

Supplementary Information for:

***In Situ* Visualization of the pKM101-Encoded Type IV Secretion System Reveals a Highly Symmetric ATPase Energy Center at the Channel Entrance**

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References

Other supplementary materials for this manuscript include the following:

Movies S1, S2

Table S1. List of strains, plasmids, and oligonucleotides used in these studies.

Strains	Genotype	Source
UU2834	<i>(tsr)5547 (aer)1 yjgG::genR (trg)4543 min::kan (flbBflaH)4 mreB-A125V thr(Am)-1 leuB6 his-4 metF(Am)159 rpsL136 [thi-1 ara-14 lacY1 mtl-1 xyl-5 tonA31 tsx-78]</i>	(1)
MG1655	<i>ilvG rpb-50 rph-1 ΔlacU169</i>	<i>E. coli</i> Genetic Stock Center
MC4100 ^{rif^R}	F- [<i>araD139</i>] _{B/r} Δ(<i>argF-lac</i>)169 λ ⁻ <i>e14⁻ flhD5301 Δ(fruK-yeiR)725(fruA25) relA1 rpsL150(strR) rbsR22 Δ(fimB-fimE)632(::IS1) deoC1 rifR</i>	Lab Stock

Plasmids	Characteristics	
pKM101-Spc ^r	Spc ^r ; pKM101 derivative	(2)
pJG1004	Spc ^r ; pKM101-Spc ^r with a Δ <i>traB</i> mutation	(3)
pJG1011	Spc ^r ; pKM101-Spc ^r with a Δ <i>traG</i> mutation	(3)
pKM101-Spc ^r -Δ <i>traJ</i>	Spc ^r ; pKM101-Spc ^r with a Δ <i>traJ</i> mutation	(2)
pMS4	Kan ^r ; pBAD24Kan ^r with P _{BAD} :: <i>traB</i> _{pKM101}	(3)
pMS11	Kan ^r ; pBAD24Kan ^r with P _{BAD} :: <i>traG</i> _{pKM101}	(3)
pTB26	Kan ^r ; pBAD24Kan ^r with P _{BAD} :: <i>traJ</i> _{pKM101}	(2)

Oligonucleotides	Sequences (5' to 3')	Purpose
pKM_up_traB-F	ATTATGGGCCTGTGGTTGAAAACAAATTC AG	Confirmation of Δ <i>traB</i> mutation in UU2834
pKM_dn_traB-R	TTCACCCTGTTTAATCAGCTCGGTGGG	Confirmation of Δ <i>traB</i> mutation in UU2834
pKM_mid_traB-F	GCCAGGCCAGCTTAACATGCTTAAAGAA G	Confirmation of Δ <i>traB</i> mutation in UU2834
pKM_mid_traB-R	CACAAATGCGGAACAGGTTTTTAATGAG GG	Confirmation of Δ <i>traB</i> mutation in UU2834
pKM_up_traG-F	CTCTACGATCAGCAGGGTGATGCG	Confirmation of Δ <i>traG</i> mutation in UU2834

pKM_dn_traG-R	CTTCAGGCGAGTAGCCAACCTGAAC	Confirmation of $\Delta traG$ mutation in UU2834
pKM_mid_traG-F	GCAGATTTTATTAGGAACCTTGCTAAATC GTTGG	Confirmation of $\Delta traG$ mutation in UU2834
pKM_mid_traG-R	ATAATCCCACGCAGCATCATCCCTAAG	Confirmation of $\Delta traG$ mutation in UU2834
pKM_up_traJ-F	CCGGCAGGACAGATGATGTTGCATG	Confirmation of $\Delta traJ$ mutation in UU2834
pKM_dn_traJ-R	CAAGCAGCTCTTTAAACCGGGCTG	Confirmation of $\Delta traJ$ mutation in UU2834
pKM_mid_traJ-F	CCATACCTACATACGCTGAGAACTTGC	Confirmation of $\Delta traJ$ mutation in UU2834
pKM_mid_traJ-R	CATGTTAGCCAGAATGGTCTGAGCC	Confirmation of $\Delta traJ$ mutation in UU2834