

**Table S1. Strains and plasmids used in this work.**

<b>Bacterial strains.</b>	<b>Relevant genotype.</b>	<b>Reference.</b>
RLG221	<i>E. coli</i> K-12 cloning strain. <i>recA56 araD139 (are-leu)7697 laxX74 glaU galK hsdR strA</i>	R. Gourse
JWD3	<i>E. coli</i> K-12 BamA depletion strain.	[19]
BL21(DE3)	<i>fhuA2 [lon] ompT gal (λ DE3)[dcm] ΔhsdS</i>	New England BioLabs
<b>Bacterial plasmids.</b>		
pET17b	T7 expression vector (Amp <sup>R</sup> )	Novagen
pET17b/ <i>bamA</i>	pET17b plasmid which expresses a codon-optimised version of <i>E. coli</i> BamA.	This Work
pET17b/ <i>6hisbamA</i>	pET17b plasmid which expresses a 6His tagged codon-optimised version of <i>E. coli</i> BamA. HHHHHHAA was inserted between A21 and E22.	This Work
pET17b/ <i>bamA</i> ΔP1	BamA POTRA <sub>1</sub> deletion. Amino acids E22 to K89 deleted and an A inserted between A21 and E90.	This Work
pET17b/ <i>bamA</i> ΔP2	BamA POTRA <sub>2</sub> deletion. Amino acids P92 to G172 deleted.	This Work
pET17b/ <i>bamA</i> ΔP3	BamA POTRA <sub>3</sub> deletion. Amino acids V173 to D264 deleted and an A inserted between G172 and Q265.	This Work
pET17b/ <i>bamA</i> ΔP4	BamA POTRA <sub>4</sub> deletion. Amino acids D264 to N345 deleted and an A inserted between G263 and R346.	This Work
pET17b/ <i>bamA</i> ΔP5	BamA POTRA <sub>5</sub> deletion. Amino acids N345 to R421 deleted.	This Work
pET17b/ <i>bamA</i> L2HA	BamA L2 HA epitope insertion. YPYDVPDYA was inserted between D464 and Y465.	This Work
pET17b/ <i>bamA</i> L3HA	BamA L3 HA epitope insertion. YPYDVPDYA was inserted between D498 and A499.	This Work
pET17b/ <i>bamA</i> L4HA	BamA L4 HA epitope insertion. YPYDVPDYA was inserted between M552 and G553.	This Work
pET17b/ <i>bamA</i> L5HA	BamA L5 HA epitope insertion. YPYDVPDYA was inserted between P602 and G603.	This Work
pET17b/ <i>bamA</i> L6HA	BamA L6 HA epitope insertion. YPYDVPDYA was inserted between F648 and Y649.	This Work
pET17b/ <i>bamA</i> L7HA	BamA L7 HA epitope insertion. YPYDVPDYA was inserted between Y754 and S755.	This Work
pET17b/ <i>bamA</i> L8HA	BamA L8 HA epitope insertion. YPYDVPDYA was inserted between D795 and G796.	This Work
pET17b/ <i>bamA</i> β1HA	BamA β1 HA epitope insertion. YPYDVPDYA was inserted between N427 and F428.	This Work
pET17b/ <i>bamA</i> β2HA	BamA β2 HA epitope insertion. YPYDVPDYA was inserted between Q441 and A442.	This Work
pET17b/ <i>bamA</i> β3HA	BamA β3 HA epitope insertion. YPYDVPDYA was inserted between I458 and N459.	This Work
pET17b/ <i>bamA</i> β4HA	BamA β4 HA epitope insertion. YPYDVPDYA was inserted between S472 and V473.	This Work

pET17b/ <i>bamA</i> β5HA	BamA β5 HA epitope insertion. YPYDVPDYA was inserted between G486 and G487.	This Work
pET17b/ <i>bamA</i> β6HA	BamA β6 HA epitope insertion. YPYDVPDYA was inserted between G510 and T511.	This Work
pET17b/ <i>bamA</i> β7HA	BamA β7 HA epitope insertion. YPYDVPDYA was inserted between Y531 and V532.	This Work
pET17b/ <i>bamA</i> β8HA	BamA β8 HA epitope insertion. YPYDVPDYA was inserted between N573 and Y574.	This Work
pET17b/ <i>bamA</i> β9HA	BamA β9 HA epitope insertion. YPYDVPDYA was inserted between N594 and L595.	This Work
pET17b/ <i>bamA</i> β10HA	BamA β10 HA epitope insertion. YPYDVPDYA was inserted between D614 and T615.	This Work
pET17b/ <i>bamA</i> β11HA	BamA β11 HA epitope insertion. YPYDVPDYA was inserted between T633 and R634.	This Work
pET17b/ <i>bamA</i> β12HA	BamA β12 HA epitope insertion. YPYDVPDYA was inserted between S715 and L716.	This Work
pET17b/ <i>bamA</i> β13HA	BamA β13 HA epitope insertion. YPYDVPDYA was inserted between F738 and W739.	This Work
pET17b/ <i>bamA</i> β14HA	BamA β14 HA epitope insertion. YPYDVPDYA was inserted between G771 and I772.	This Work
pET17b/ <i>bamA</i> β15HA	BamA β15 HA epitope insertion. YPYDVPDYA was inserted between F785 and S786.	This Work
pET17b/ <i>bamA</i> β16HA	BamA β16 HA epitope insertion. YPYDVPDYA was inserted between N805 and I806.	This Work
pET17b/ <i>6hisbamA</i> ΔL3	6His tagged BamA L3 deletion. Amino acids Q495 to S502 were deleted and replaced with GGG. HHHHHHAA was inserted between A21 and E22.	This Work
pET17b/ <i>6hisbamA</i> ΔL4	6His tagged BamA L4 deletion. Amino acids V543 to N563 were deleted and replaced with GGG. HHHHHHAA was inserted between A21 and E22.	This Work
pET17b/ <i>6hisbamA</i> ΔL6	6His tagged BamA partial L6 deletion. Amino acids S657 to A672 were deleted. HHHHHHAA was inserted between A21 and E22.	This Work
pET17b/ <i>6hisbamA</i> ΔL7	6His tagged BamA L7 deletion. Amino acids D746 to P763 were deleted and replaced with GGG. HHHHHHAA was inserted between A21 and E22.	This Work
pET17b/ <i>6hisbamA</i> ΔL8	6His tagged BamA L8 deletion. Amino acids K792 to A799 were deleted and replaced with GGG. HHHHHHAA was inserted between A21 and E22.	This Work

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