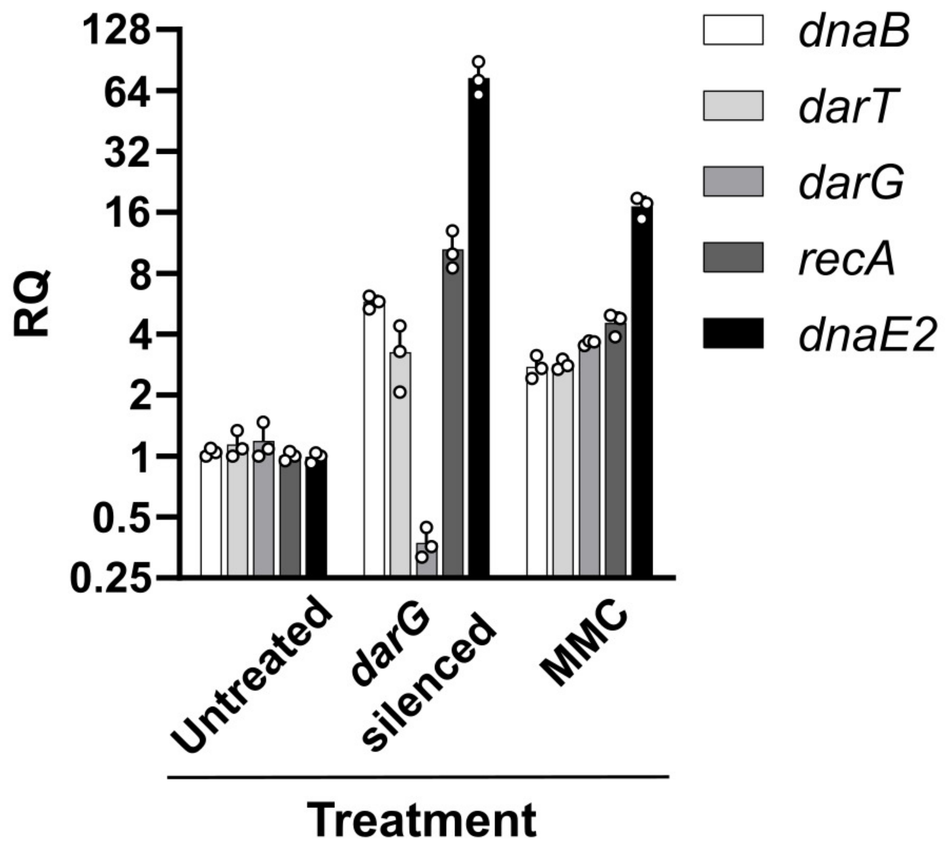
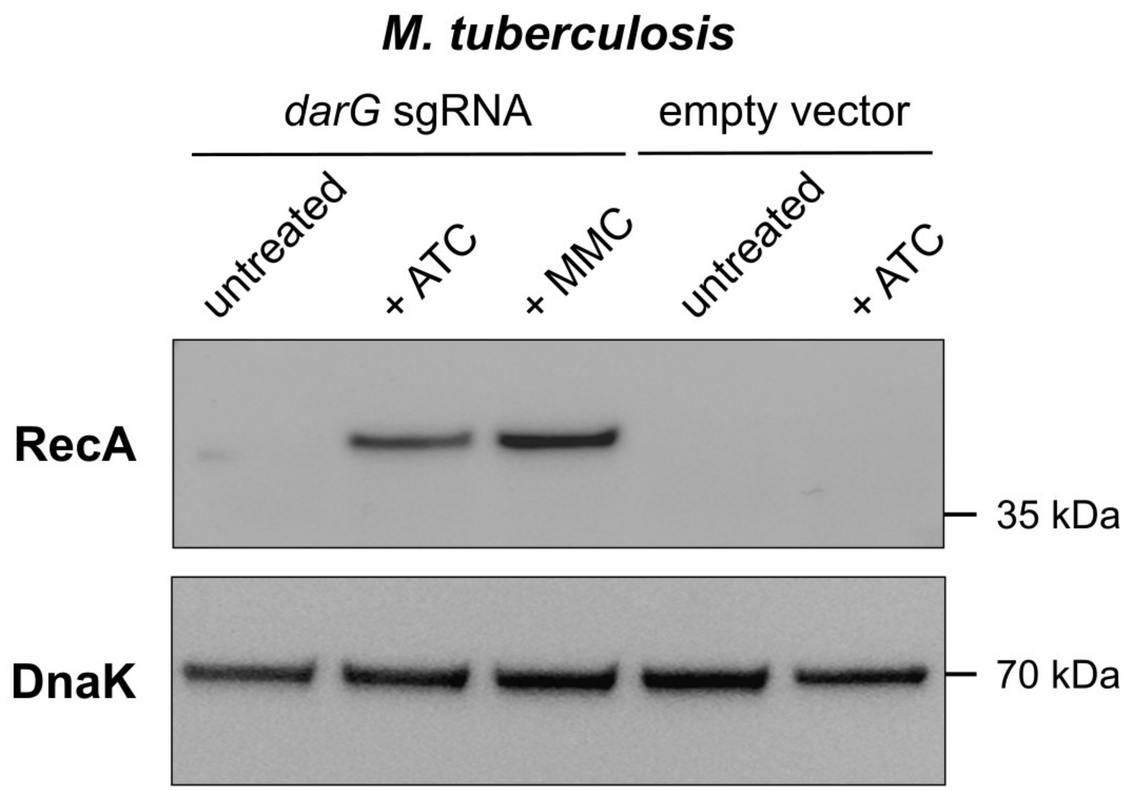
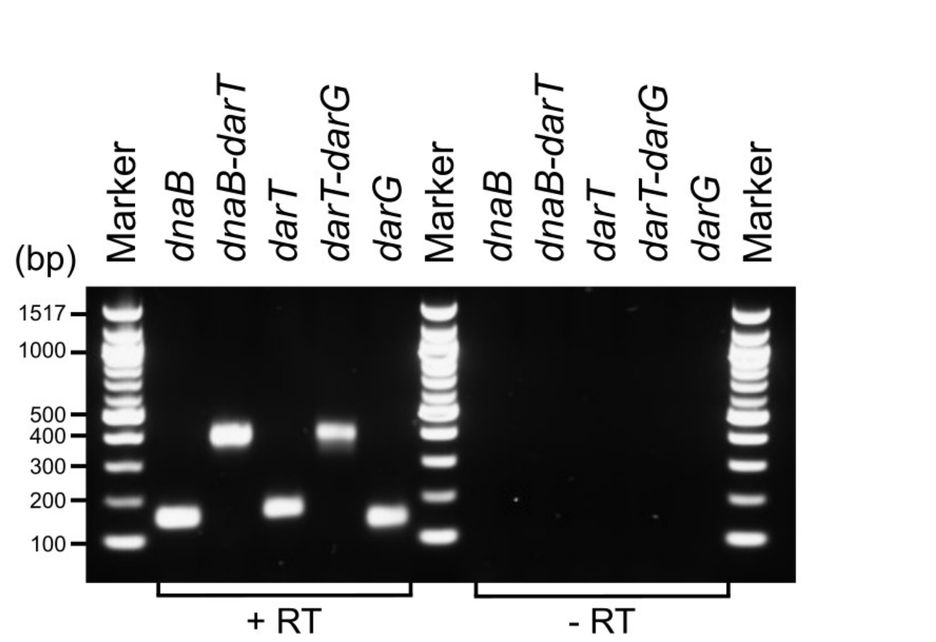
a

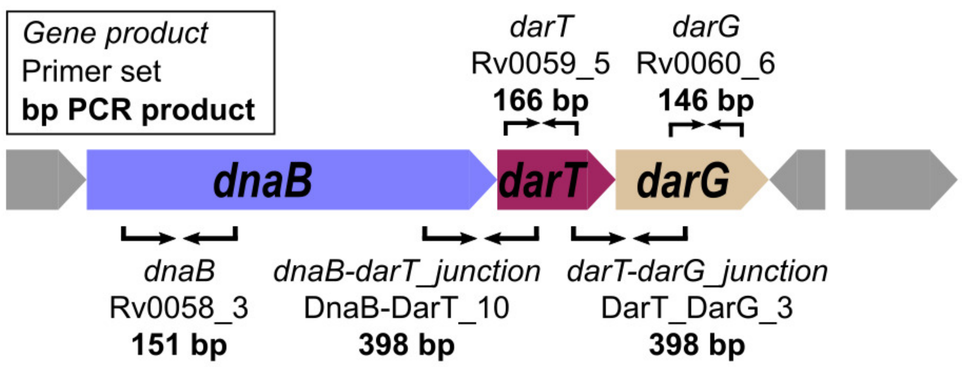

RQ
128
64
32
16
8
4
2
1
0.5
0.25
dnaB
darT
darG
recA
dnaE2
Untreated
darG silenced
MMC
Treatment

b

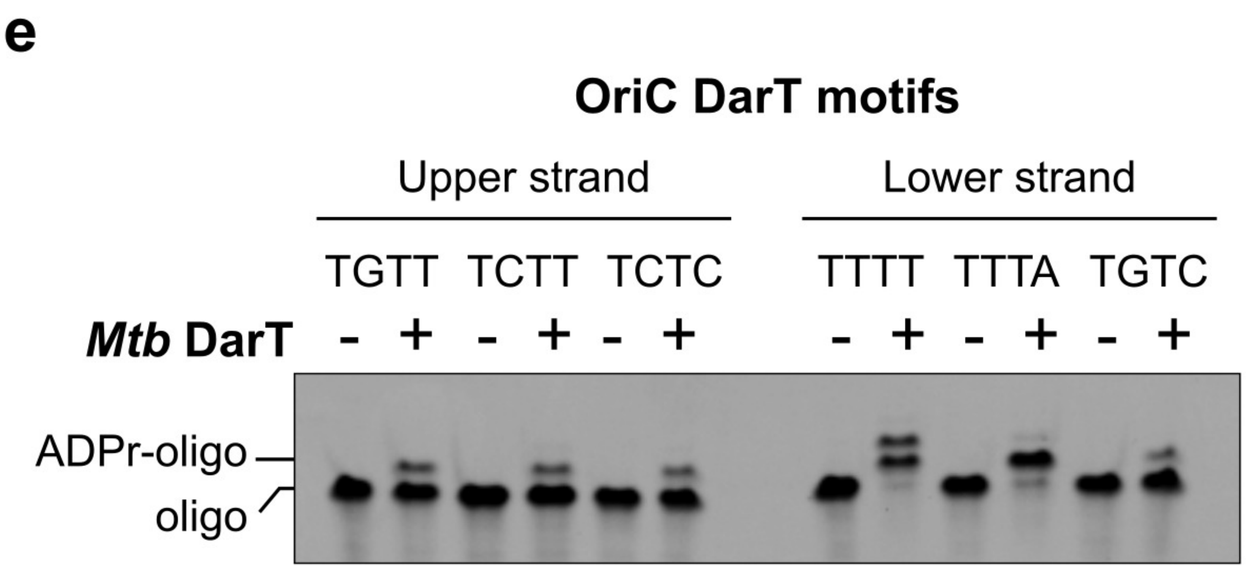

M. tuberculosis
darG sgRNA
empty vector
untreated
+ ATC
+ MMC
untreated
+ ATC
RecA
DnaK
35 kDa
70 kDa

c

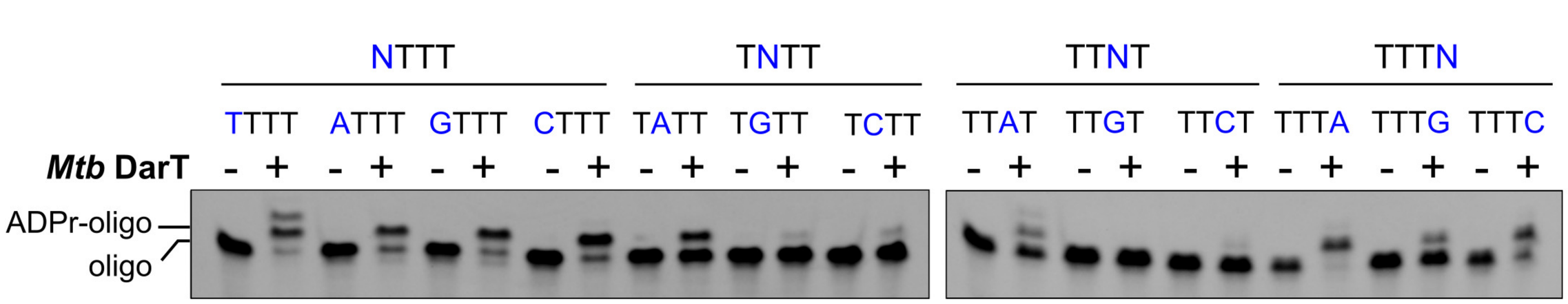

(bp)
Marker
dnaB
dnaB-darT
darT
darT-darG
darG
Marker
dnaB
dnaB-darT
darT
darT-darG
darG
Marker
1517
1000
500
400
300
200
100
+ RT
- RT


Gene product
Primer set
bp PCR product
darT
Rv0059_5
166 bp
darG
Rv0060_6
146 bp
dnaB
darT
darG
dnaB
Rv0058_3
151 bp
dnaB-darT_junction
DnaB-DarT_10
398 bp
darT-darG_junction
DarT_DarG_3
398 bp

e


OriC DarT motifs
Upper strand
Lower strand
TGTT TCTT TCTC
TTTT TTTA TGTC
Mtb DarT
- + - + - +
- + - + - +
ADPr-oligo
oligo
Test oligo sequence: 5'-CACGACACGAGCAGGCANNNNCACGTG-3'

d


NTTT
TNTT
TTNT
TTTN
TTTT ATTT GTTT CTTT TATT TGTT TCTT TTAT TTGT TTCT TTTA TTTG TTTC
Mtb DarT
- + - + - + - + - + - + - + - + - + - + - + - +
ADPr-oligo
oligo
Test oligo sequence: 5'-CACGACACGAGCAGGCANNNNGACGTG-3'