

**Supplementary Material** to “The AidB Component of the *Escherichia coli* Adaptive Response to Alkylating Agents is a Flavin-Containing, DNA-Binding Protein” by Mukta S. Rohankhedkar, Scott B. Mulrooney, William J. Wedemeyer, and Robert P. Hausinger.

Figure S1. Consensus of secondary-structure predictions from the PsiPred (3, 6), SAM-T2K (4), SABLE2 (1), and PROFsec (7) servers, the four best-validated methods (5). Results are shown for only the C-terminal domain (residues 441-541) of AidB; red and blue indicate high and low probability, respectively, while the magenta bars at the bottom of each section indicate every tenth residues. These predictions are consistent with the hypothesis that the C-terminal domain adopts a four-helix bundle similar to that seen in the 1IS2 structure.

Figure S2. Alignment of 34 non-redundant, full-length homologs of AidB. Absolutely conserved residues are indicated in red, whereas conserved residues are indicated in yellow. The residue numbering at the top is taken from AidB. This Figure was produced with the ESPript server (2).

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2. **Gouet, P., E. Courcelle, D. I. Stuart, and F. Metoz.** 1999. ESPript: Multiple sequence alignments in PostScript. *Bioinformatics* **15**:305-308.
3. **Jones, D. T.** 1999. Protein secondary structure prediction based on position-specific scoring matrices. *Journal of Molecular Biology* **292**:195-202.
4. **Karplus, K., R. Karchin, C. Barrett, S. Tu, M. Cline, M. Diekhans, L. Grate, J. Casper, and R. Hughey.** 2001. What is the value added by human intervention in protein structure prediction? *Suppl.* 5.
5. **Koh, I. Y. Y., V. A. Eylich, M. A. Marti-Renom, D. Przybylski, M. S. Madhusudhan, N. Eswar, O. Grana, F. Pazos, A. Valencia, A. Sali, and B. Rost.** 2003. EVA: evaluation of protein structure prediction servers. *Nucleic Acids Research* **31**:3311-3315.
6. **McGuffin, L. J., K. Bryson, and D. T. Jones.** 2000. The PSIPRED protein structure prediction server. *Bioinformatics* **16**:404-405.
7. **Rost, B.** 2001. Review: Protein secondary structure prediction continues to rise. *Journal of Structural Biology* **134**:204-218.

Figure S1

### AidB\_441\_541

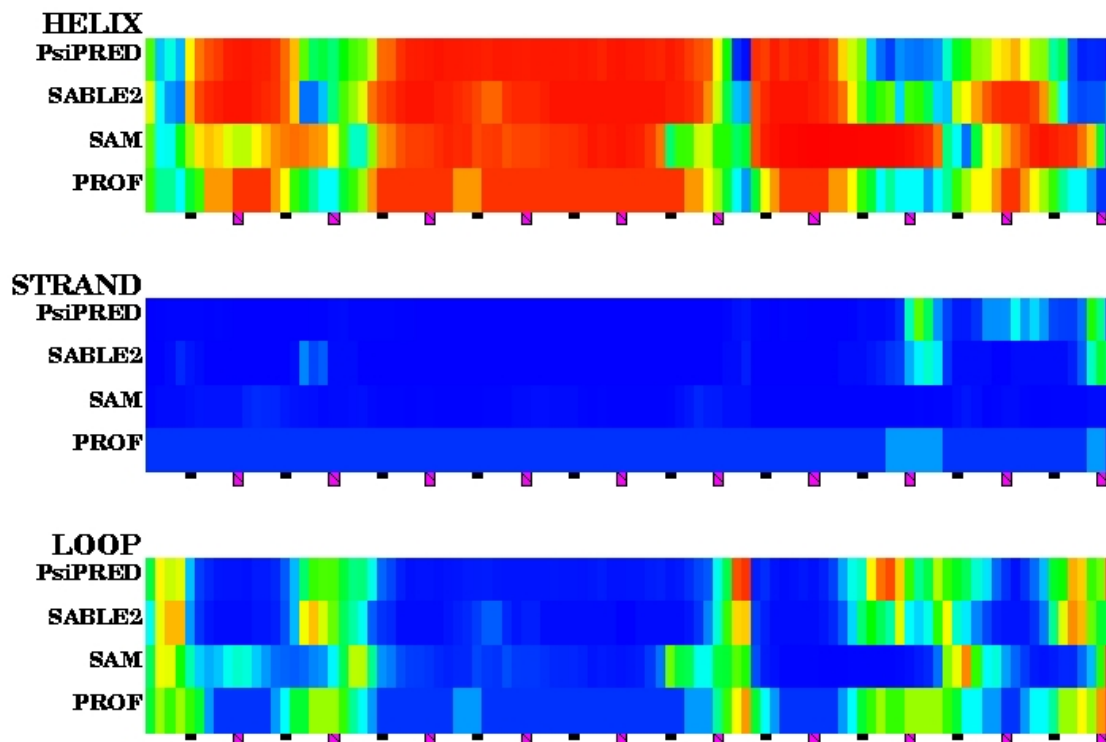
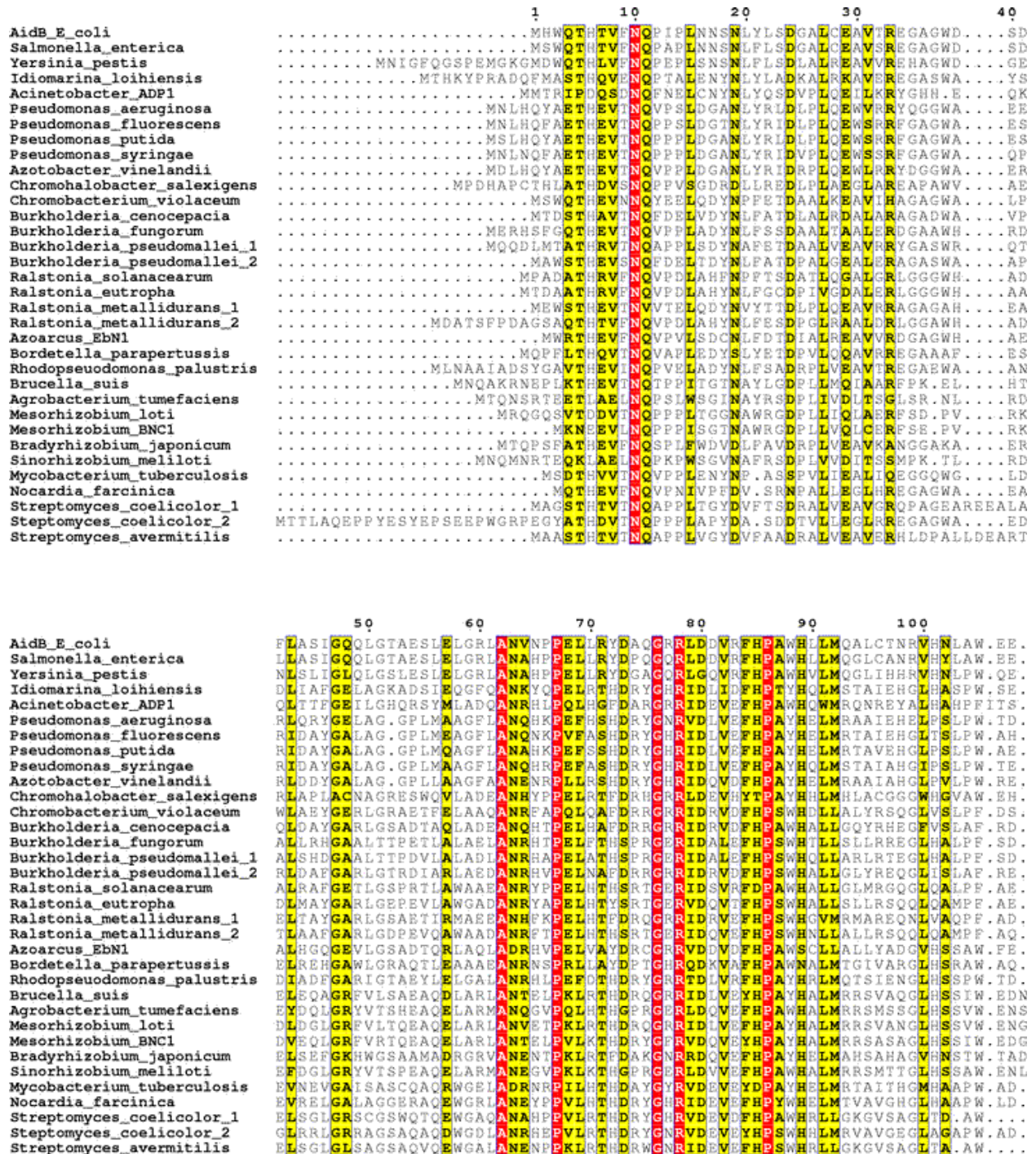


Figure S2



	110	120	130	140	150	160				
AidB_E.coli	.DARS	GNFVARAA	RFLHA	QVEAGSI	CPITMT	FAATPLL	QMLPA...	PFQDWTTE	ELSDRYD	SHL
Salmonella_enterica	.EARA	GSFVARAA	RFVLA	QVEAGTI	CPVTMT	FAATPLL	QMLPA...	TFHDWLAP	ELSDRYD	SHL
Yersinia_pestis	.DARN	GSFVARAA	RFVLA	QVDAGAL	CPITMT	FAATPLL	QMLPA...	TFQNWLS	ELSDRYD	PHL
Idiomarina_loihiensis	..PKL	GAHVARAA	KYLLT	QVEASHG	CPITMT	FAATPLL	QMLPA...	LFKEWGP	KILARQYD	PRN
Acinetobacter_ADPl	..AAQ	TGWVEWAA	RFYLS	QVESSGI	CPSAMT	FGSIL	QRESK...	LWQTLGK	KLLSCDYD	ERD
Pseudomonas_aeruginosa	..PRP	GAQVARAG	LSYLS	QAEAGTG	CPLTMT	FAAVPAL	RLQPN...	LAEKWLP	KILSREYD	PRN
Pseudomonas_fluorescens	..PQD	GAHVARAS	MSYLS	QAEAGSG	CPLTMT	FAAVPAL	RLQPN...	LAEHWLP	KILATEYD	PRN
Pseudomonas_putida	..PRA	GAHVARAS	MYLS	QAEAGTG	CPLTMT	FAAVPAL	RLQPN...	LAEYWLP	KILACEYD	PRN
Pseudomonas_syringae	..POP	GAHVARAA	MSYLT	QAEAGSG	CPLTMT	FAAVPAL	RLQPN...	LAEYWLP	KILSTEYD	PRN
Azotobacter_vinelandii	..PRP	GAQVARAG	LMYLN	QVEAGTA	CPLTMT	FAAVPAL	RLQPN...	LAESWLP	RVLAGEYD	PRN
Chromohalobacter_salexigens	..EGA	GGQAHIA	AALYLLT	QVEPGFC	CPITMT	FAAVPAL	RLQPN...	LFATWGP	RLLAHDYD	PRA
Chromobacterium_violaceum	..ERP	GRWAFLA	GFYLG	QVEAGTL	CPATMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Burkholderia_cenocepacia	..PRR	GRWAATA	AGFYLG	QVEAGTI	CPATMT	FAAVPAL	RLQPN...	LWDLRLK	LYLSDDYD	PRD
Burkholderia_fungorum	..PQR	GAMVARCA	GYFLHA	QIESGSI	CPLTMT	FAAVPAL	RLQPN...	LFARLRD	KLYAREHD	PRD
Burkholderia_pseudomallei_1	..PRP	GAMAARCA	GYFLHA	QIESGSI	CPLTMT	FAAVPAL	RLQPN...	LFATLRD	KLYAREHD	DARD
Burkholderia_pseudomallei_2	..SRA	GRWAANA	AGFYLG	QIEAGTI	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	PRD
Ralstonia_solanacearum	..PRA	GAWAART	AGYFMA	QIESGSI	CPATMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Ralstonia_eutropha	..PRA	GAWIART	AGYFLQ	QVESGSI	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Ralstonia_metallidurans_1	..PRP	GAWAAYA	AGFSMH	QIEAGSQ	CPNSMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Ralstonia_metallidurans_2	..PRP	GVWAART	GYFLQ	QVESGSI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Azoarcus_EbN1	..PRP	GAHVARAA	SFFLH	QAEAGSI	CPVTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	GRD
Bordetella_parapertussis	..PVP	GAHVARAA	AYLMG	QVEAGTI	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Rhodopseudomonas_palustris	..PRK	GAHVARAA	RFYLS	QIEAGTI	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Brucella_suis	PLESG	RRHQARA	AFYLT	QIEAGTI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Agrobacterium_tumefaciens	PDTRG	SEHKARAT	KFYLLT	QIEAGTI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Mesorhizobium_loti	DAEIG	RRHQARA	AFYLT	QIEAGTI	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Mesorhizobium_BNCl	EDEKG	QRHQARA	AFYLT	QIEAGTI	CPMTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Bradyrhizobium_japonicum	GKPAAD	AAEVIRAA	KFYIAS	QVETGHL	CPITMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Sinorhizobium_meliloti	PDERG	RSHKVRA	RFYLT	QIEAGTI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Mycobacterium_tuberculosis	..DRP	GAHVVRA	AFYLS	QIEAGTI	CPISMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Nocardia_farcinica	..ERP	GAHVARAA	KFYTW	QAEAGSI	CPISMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Streptomyces_coelicolor_1	..SRP	GGVRAAA	AGFLMT	QVEAGSI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Streptomyces_coelicolor_2	..GRP	GAHVART	AGFLV	QIEAGSI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD
Streptomyces_avermitilis	..SRP	GGVRAAA	GFVLT	QAEAGSI	CPLTMT	FAAVPAL	RLQPN...	LFADLGP	RLLSREHD	DARD

	170	180	190	200	210	220						
AidB_E.coli	LPGGCK	RGLLIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	DG	SYRLV	GHWFF	SVFQS	DAHLVLA
Salmonella_enterica	LPGGCK	RGLLIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	DD	SYRLV	GHWFF	SVFQS	DAHLVLA
Yersinia_pestis	SLGNCK	RGLLIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GQ	SYRLV	GHWFF	SVFQS	DAHLVLA
Idiomarina_loihiensis	IPHTER	SAVTIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GS	SYRLV	GHWFF	SVFQS	DAHLVLA
Acinetobacter_ADPl	ILISCK	SIWVIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Pseudomonas_aeruginosa	VPMECK	AGVTIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Pseudomonas_fluorescens	VGMAHK	AGVTIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Pseudomonas_putida	VGDRHK	AGVTIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Pseudomonas_syringae	VGIAHK	AGVTIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Azotobacter_vinelandii	LFVERK	GGATL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Chromohalobacter_salexigens	LPAGCK	RAATL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	DG	SYRLV	GHWFF	SVFQS	DAHLVLA
Chromobacterium_violaceum	LPAERK	TAIWL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Burkholderia_cenocepacia	VPVADK	RAIWF	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Burkholderia_fungorum	VPLTHK	NSAMIG	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Burkholderia_pseudomallei_1	APLPCK	RSMMV	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Burkholderia_pseudomallei_2	APIGAR	QSIMI	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Ralstonia_solanacearum	LPWRCK	TAILV	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Ralstonia_eutropha	LPWRCK	TAILV	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Ralstonia_metallidurans_1	IPLECK	DSILV	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Ralstonia_metallidurans_2	LPWRCK	TAVMI	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Azoarcus_EbN1	VPLACK	RSAMI	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	SR	DHLLV	GHWFF	SVFQS	DAHLVLA
Bordetella_parapertussis	APIGRK	RGALI	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GR	SYRLV	GHWFF	SVFQS	DAHLVLA
Rhodopseudomonas_palustris	VPAECK	QGITL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GP	SYRLV	GHWFF	SVFQS	DAHLVLA
Brucella_suis	KPAFRK	QGVTL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	GC	AWRLT	GHWFF	SVFQS	DAHLVLA
Agrobacterium_tumefaciens	KPALCK	TAVIV	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	EG	IYRLT	GHWFF	SVFQS	DAHLVLA
Mesorhizobium_loti	KPPVEK	ETGLT	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	SG	FYRLT	GHWFF	SVFQS	DAHLVLA
Mesorhizobium_BNCl	RPAACK	QGVTL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	EG	LYRLT	GHWFF	SVFQS	DAHLVLA
Bradyrhizobium_japonicum	APWCK	RGMTL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	D	AYRIT	GHWFF	SVFQS	DAHLVLA
Sinorhizobium_meliloti	RPWCK	SAVTL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	EG	IYRLT	GHWFF	SVFQS	DAHLVLA
Mycobacterium_tuberculosis	KPATCK	KAGIT	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	G	SYSLT	GHWFF	SVFQS	DAHLVLA
Nocardia_farcinica	REPTEK	AGLIA	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	G	TYRIV	GHWFF	SVFQS	DAHLVLA
Streptomyces_coelicolor_1	RPAHLK	AGVLF	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	G	TYELT	GHWFF	SVFQS	DAHLVLA
Streptomyces_coelicolor_2	RTPIDK	RGLLA	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	G	VYTLR	GHWFF	SVFQS	DAHLVLA
Streptomyces_avermitilis	RPAACK	RAGAL	MGMT	TEKQGG	SDVLSNTT	RAERLE	.....	G	TYELT	GHWFF	SVFQS	DAHLVLA

	230	240	250	260	270	280
AidB_E.coli	QTA	.....GGLSCFFVPRFLDGGQRNAIR	LERLKLKLGNRSNASCEVEFQDAIGWLLGLEEGE			
Salmonella_enterica	QAK	.....GGLSCFFVPRFLDGGQRNSVR	LERLKLKLGNRSNASAEVEFQDTVGVWRLGEEGEG			
Yersinia_pestis	QAE	.....GGLSCFFLPKILFDGTHNAIR	FERLKLKLGNRSNASAEVEFDNATAWLLGEEGEG			
Idiomarina_loihiensis	QTA	.....SGLSCFFVPRWRDGGSKNP IQ	IQQLKQKMGNANASSEVEIRGALGWMVGEKGGK			
Acinetobacter_ADP1	QTS	.....QEELACFFVPRWLSNGSKNHIE	IQQLKQKVGNRSNSSSEVEFRDALGIMIGEGRG			
Pseudomonas_aeruginosa	YTD	.....KGLTCFFLPRRHRDGGSRNQFY	IQRLKQKLGNRSNASSEVEYRGALAWMVEEGRG			
Pseudomonas_fluorescens	QTD	.....KGLSCFFLPRRHRDDDRNFY	IQRLKQKLGNRSNASSEVEFRGALAWMVEEGRG			
Pseudomonas_putida	QTE	.....KGLSCFFLPRRHRDDRNFY	IQRLKQKLGNRSNASSEVEFRGALAWMVEEGRG			
Pseudomonas_syringae	QTD	.....KGLSCFFLPRRHRDDRNFY	IQRLKQKLGNRSNASSEVEFRGALAWMVEEGRG			
Azotobacter_vinelandii	WSD	.....GGLSCFFLPRRHRDGGRRNEFY	IQRLKQKLGNRSNASAEVEYRGALAWMVEEGRG			
Chromohalobacter_salexigens	RDE	.....AGIGCFVPRFRDGGSRNGIL	LQRLKQKCGNRANASAEVEYADAWAQVIGAPGRG			
Chromobacterium_violaceum	QLR	.....DGGPSCFFVPRWRDGGSRNAVA	IQRLKQKVGNRSNASSEVEFHDAWGVIGEPGRG			
Burkholderia_cenocepacia	RTE	.....AGSPSCFFVPRWRDGTKNAVE	IQRLKQKVGNRSNSSSEVEFHDAWGVIMLGEGRG			
Burkholderia_fungorum	RTD	.....HEGLSCFFVPRPFDGGSKNAVQ	IQRLKQKLGNRSNASSEVEFLDAFGIMIGDEGRG			
Burkholderia_pseudomallei_1	RTAE	.....QAGISCFFVPRPFDGGSKNAVH	VQR LKQKLGNRSNASSEVEFLDAFGIMIGDEGRG			
Burkholderia_pseudomallei_2	RTE	.....AGGPPSCFFVPRWRDGTKNAVR	IQRLKQKVGNRSNSSSEVEFLDDAWGVMLGEGRG			
Ralstonia_solanacearum	RMGA	.....EDGPSCFFVPRWRDGGKNPVQ	IQRLKQKLGNRSNASSEVEFRAAQVIGLIGEAGRG			
Ralstonia_eutropha	RMGA	.....EDGPSCFFVPRWRDGGKNP IQ	IQRLKQKLGNRSNSSSEVEFREASGILIGEGRG			
Ralstonia_metallidurans_1	RTE	.....S.GPACFFVPRYRDGTKNNAVQ	IQRLKQKVGNRSNSSSEVEFRGAWGRMIGEGRG			
Ralstonia_metallidurans_2	RMGA	.....ADGPSCFFVPRWRDGGKNP IL	IQRLKQKLGNRSNSSSEVEFRGTGILIGEGRG			
Azoarcus_EbN1	HSP	.....AGLSCFFVPRVLDGGSGNGPFR	FQR LKQKLGNRSNASAEVEFEDAFTGLVGEGRG			
Bordetella_parapertussis	RTD	.....EGLSCFFVPRWVDGGPRNAVR	LRR LKQKLGNRSNASAEVEFEQAWGAMLGEGRG			
Rhodopseudomonas_palustris	QAP	.....GGLSCFFVPRWRDGGKNP LQ	VLR LKQKMGNANASSEVEFAGAYAQAVGEAGKQ			
Brucella_suis	QTK	.....EGLSCFFLPRLGKGGESNGFF	FQR LKQKLGNRSNASSEVEFDGALGCMIGSPGG			
Agrobacterium_tumefaciens	QMG	.....DGMGCFVPRYLDGGSKNLGH	FQR LKQKLGNRSNASAEVEFTDAFGYMLGEGSG			
Mesorhizobium_loti	QAP	.....EGLSCFFVPRVLDGGSGNGPFR	FQR LKQKLGNRSNASSEVEFVNAIGMIGEGRG			
Mesorhizobium_BNCl	QAE	.....EGLSCFFLPRLVDDGATNGFR	FQR LKQKLGNRSNASSEVEFEAGALGYLVGEPGAG			
Bradyrhizobium_japonicum	QAD	.....EGLTCFFMPPRFADGGSVNAIQ	FQR LKQKLGNRSNASSEVEFAGAYAQAVGEAGKQ			
Sinorhizobium_meliloti	QTR	.....EGLSCFFLPRLVLDGGAGLRF	FQR LKQKLGNRSNASSEVEFSDTFCFLLGTPDAG			
Mycobacterium_tuberculosis	QAP	.....DGLSCFFLPRLVLDGGTRNRF	LQR LKQKLGNRANASSEVEFSDAVAWLVGEGRG			
Nocardia_farcinica	QAP	.....GGLSCFFLPRLVLDGGTRNRF	IQRLKQKLGNRSNASSEVEYENATIGWLVGEPGEG			
Streptomyces_coelicolor_1	RAP	GGTARAEGNGGLTCFFVPRVLDGGTRNRF	IQRLKQKLGNRSNASAEVEFAGTWARVVGAEGRG			
Streptomyces_coelicolor_2	QAA	.....GGLSCFFLPRLVLDGGTRNRF	VQR LKQKLGNRSNASSEVEFDGTVAWLVGEPGEG			
Streptomyces_avermitilis	QASAT	.....DGGGLTCFFVPRVLDGGTRNVFR	VQR LKQKLGNRSNASSEVEFDGTWARVVDGEGRG			

	290	300	310	320	330	340	350				
AidB_E.coli	IRLILKMG	GMTFRD	CDALGSH	AMMRR	AFSLAI	YHAF	QRHVFGNPLIQPLMRHVLSRMA	CLEGQTA	ALL		
Salmonella_enterica	IRHILKMG	GMTFRD	CDALGSH	LMRR	AFSLVAI	YHAF	HQRCAFQKPLIQPLMRQFLSRMAL	CLEGQTA	ALL		
Yersinia_pestis	IRQILKMG	GGYTRF	DCALGSH	LMRR	AFSVAL	YHAL	LQRQVFGKALVQPLMRQVLSRMA	LEGHTA	ALL		
Idiomarina_loihiensis	VRTIIE	MVAT	TRDY	CDMIGSS	GMRR	QAVVQAI	HHA	SHREAFGTKLSE	QPLMQNLLADLAL	SEAA	MTYM
Acinetobacter_ADP1	IPTIIE	MATY	TRLT	CSVGTAIL	RQALVQ	CIAYTR	QRRAFGRVLAD	QPLMQAVLTDMA	LE	TEAA	HLIS
Pseudomonas_aeruginosa	VPTIIE	MVAM	TRFDC	MIGSSAL	MRQAL	TQAA	HHCA	YRQVGGRVLSE	QPLMQNVLADLAL	SEAA	LAIT
Pseudomonas_fluorescens	VPTIIE	MVAM	TRFDC	MIGSSAL	MRQAL	TQAS	HHCA	HRKQVGGKLLSE	QPLMQNVLADLAL	SEAA	LALS
Pseudomonas_putida	VPTIIE	MVAM	TRFDC	MIGSSAL	MRQAL	TQAA	HHCA	HRKQVGGRVLSE	QPLMQNVLADLAL	SEAA	LALS
Pseudomonas_syringae	VPTIIE	MVAM	TRFDC	MIGSSAL	MRQAL	TQAT	HHCA	HRVSGRLLSE	QPLMQNVLADLAL	SEAA	LALT
Azotobacter_vinelandii	VPTILE	MVGL	TRFDC	MIGSSAL	MRQAL	TQAL	HHCA	HLVGGQVLS	HALMQNVLADLAL	SEAA	LALT
Chromohalobacter_salexigens	IATITL	DMVQ	TRLDA	ATAPAG	MMRQAL	REAV	HHA	QGRFAFGKRLAD	QPLMQVVIADLAL	TEAS	LALC
Chromobacterium_violaceum	IPTIIE	MATY	TRLN	CVIGSAA	ILRQ	LVQAI	YARR	RVAFGKRLAE	QPLMRNVLADLAL	SEAA	LCLA
Burkholderia_cenocepacia	IPTIIE	MATY	TRLN	CVIGSAA	MLRQ	LVQAI	YARR	RVAFGRALAE	QPLMRNVLADLAL	SEAA	LCLA
Burkholderia_fungorum	VPTIIE	MANY	TRLD	CVIGSAA	LMRA	LVQAI	HHAR	HRSVAFGRLLAE	QPLMRNVLADLAL	SEAA	TVLE
Burkholderia_pseudomallei_1	VPTIIE	MANY	TRLD	CVIGSAA	LMRA	LVQAI	HHAR	HRSVAFGRLLAE	QPLMRNVLADLAL	SEAA	TVLE
Burkholderia_pseudomallei_2	IPTIIE	MATY	TRLN	CVIGSAA	ILRQ	LVQAI	YARR	RVAFGRALAE	QPLMRNVLADLAL	SEAA	LALA
Ralstonia_solanacearum	IPTIIE	MATH	TRLD	CVIGSAA	LLRQ	LVQAI	HHAR	HRSVAFGRLLAE	QPLMRNVLADLAL	SQAAT	LMM
Ralstonia_eutropha	IPTIIE	MAT	STRLD	CVIGSAA	ILRQ	LVQAI	HHTR	HRSVAFGRLLAE	QPLMRNVLADLAL	SEAA	LMM
Ralstonia_metallidurans_1	IPTIIE	MAT	STRLD	CVIGSAA	ILRQ	LVQAI	HHTR	HRSVAFGRLLAE	QPLMRNVLADLAL	SEAA	LMM
Ralstonia_metallidurans_2	IPTIIE	MAT	STRLD	CVIGSAA	LLRQ	LVQAI	HHAR	HRSVAFGRLLAE	QPLMRNVLADLAL	SEAA	LMM
Azoarcus_EbN1	IATIME	MAAQ	TRLD	CVIGSAA	LMRR	LVQAI	HHAR	HRSVAFGRVLA	QPLMRNVLADLAL	SEVA	TMLA
Bordetella_parapertussis	TAVLLE	MAAT	TRLD	CVIGSAA	LLRQ	VAVQAL	HHA	ACRCAFQGTALAE	QPLMRNVLADLAL	SEAA	TVIA
Rhodopseudomonas_palustris	VATIIE	MVAM	TRFDC	MIGSSAL	MRQAL	TQAS	DHCR	QRAVFGKRLAE	QPLMQNVLADLAL	TEAA	LALT
Brucella_suis	VKTIMD	MVTL	TRLD	CAVASA	LMRS	GLAEAV	HHR	RRHVFGKPLVE	QPLMQNVLADMAL	VAGATA	LTS
Agrobacterium_tumefaciens	VKTILD	MVTL	TRLD	CAVASA	MMRQ	GLAEAV	HFA	RGRSVFGKPLVE	QPLMQNVLADMAL	VAAATA	LTS
Mesorhizobium_loti	VKTIMD	MVTL	TRLD	CAVASA	IMRA	GLAEAV	HHR	RRHVFGKPLVE	QPLMQNVLADMAL	VAAATA	LTS
Mesorhizobium_BNCl	IRTIMD	MVTL	TRLD	CAVASA	LMRR	GLAEAV	HHR	RRSVFGKPLVE	QPLMQNVLADMAL	VAAATA	LTS
Bradyrhizobium_japonicum	IRTIIQ	MVQL	TRQD	CAIASG	LMRS	GLAEAV	HHR	RRSVFGKPLVE	QPLMQNVLADMAL	HVEAS	VAVL
Sinorhizobium_meliloti	IRTILD	MVTL	TRLD	CAVASA	MMRQ	GLAEAV	HHR	RRHVFGKPLVE	QPLMQNVLADMAL	VAAAS	LTS
Mycobacterium_tuberculosis	VPTIIE	MVNL	TRLD	CAVASA	SMRT	GLTRAV	HHA	QRKAFGAYLID	QPLMRNVLADLAL	VEAA	TIVA
Nocardia_farcinica	VKTIIE	MVNM	TRLD	CVIGSAA	IMRQ	ATVAV	HHR	RRSVAFGAKLID	QPAMRNVLADLAL	VEAA	TIVM
Streptomyces_coelicolor_1	VPTIID	MVAA	TRLD	CVIGSAA	LMRQ	AVQAV	HHC	AYRQVAFGAKLAE	QPLMRNVLADLAL	SEAA	TILG
Streptomyces_coelicolor_2	VKTIIE	MVNC	TRLD	CVMASA	LMRK	LVQAI	HHR	RRVAFGAKLVE	QPLMRNVLADLAL	SEAA	TALT
Streptomyces_avermitilis	VRTIIE	MVAA	TRLD	CVIGSAA	LMRQ	AVQAI	HHC	TYRQVAFGAKLVE	QPLMRNVLADLAL	SEAA	TILA

	360	370	380	390	400	410																						
AidB_E.coli	FRLARAWDRR	...ADAK	EALW	ARLF	TPAAK	FVICKR	GMPFVA	EAM	EVL	GGT	GYCE	ESEL	LPRL	LYREM														
Salmonella_enterica	FRLARAWQR	...REAK	EALW	ARLF	TPAAK	FVICKR	GMPFVA	EAM	EVL	GGT	GYCE	ESEL	LPRL	LYREM														
Yersinia_pestis	LRLARAWAS	...GEVRE	EQIF	SRLT	TPAAK	FVICKR	GMPFVA	EAM	EVL	GGT	GYCE	QSEL	LPRL	LYREM														
Idiomarina_loihiensis	MRIARAMD	NQ...DDE	HEKLL	SRIAT	PIGYW	ICKRT	FNHAY	EAM	EVL	GGT	GYCE	VMNH	IMPR	RFRES														
Acinetobacter_ADP1	MHLACACY	QR...DDD	ISQAW	VRLL	TPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VTGIMS	RL	LFREA														
Pseudomonas_aeruginosa	LRMGHALD	R...HDE	QEEKF	ARLV	TAVG	KYWIC	KRAPAM	INEAM	EVL	GGT	GYCE	VEE	IL	LPRL	LYREA													
Pseudomonas_fluorescens	LRMGKALD	H...DDR	HEAQF	ARLV	TAVG	KYWIC	KRAPAM	INEAM	EVL	GGT	GYCE	VEDS	IL	LPRL	LYREA													
Pseudomonas_putida	LRMGKALD	H...DDP	QAHF	ARLV	TAVG	KYWIC	KRAPAM	INEAM	EVL	GGT	GYCE	VEDS	IL	LPRL	LYREA													
Pseudomonas_syringae	LRVGRALD	H...DDD	HEKRF	VRLV	TAVG	KYWIC	KRAPAM	INEAM	EVL	GGT	GYCE	VEDS	IV	PP	LYREA													
Azotobacter_vinelandii	LRLARALD	H...EDE	SERSL	ARLV	TAVG	KYWIC	KRAPAM	INEAM	EVL	GGT	GYCE	VEDS	IL	LPRL	LYREA													
Chromohalobacter_salexigens	LRTARAFD	GAP...DDD	HERAL	RLPAL	AKFWH	KRGPA	FMAE	AME	EVL	GGT	GYCE	VEAP	LAR	LYREA														
Chromobacterium_violaceum	ARLAGEF	END...D...S	PERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VDDG	PM	AR	LYREA													
Burkholderia_cenocepacia	MRLADAF	ERD...D...S	PERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VDDG	PM	AR	LYREA													
Burkholderia_fungorum	MRLADAF	ERD...D...S	PERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VDDG	PM	AR	LYREA													
Burkholderia_pseudomallei_1	MRLADAF	ERD...D...S	PERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VDDG	PM	AR	LYREA													
Burkholderia_pseudomallei_2	MRLADAF	ERD...D...S	PERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VDDG	PM	AR	LYREA													
Ralstonia_solanacearum	MALGDAF	ERA...EAD	PVAAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VEG	PM	AR	LYREA													
Ralstonia_eutropha	MELAHAF	EHA...ETD	PIAAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VEG	PM	AR	LYREA													
Ralstonia_metallidurans_1	MRLTEAF	ALA...DED	PIQAY	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	YMD	EG	PM	AR	LYRET												
Ralstonia_metallidurans_2	MALAHAF	EHA...DDD	PIAAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VEG	PM	AR	LYREA													
Azoarcus_EbN1	MRLAKAV	E...DDD	PIERAW	KRI	VTPAAK	FVICKR	AVELT	GEAM	EVL	GGT	GYCE	VEG	PM	AR	LYREA													
Bordetella_parapertussis	LRLARAV	D...ADP	VARAL	V	RVT	TPAAK	LWV	KRA	I	AAL	GE	CE	EVL	GGT	GYCE	VEAP	LAR	LYREA										
Rhodopseudomonas_palustris	MRIARALD	H...TDE	HEAL	IR	IG	SAIK	YWIC	KRT	P	GLT	GE	AME	EVL	GGT	GYCE	VEG	PM	AR	LYREA									
Brucella_suis	MRLARAF	D...SDR	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Agrobacterium_tumefaciens	FRLARAF	D...NNP	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Mesorhizobium_loti	FRLARAF	D...SDR	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Mesorhizobium_BNCl	FRLARAF	D...NGR	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Bradyrhizobium_japonicum	MRLCRAF	D...HDA	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Sinorhizobium_meliloti	FRLARAF	D...SAD	EAAY	AR	SMT	PV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Mycobacterium_tuberculosis	MRLACAT	D...RGN	ET	AL	IR	IG	SAIK	YWIC	KRT	P	GLT	GE	AME	EVL	GGT	GYCE	VEG	PM	AR	LYREA								
Nocardia_farcinica	MRLACAT	D...HDP	EAAN	LR	AL	AV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Streptomyces_coelicolor_1	LRLAAAD	...GGD	ER	AL	RL	AV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Streptomyces_coelicolor_2	LRLAAAD	...RGE	GA	AF	RL	AV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA
Streptomyces_avermitilis	LRLAAAD	...GGE	ER	AF	RL	AV	KYV	WCK	I	A	P	A	L	L	Y	E	A	M	E	E	V	L	GGT	GYCE	VEG	PM	AR	LYREA

	420	430	440	450	460	470	480																																			
AidB_E.coli	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Salmonella_enterica	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Yersinia_pestis	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Idiomarina_loihiensis	PVNAI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Acinetobacter_ADP1	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Pseudomonas_aeruginosa	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Pseudomonas_fluorescens	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Pseudomonas_putida	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Pseudomonas_syringae	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Azotobacter_vinelandii	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Chromobacterium_violaceum	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Burkholderia_cenocepacia	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Burkholderia_fungorum	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Burkholderia_pseudomallei_1	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Burkholderia_pseudomallei_2	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Ralstonia_solanacearum	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Ralstonia_eutropha	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Ralstonia_metallidurans_1	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Ralstonia_metallidurans_2	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Azoarcus_EbN1	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Bordetella_parapertussis	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Rhodopseudomonas_palustris	PVNAI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Brucella_suis	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Agrobacterium_tumefaciens	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Mesorhizobium_loti	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Mesorhizobium_BNCl	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Bradyrhizobium_japonicum	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Sinorhizobium_meliloti	PVNSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Mycobacterium_tuberculosis	PLMSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K	.	G	D	R	Y	F	D	R	A	V	R	R	L	Q	Q	L	R	K	P	A	...	E	E	L	G
Nocardia_farcinica	PLMSI	WEGSGN	IMCLD	VLR	V	L	NKQAG	VYD	LL	S	B	A	F	V	E	V	K																									

	490	500	510	520	530	540	
AidE_E_coli	REITHQLFL	LGCFAQMLK	YASPPMA	AWCQVML	DT...RGGVRLS	QI.....QNDLL	IRATGGVGV
Salmonella_enterica	REITQQLFL	LGCFAEMLR	HASPPLA	AWCQML	DT...RGEMPLP	QV.....QNDLL	IRATGGGLR
Yersinia_pestis	RALTQQLFD	LCCASQLDR	FASPRLA	AWCRM	LDH...RDQYMLP	AV.....CARLL	IRATGAH..
Idiomarina_loihiensis	RSITDSMAV	GLCAALLV	QHAGTDV	DAFCASRL	AA...STGLNYG	TLP.TGLNC.AA	IVERASPAQAQ
Acinetobacter_ADPI	RHFVSRVLV	LITCAVLM	RRYAPHWVS	DAFIQSRYG	T...WHGRVTG	TLP.VMP.DSKL	ILERRAYPE..
Pseudomonas_aeruginosa	RQLTEVVAI	ALCAKLLLE	EAGNSAVS	DAFIGSRL	GD...G.GRVYG	TLP.RGVEV.EA	LLARATPHLT.
Pseudomonas_fluorescens	RQLTEVVAI	ALCAKLLLE	EAGNSAVS	DAFIGSRL	SG...G.GRVYG	TLP.RGLDV.EA	IVARSTPQGF.
Pseudomonas_putida	RQLTEVVAI	ALCAKLLLE	EAGNADVS	DAFIGSRL	AG...G.GRVYG	TLP.RGVNV.MA	LVTRATPAWPL
Pseudomonas_syringae	RQLTEVVAI	ALCAKLLLE	EAGNAAVS	DAFIGSRL	AS...G.GRVYG	TLP.TGLDV.ET	LLORSSPOVA.
Azotobacter_vinelandii	RRLVEVAVL	AVLCAKLLLE	EAGNAAVS	DAFIHSRL	GE...G.GRVYG	TLP.RGLDV.AG	LLARSAPQFG.
Chromohalobacter_salexigens	RWLTQRLAQ	CECAALLR	HAFNAVGS	TECTARL	GD...EATPLFG	VLP.AQAPL.AA	LLARINP....
Chromobacterium_violaceum	RRFAQLLAL	TVGCLLR	GRAPAAVA	DGFIASRL	ADG...LWGRVAG	ALD.ARAAGADY	LLERALPAA..
Burkholderia_cenocepacia	RVFAQR	LAVVAACLL	RRDAPAAVS	DAFVATRL	AAP...DWGRIAG	CFD.PHAIDVAA	LLORAYPA...
Burkholderia_fungorum	RRIAQVVL	IACATLLLE	HAPAEVA	DAFIATRL	ADGCGESGR	VYGTLP.ATPDH.AA	IVERAFPA...
Burkholderia_pseudomallei_1	RRIAQR	IALLVACAS	LLDRDGPYVA	DAFVATRF	GHDSSETGR	VGTLP.ATIDH.AA	IVERAFPA...
Burkholderia_pseudomallei_2	RVLAQR	IALLVACAS	LLSDAAPAVS	DGFIATRF	GEP...AWGRVTG	ALD.ARRVDAAA	LLORAYAA...
Ralstonia_solanacearum	RRIAQQLAL	TACAAALML	LAHADA	DAFERIASR	HH...QHGRVFG	TLP.GNAQELGA	ALLORAWPA...
Ralstonia_eutropha	RRFAQLV	LVTACAAALML	LAHADA	ENAFVASRL	GR...QHGRVFG	TLP.MEPEVLKR	VFERGWTA...
Ralstonia_metallidurans_1	RRHAQLV	LVLVCAARLL	GEHAPAAV	DAFISRF	DA...QWGRVFG	MPLD.DGVAAHA	ILLDRAWTQ...
Ralstonia_metallidurans_2	RRFAQLV	LVTACAAALML	IAGNAE	SAAALFV	ASRLGR...QHGRVFG	TLP.ADASTLAR	ILARAWPA...
Azoarcus_EbN1	RHVAMQLV	LVLVCAARLL	RRHAPGNV	AAAFIDSRF	DR...PAGQVP	GILT..KP.DATT	LLDRAWWPG...
Bordetella_parapertussis	RRVAAQLAT	LWCAALLR	HAPAVGAA	FAATRL	HA...PAG.IVG	AAP.ID..DPAP	ILLARAWPGIC.
Rhodopseudomonas_palustris	RDLVDR	LAVGLCASV	LIRHAPDEVA	EAYCASRL	LAQ...RGAHHYG	ALP.KGVNF.AA	ILLDRAWPR...
Brucella_suis	RLLTEQLAF	AAAAAELR	QLGADDI	AFIETRL	GG...QWRTTYG	MLD.ARHNA.MR	IIDQLYPAS..
Agrobacterium_tumefaciens	RLLVEQFAL	AAAAAELCR	LGAGKIA	DAFLETRL	AG...GWRHTYG	MLD.SREDF.NY	IIDLLYPAS.
Mesorhizobium_lot1	RLLTEQLAL	SAAAAELRR	LGAGRIA	DAFVETRL	AG...QWRNTYG	MID.SRHDA.RM	IIDTLYPVN.
Mesorhizobium_BNC1	RLLTEQLAL	SAAAAELKR	LGAGQVAD	DAFIETRL	AG...QWRGTYG	MID.ARYDA.VA	ILLDMLYPEAM.
Bradyrhizobium_japonicum	RLAVEKLAL	LAAAAALNG	VSP.RHAE	LFAATRL	AT...THASMYG	AVELESQDV.RA	LLERALP....
Sinorhizobium_meliloti	RMLVEQLAL	LAAAAAELYR	LGAGRIA	DAFLESRL	AA...GWRSTYG	MLD.SRFPD.AY	VILLDLYPAAT.
Mycobacterium_tuberculosis	RKIAEDICL	AELCGSLL	VRHGHPAVA	DAFATRL	GG...QWGGAYG	MP.AGLDL.AP	ILLERALLVKG..
Nocardia_farcinica	RRVVELMAL	VLCGAQLVR	HGHRAVA	DAFCATRL	GD...DWGIAPG	TLP.TGVDT.ES	ILERRAFVE...
Streptomyces_coelicolor_1	RLLAERLAL	VLCGALLVR	YAPPEVA	DAFCASRL	GG...DGGAAF	GTLPTLTL.AA	VVERARPVV..
Streptomyces_coelicolor_2	RRLVEMLAL	TLCASLLVR	HAPPAVA	DAFCATRL	GG...DWGHAF	GTLPTADL.DG	ILLTRALPPEG.
Streptomyces_avermitilis	RRVVERLAL	VLCGALLVR	YAPPEVA	DAFCASRL	GG...DWGTAF	GTLPHSLDL.AT	VVERARPVVA..