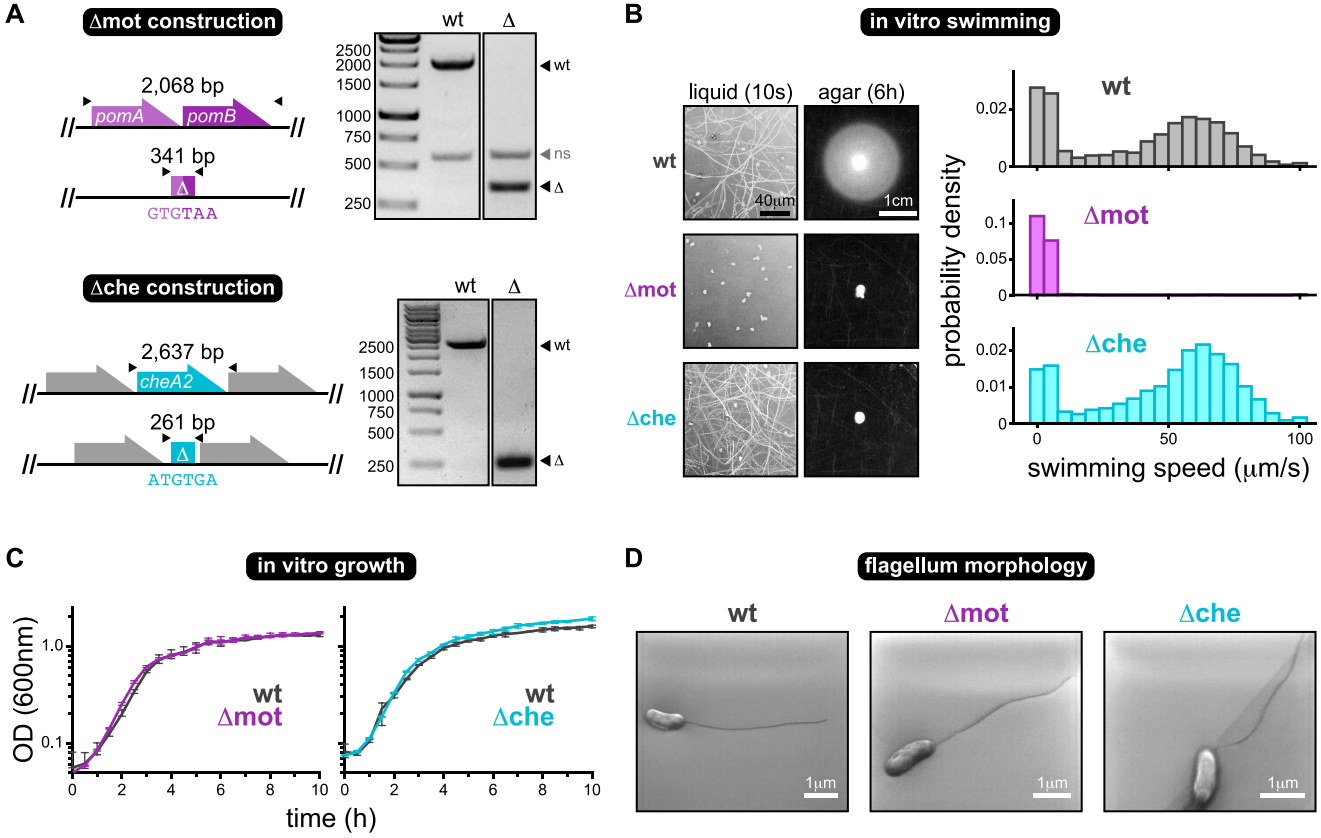
A
Δmot construction
2,068 bp
pomA
pomB
341 bp
Δ
GTGTAA
wt
Δ
2500
2000
1500
1000
750
500
250
wt
ns
Δ
Δche construction
2,637 bp
cheA2
261 bp
Δ
ATGTGA
wt
Δ
2500
1500
1000
750
500
250
wt
Δ
B
in vitro swimming
liquid (10s)
agar (6h)
wt
Δmot
Δche
40μm
1cm
probability density
wt
0.02
0
Δmot
0.1
0.05
0
Δche
0.02
0.01
0
0
50
100
swimming speed (μm/s)
C
in vitro growth
OD (600nm)
1.0
0.1
wt
Δmot
wt
Δche
0
2
4
6
8
10
time (h)
D
flagellum morphology
wt
Δmot
Δche
1μm
1μm
1μm