

StAu_newman_A6QGC0.1	VD	EED	DC	YYLMVEYIEG	PTLSEYIESH
Stau_aureus_CAA73980.1					
Ecoli_MQS28384					
PsAe_MUK59325.1					
Stau_SCT90678.1	VD	EED	DC	YYLMVEYIEG	PTLSEYIQSH
Stpn_Bacilli_multispecies_WP_048762376.1	VE	EDD	DN	FYLIMEYIDG	PTLSEYIHS
PsAe_WP_150019979.1					
PsAe_WP_121410777.1					
Enfu_VFA68308.1	IG	EED	GQ	QFLVMEYVDG	FDLKKYIQDN
Stpn_WP_160544498.1	IG	EED	GQ	QFLAMEYVNG	PDLKKYIQDH
Stpn_Streptococcus_multispecies_WP_049527645.1	IG	EED	GQ	QFLVMEYVDG	SDLKKYIQDH
PsAe_RUC36476.1					
Enfu_WP_016624302.1	VG	EES	GM	QYLMVEYVKG	MDLKRYIOTH
Limo_WP_003733096.1	VG	EEN	DL	HYIVMEHVDG	MDLKQYIHEN
Listeria_multispecies_WP_003767439.1	VG	EEN	DL	HYIVMEHVDG	MDLKQYIQEN
Stpn_CJR66226.1	LG	EED	DI	YYIVMEYVEG	MTLKEYITAN
Stpn_COC44426.1	IG	EEG	DI	YYIVMEYVEG	MTLKEYITAH
Stpn_CVM85423.1	VG	EED	DI	YYIVMEYVEG	MTLKEYIHAN
Stpn_CVM86034.1	TG	EVSL	ED-GLHPVDC	PFLVMELVSG	RTLREILHAE
Chtr_CQB85900.1	SG	EESV	EDDNGVEEHL	PYLMVEYVKG	KTLRDILKMN
Chtr_CRH87370.1	TG	EETI	VSDSGRTLAL	PYIVMEYVKG	RTVSTLLKHG
Chtr_CRH89418.1	TG	EEML	TGPEGRAISV	PYIVMEYVEG	HTVKELLADG
PsAe_WP_121124925.1					
Errh_WP_016357241.1	VG	EDE	GQ	HYIVMEMIRG	TTLKQLVHRR
Errh_WP_173446533.1	VG	ESD	GM	HYIVMEFIRG	RTLKQLIQOR
Chtr_CRH67572.1					
Chtr_CRH88717.1	QGIYHSSEG		ER	AYLMELING	PDLRSELSAH
PsAe_SQG56831.1	TG	ETER	AG	IST	PYIVMERVHG
Codi_WP_003849886.1	TG	ETPR	AG	LNT	PYIVMELVNG
Chtr_CRH62988.1	WG	KDN		DT	YFIAMEYLRG
PsAe_SQG59153.1	FS	SDG		DQ	IFLIMELITG
Codi_WP_003852190.1	FS	SDG		DN	IFLIMELITG
Chtr_CRH93390.1					
Chtr_CPS17231.1					
Chtr_COB89058.1					

StAu_newman_A6QGC0.1	GPLSVDTAIN	FTNQILDGIK	HAHDMRIVHR	DIKPQNILID
Stau_aureus_CAA73980.1				
Ecoli_MQS28384				
PsAe_MUK59325.1				
Stau_SCT90678.1	GPLSVDTAIN	FTNQILDGIK	HAHDMRIVHR	DIKPQNILID
Stpn_Bacilli_multispecies_WP_048762376.1	GPLNIETAID	FIKQILNGVK	QAHEQRIIHR	DIKPQNVLIN
PsAe_WP_150019979.1				
PsAe_WP_121410777.1				
Enfu_VFA68308.1	APLSNNNEVVR	IMNEVLSAMS	LAHQKGIVHR	DLKPQNILLT
Stpn_WP_160544498.1	APLSNTETVR	IMSEVLSAMQ	LAHQKGIVHR	DLKPQNVLLT
Stpn_Streptococcus_multispecies_WP_049527645.1	APLSNQDVVR	IMGEILSAMT	LAHQKGIIHR	DLKPQNVLLT
PsAe_RUC36476.1				
Enfu_WP_016624302.1	YPIPYQTVVD	IMQQILSAIS	LAHAHRIIHR	DLKPQNILID
Limo_WP_003733096.1	HPISYEKAVD	IMLQIVSAVA	IAHQHHIIHR	DLKPQNILID
Listeria_multispecies_WP_003767439.1	HPISYEKAVD	IMLQIVSAVA	IAHQHHIIHR	DLKPQNILID
Stpn_CJR66226.1	GPLHPKEALN	IMEQIVSAIA	HAHQNQIVHR	DIKPQNILID
Stpn_COC44426.1	GPLHPKEALS	VMEQIVSAIA	HAHQNHIVHR	DIKPHNILID
Stpn_CVM85423.1	GPLHPKEAVR	IMEQVVAAME	EAHAKQLVHR	DIKPHNILID
Stpn_CVM86034.1	GAVGTDRAVA	WTRGVLEALE	HAHEEGIVHR	DVKPANVMVT
Chtr_CQB85900.1	GALSORDSEO	VMLGVNLALE	YSHRMGVIHR	DIKPGNIMIS
Chtr_CRH87370.1	QALPINEAVQ	IAGVGLSALE	YSHYEGIIHR	DIKPGNIMIS
Chtr_CRH89418.1	TPVPINEAVA	IVSGVLEALE	YSHSQHLVHR	DIKPGNIMLT
PsAe_WP_121124925.1				
Errh_WP_016357241.1	GALDKYESVA	IMOOLASALO	HAHAHVIIHR	DIKPQNILVK
Errh_WP_173446533.1	GALSVSESIQ	IMTQLTSAID	HAHKHNIHR	DIKPQNVLVK
Chtr_CRH67572.1				
Chtr_CRH88717.1	GSFTLRDSLE	ITROVLTALE	VAHEAGIVHR	DVKPENILLS
PsAe_SQG56831.1	GPLSPTEAAQ	TLIPVCOALQ	FSHDAGIIHR	DIKPANVMIT
Codi_WP_003849886.1	GPLTPSOAAH	TLIPVCHALQ	VSHDAGIIHR	DIKPANVMIT
Chtr_CRH62988.1	GALDCKKVAQ	IGSQIAQALS	VAHRHDIHR	DIKPQNIMVO
PsAe_SQG59153.1	GPMPPHAAAA	VMHSVLTGLS	VAHNAGMVHR	DIKPDNVLIN
Codi_WP_003852190.1	GPMPPHAAVA	VMRSVLTGLS	VAHSAGMVHR	DIKPDNVLIN
Chtr_CRH93390.1				
Chtr_CPS17231.1				
Chtr_CQB89058.1				LIH

161

StAu_newman_A6QGC0.1	S	-----	NKTLKIFD	FGIAKAL	--S	ETSLTQTNHV
Stau_aureus_CAA73980.1		-----				
Ecoli_MQS28384		-----				
PsAe_MUK59325.1		-----				
Stau_SCT90678.1	S	-----	NKTLKIFD	FGIAKAL	--S	ETSLTQTNHV
Stpn_Bacilli_multispecies_WP_048762376.1	K	-----	DKILKIFD	FGIAKAL	--S	ETSMTQTNHV
PsAe_WP_150019979.1		-----		D	FGSVVAA	P YVQM
PsAe_WP_121410777.1		-----				TNTL
Enfu_VFA68308.1	K	-----	KGTVKVTD	FGIAVAF	--A	ETSLTQTNSM
Stpn_WP_160544498.1	K	-----	DGVAKVTD	FGIAVAF	--A	ETSLTQTNSM
Stpn_Streptococcus_multispecies_WP_049527645.1	K	-----	DGRAKVTD	FGIAVAF	--A	ETSLTQTNSM
PsAe_RUC36476.1		-----				
Enfu_WP_016624302.1	Q	-----	EGVVKITD	FGIAIAL	--S	ETSITQTNSM
Limo_WP_003733096.1	H	-----	DGVVKITD	FGIAMAL	--S	ETSITQTNSL
Listeria_multispecies_WP_003767439.1	H	-----	DGVVKITD	FGIAMAL	--S	ETSITQTNSL
Stpn_CJR66226.1	H	-----	MGNIKVTD	FGIATAL	--S	STTITHTNSV
Stpn_COC44426.1	H	-----	LGHIKVTD	FGIATAL	--T	STTITHTNSV
Stpn_CVM85423.1	N	-----	LGNIKVTD	FGIAMAL	--S	SATITHTNSV
Stpn_CVM86034.1	E	-----	TGAVKVMD	FGIAHALADT		SATTSQTQAV
Chtr_CQB85900.1	E	-----	QGIVKVMD	FGIARALDDS		ATTMTQSQGV
Chtr_CRH87370.1	Q	-----	DGKVKVMD	FGIARAIADS		SATMTSTNSV
Chtr_CRH89418.1	N	-----	DGKVKVMD	FGIARAITDS		QATMTQTNAV
PsAe_WP_121124925.1		-----				
Errh_WP_016357241.1	D	-----	DGTVKITD	FGIALAG	--D	AIQLTKSDSV
Errh_WP_173446533.1	D	-----	DGTVKITD	FGIAIAN	--D	AVQLTLNNAV
Chtr_CRH67572.1		-----				
Chtr_CRH88717.1	ESISHKHVLS		PPSYTAKVAD	FGLARAV	--S	DVTSTHSGOM
PsAe_SQG56831.1	N	-----	TGTVKIMD	FGIARALDDA		TSAMTQTSVA
Codi_WP_003849886.1	N	-----	TGAVKIMD	FGIARALDDA		TSAMTQTSVA
Chtr_CRH62988.1	P	-----	DGNIKVMD	FGIARA	--K	NSHLTTDNSV
PsAe_SQG59153.1	S	-----	DHQVKLAD	FGLVRAA	--S	ASQAT SANI
Codi_WP_003852190.1	A	-----	DHQVKLAD	FGLVRAA	--S	ASQAT SNQI
Chtr_CRH93390.1		-----				
Chtr_CPS17231.1		-----				
Chtr_CQB89058.1		-----				

201

StAu_newman_A6QGC0.1	IGTVQYFSPE	QAKGEATDEC	TDIYSIGIVL	YEMLVGEPPE
Stau_aureus_CAA73980.1				
Ecoli_MQS28384				
PsAe_MUK59325.1				
Stau_SCT90678.1	IGTVQYFSPE	QAKGEATDEC	TDIYSIGIVL	YEMLVGEPPE
Stpn_Bacilli_multispecies_WP_048762376.1	IGTVQYLSPE	QAKGDKTNET	TDIYSIGIVL	YEMLVGEPPE
PsAe_WP_150019979.1				ILKDTLPY
PsAe_WP_121410777.1	PE	PKPG		
Enfu_VFA68308.1	IGSVHYLSPE	QARGSKATVQ	SDIYAMGIML	FEMLTGHIPIY
Stpn_WP_160544498.1	IGSVHYLSPE	QARGSKATIQ	SDIYAMGIML	FEMLTCHIPF
Stpn_Streptococcus_multispecies_WP_049527645.1	IGSVHYLSPE	QARGSKATIQ	SDIYAMGIML	FEMLTGRIPY
PsAe_RUC36476.1				
Enfu_WP_016624302.1	IGSVHYLSPE	QARGSMATKQ	SDIYALGIVL	YEMLTGSPVF
Limo_WP_003733096.1	IGSVHYLSPE	QARGGMATQK	SDIYSLGIVL	YELLTGKVPF
Listeria_multispecies_WP_003767439.1	IGSVHYLSPE	QARGGMATQK	SDIYSLGIVL	YELLTGKVPF
Stpn_CJR66226.1	IGSVHYLSPE	QARGGLATKK	SDIYALGIVL	FELLTGRIPF
Stpn_COC44426.1	IGSVHYLSPE	QARGGLATKK	SDIYALGIVL	FELLTGRIPF
Stpn_CVM85423.1	IGSVHYLSPE	QARGGLATKK	SDIYSLGIVL	YELISGRMPF
Stpn_CVM86034.1	VGTAQYLSPE	QATGRTVDGR	ADLYAAGCLL	FELLTGRPPF
Chtr_CQB85900.1	VGTAQYLSPE	QARGEQVDMR	SDLYSAGCVL	YEMLTGRPPF
Chtr_CRH87370.1	VGTAQYLSPE	QARGEVVDAR	SDLYSTGCLI	YELLTGKPPF
Chtr_CRH89418.1	VGTAQYLSPE	QARGEQVDAR	SDLYSTGVVL	FELLTGRPPF
PsAe_WP_121124925.1				
Errh_WP_016357241.1	IGSVHYMAPE	CSRGEGAGEQ	SDVYSLGVVF	YELLTGDVPY
Errh_WP_173446533.1	MGSAHYLAPE	TAQGKEPTAQ	VDIYSLGIVF	YELLTGDVPF
Chtr_CRH67572.1				MPW
Chtr_CRH88717.1	IGTVAYTAPE	IVTRGRADOR	ADLYALGVML	YELLAGTOPF
PsAe_SQG56831.1	IGTAQYLSPE	QARGKLADAR	SDVYALGCVL	YETLTGRPPF
Codi_WP_003849886.1	IGTAQYLSPE	QARGKLADAR	SDVYALGCVL	YETLTGRPPF
Chtr_CRH62988.1	IGTAHYVSPE	OTOGKPLGPT	TDIYSLGIVM	YEAATGVVPF
PsAe_SQG59153.1	IGTVSYLSPE	QVSGDDIGPA	SDVYSAGILL	YELLTGTTPF
Codi_WP_003852190.1	IGTVSYLSPE	QVSGDDIGPE	SDVYSAGIVM	FELLTGTTPF
Chtr_CRH93390.1				
Chtr_CPS17231.1				
Chtr_CQB89058.1			IGLM	

241

StAu_newman_A6QGC0.1	NGETAVSIAI	KHIQDSVPNV	T---TDVRKD	IPQSLSNVIL
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----
Stau_SCT90678.1	NGETAVSIAI	KHIQDSVPNV	T---TDVRKD	IPQSLSNVIL
Stpn_Bacilli_multispecies_WP_048762376.1	RGETAVSIAI	KHIQETVPNI	----TEKHPN	IPQSLSNVVL
PsAe_WP_150019979.1	LG-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	DGDSAVTIAL	QHFQKPLPSI	----LAENKS	VPQALENIVI
Stpn_WP_160544498.1	DGDSAVTIAL	QHFQKPLPSI	----IFENRN	VPQALENVVI
Stpn_Streptococcus_multispecies_WP_049527645.1	DGDSAVTIAL	QHFQKPLPSI	----LAENHN	VPQALENVVI
PsAe_RUC36476.1	----AVTIAL	KHFQEEIPSV	----KMFDPG	IPQSLENVVR
Enfu_WP_016624302.1	DGESAVTIAL	KHFQEDLPSI	----TTLDPN	VPQSLENIVL
Limo_WP_003733096.1	DGESAVSIAI	KHLQADIPSA	----REQNPE	IPQSLENIII
Listeria_multispecies_WP_003767439.1	DGESAVSIAI	KHLQAEIPSA	----RAQNPE	IPQSLENIII
Stpn_CJR66226.1	DGESAVSIAL	KHLQAEIPSA	----KRWNPS	VPQSVENIIL
Stpn_COC44426.1	DGESAVSIAL	KHLQETIPSA	----RKWNPS	IPQSVENIIL
Stpn_CVM85423.1	EGESAVSVAL	KHLOSEPPSV	----RRWNPS	VPOSVENIIL
Stpn_CVM86034.1	TGDTPLAVAY	QHVREEPPAP	----SDVDPD	LPPAFDPVVL
Chtr_CQB85900.1	TGDSAVAIAY	QHVSEVATPL	----STLVPG	LPVMWDKICA
Chtr_CRH87370.1	QGDSAVAVAY	QHVSEPPKVP	----SLIAPD	IPDAIDRVVM
Chtr_CRH89418.1	TGDSAVAVAY	QHVQQLPPTP	----SSITPD	VPEALDRVVM
PsAe_WP_121124925.1	-----	----QSTPSG	----QTLMP-	-----
Errh_WP_016357241.1	RGETPVEIAM	KHMRPEFPSP	----MKFNPT	LPNSIANIIA
Errh_WP_173446533.1	HGKTPTEIAV	KHLROPIPYV	----RDFNPA	IPQAVENIIL
Chtr_CRH67572.1	EGENAIQIAT	HHVNDPIPMF	----STLVSW	LPREIDDFIS
Chtr_CRH88717.1	IGESPFAVAY	AHVNDPMRPL	----TOTAEW	MPDDIDSFIC
PsAe_SQG56831.1	EGETPFAVAY	QHVQEDPAKP	SEFVSDLTPT	AAVNVDVAVL
Codi_WP_003849886.1	EGETPFAVAY	QHVQEDPVKP	SEYIADLSPT	AAINVDVAVL
Chtr_CRH62988.1	DGDDAISVAL	KOVNEQPVPP	----SARNPR	VDOALERIIL
PsAe_SQG59153.1	SGDTQIAHAY	SRLDRTVPAP	----SDVIDG	IPPLFDALVA
Codi_WP_003852190.1	SGDNQIAHAY	ARLDSAVPAP	----SSMIAG	IPPLIDALVA
Chtr_CRH93390.1	-----	-----	-----	MPQALENVVL
Chtr_CPS17231.1	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----

281

StAu_newman_A6QGC0.1	RATEKDKANR	YKTIQEMKDD	LSSVL-----	-----
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----
Stau_SCT90678.1	RATEKDKANR	YKTIQEMKDD	LSSVL-----	-----
Stpn_Bacilli_multispecies_WP_048762376.1	KATEKNPKDR	YQTIEEMYND	LSSVL-----	-----
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	KATAKKLTDR	YKTTYEMGRD	LSTAL-----	-----
Stpn_WP_160544498.1	KATAKKLGDR	YVSTTDMYQD	LGTSL-----	-----
Stpn_Streptococcus_multispecies_WP_049527645.1	RATAKKLENR	YNSTLEMSRD	LVTSL-----	-----
PsAe_RUC36476.1	HATAKDPDR	YKTANEMAED	LYTSL-----	-----
Enfu_WP_016624302.1	RATAKEPADR	YKTADEMSDD	LATAL-----	-----
Limo_WP_003733096.1	KATAKDPFLR	YQNAEEMEKD	LOTCL-----	-----
Listeria_multispecies_WP_003767439.1	KATAKDPFLR	YQNAEEMEKD	LOTCL-----	-----
Stpn_CJR66226.1	KATAKDPFHR	YETAEDMEAD	IKTAF-----	-----
Stpn_COC44426.1	KATAKDPFHR	YESAEDMEAD	IRTAF-----	-----
Stpn_CVM85423.1	KAMAKDPFYR	YEDASEMQKD	LKTAF-----	-----
Stpn_CVM86034.1	RALRKDPEDR	FPTGTAFLLA	LEEAA-----	-----
Chtr_CQB85900.1	KAMAKDRONR	YATAAEFKND	ILAFM-----	-----
Chtr_CRH87370.1	KSLAKKREDR	YQTASEMRTD	LLAAL-----	-----
Chtr_CRH89418.1	KALAKDRTDR	YTSAAASMLAD	LMRAS-----	-----
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	RATHKNRTHR	YANMKEFVED	LDTCL-----	-----
Errh_WP_173446533.1	KATAKDPKDR	YSSAYAMLED	LQNCM-----	-----
Chtr_CRH67572.1	ALAATNPDER	PTDAGEALEL	LARVEIGLPE	EILTRRADVA
Chtr_CRH88717.1	TLTAKDPSKR	PLNASAAALD	LTNVITHLDD	ADQMRRIPVF
PsAe_SQG56831.1	TAMAKHPGDR	YQTAMDGMAD	LERLA-----	-----
Codi_WP_003849886.1	TAMSKHPGDR	YQTAQEMCAD	LERLE-----	-----
Chtr_CRH62988.1	KCMOKDPKNR	FOTAEFVKV	LRDYL-----	-----
PsAe_SQG59153.1	SATTLSPHDR	FTDADEFLLA	LDDVA-----	-----
Codi_WP_003852190.1	SATALRPEER	FADAAEFLLA	LDDVA-----	-----
Chtr_CRH93390.1	KATAKKITDR	YKTVAEMYAD	LASSL-----	-----
Chtr_CPS17231.1	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----

321

StAu_newman_A6QGC0.1	-----HE	NRANEDVYEL	DK	-----
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----
Stau_SCT90678.1	-----HE	NRANEDVYEL	DK	-----
Stpn_Bacilli_multispecies_WP_048762376.1	-----VT	SRLNEEKHTR	IS	-----
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	-----SS	TRHREP KLVF	N	-----
Stpn_WP_160544498.1	-----DS	RRARESKLVF	Q	-----
Stpn_Streptococcus_multispecies_WP_049527645.1	-----YP	SHSRDAKVVV	D	-----
PsAe_RUC36476.1	-----SA	SRLNEPAWEP	TA	-----
Enfu_WP_016624302.1	-----SP	GRSNEALWMP	AA	-----
Limo_WP_003733096.1	-----NK	DRLNEPKYVF	PT	-----
Listeria_multispecies_WP_003767439.1	-----NK	DRLNEPKYVF	PTN	-----
Stpn_CJR66226.1	-----DA	DRLNEKRFTI	QE	-----
Stpn_COC44426.1	-----DA	GRLNEQKFSV	QD	-----
Stpn_CVM85423.1	-----DP	ARLKEKRFVI	EE	-----
Stpn_CVM86034.1	-----AD	PHAGPGRHTP	PLDAFPALV	GAGGAVLGAA
Chtr_CQB85900.1	-----NG	GVVVAFAFNP	LT	-----
Chtr_CRH87370.1	-----RG	DAIHAPAIGT	WE	-----
Chtr_CRH89418.1	-----RG	GHVNAFAVAV	WA	-----
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	-----LE	SRADEPLWEA	TMES	-----DDGT
Errh_WP_173446533.1	-----NW	EMRNVERISF	TT	-----
Chtr_CRH67572.1	P-----KVAS	SAGETATWE	-----	-----
Chtr_CRH88717.1	PHKPII--EK	TEITSSHTSI	SSTS	-----
PsAe_SQG56831.1	-----RH	AVTEAARHYV	SPASL	-----
Codi_WP_003849886.1	-----RN	AVTDAARHYV	TPTSF	-----
Chtr_CRH62988.1	-----A	GKMNE	-----	-----
PsAe_SQG59153.1	-----AE	LQLPAFKVPV	PANAA	AHRASENIN
Codi_WP_003852190.1	-----QE	LRLPEFRVPV	PANAA	AYRSNEHLT
Chtr_CRH93390.1	-----SS	SRKNEKKVEL	SD	-----
Chtr_CPS17231.1	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----

361

StAu_newman_A6QGC0.1	-----MKT	IAVPLKKEDL	AKHISEHKSN	QP	-----
Stau_aureus_CAA73980.1	-----	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----	-----
Stau_SCT90678.1	-----MKT	IAVPLKKEDL	AKHISEHKSN	QP	-----
Stpn_Bacilli_multispecies_WP_048762376.1	-----DTT	QTVPIDKKEI	KNKLDEENHK	KD	-----
PsAe_WP_150019979.1	-----	VEPIFDDET	AELN	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----	-----
Enfu_VFA68308.1	-----DTEST	KTLPKVTSTV	SSLTTEQLLR	N	-----
Stpn_WP_160544498.1	-----DTTDT	KTLPKIEPSP	VKEAPKAVVA	-----	-----
Stpn_Streptococcus_multispecies_WP_049527645.1	-----DMTDT	KTLPKVTPVP	SVSSEKKATA	K	-----
PsAe_RUC36476.1	-----LLGET	KVLTPIPEDI	AEPEETTPVE	-----	-----
Enfu_WP_016624302.1	-----MHNET	KAIEPIDEEA	LHQTESMHAE	-----	-----
Limo_WP_003733096.1	-----DDGDT	KAIPIIATKD	TMQNLDKTIV	-----	-----
Listeria_multispecies_WP_003767439.1	-----DDDGD	KTIPIIATKE	AMQNLDKTIV	-----	-----
Stpn_CJR66226.1	-----DEEMT	KAIPIIKDEE	LAKAAGEKE	-----	-----
Stpn_COC44426.1	-----DEEMT	KAIPVITDGA	KAASQAETP	-----	-----
Stpn_CVM85423.1	-----DHEAT	KAIPIIKDHO	VDQDNEKTAV	-----	-----
Stpn_CVM86034.1	AAEHGADVPM	AAVPLTRPTP	SVPAEPDAAQ	PQAA	NHA
Chtr_CQB85900.1	-----DLANM	RARKOAEONA	ATQAMNNAD	-----	-----
Chtr_CRH87370.1	-----TYVSP	SPLPPSAAAT	Q	-----	-----
Chtr_CRH89418.1	-----DTVPM	AAANVANSQP	TQTLPPAVAS	-----	-----
PsAe_WP_121124925.1	-----	-----	-----	-----	-----
Errh_WP_016357241.1	KLIEKLNGVT	ETLP	-----	-----	-----
Errh_WP_173446533.1	-----	PNIKVD	V	-----	-----
Chtr_CRH67572.1	-----HLGVT	SSLPPTGHST	S	-----	-----
Chtr_CRH88717.1	-----HSAOHT	STIPPKRTDE	LEIVTTSEIF	PTQQ	-----
PsAe_SQG56831.1	-----ISQEPNPT	TIVPITQLDQ	PGPASAA	-----	-----
Codi_WP_003849886.1	-----ATQDPAST	TVVPVITQVAE	LDHAEAGAGI	GA	-----
Chtr_CRH62988.1	-----VNNAT	AQMPVMATNA	VSPLNSTTAL	PH	-----
PsAe_SQG59153.1	GALSATDLLT	TDIPRDATEL	IDDAPGHGLF	PHSQYPTTHE	-----
Codi_WP_003852190.1	VHFTTSDLMT	TDLPRETEGL	-----	-----	-----
Chtr_CRH93390.1	-----NKVDI	KTLPKLSQST	TEVKPVKAKS	-----	-----
Chtr_CPS17231.1	-----	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----	-----

401

StAu_newman_A6QGC0.1	-----K	RETTQVPIVN	G	-----
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----
Stau_SCT90678.1	-----K	RETTQVPIVN	G	-----
Stpn_Bacilli_multispecies_WP_048762376.1	-----I	AQTMQIPIIN	-----	-----
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	-----	OK-Q	AKT	-----
Stpn_WP_160544498.1	-----	PD-S	VEV	-----
Stpn_Streptococcus_multispecies_WP_049527645.1	-----	SS-E	SKQ	-----
PsAe_RUC36476.1	-----	VPE	-----	-----
Enfu_WP_016624302.1	-----	PE	-----	-----
Limo_WP_003733096.1	-----	PEGK	VAA	-----
Listeria_multispecies_WP_003767439.1	-----	PEGK	VAA	-----
Stpn_CJR66226.1	-----	-----	-----	-----
Stpn_COC44426.1	-----	-----	-----	-----
Stpn_CVM85423.1	-----	-----	-----	-----
Stpn_CVM86034.1	VAGAGLPG-A	ASAAQLAAAA	AMDGPRPVTV	GQPVKPGAAA
Chtr_CQB85900.1	-----T	ASTQSFGAIT	G	-----QF
Chtr_CRH87370.1	LN-PVIPA-T	AATNSYP	-----	-----
Chtr_CRH89418.1	-----PS-N	ATT	-----	-----
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	-----	NDGH	VEV	-----
Errh_WP_173446533.1	-----	-----	-----	-----
Chtr_CRH67572.1	-----	-----	-----	-----
Chtr_CRH88717.1	LA-ALTPH-T	ADD SQTNNDT	E	-----
PsAe_SQG56831.1	-----PH-S	EVD	-----	-----
Codi_WP_003849886.1	-----GVVPA-G	AVA	-----	-----
Chtr_CRH62988.1	-----IAN-G	ATO	-----	-----
PsAe_SQG59153.1	TSVFPATESA	TETQIFPHEG	LID	AAPPAPSIAP
Codi_WP_003852190.1	-----FPIEDAS	THTRAFQIPIT	PQP	ATPIGPVAQR
Chtr_CRH93390.1	-----	-----	-----	-----
Chtr_CPS17231.1	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----

441

StAu_newman_A6QGC0.1	-P-AHHQQFQ	KPEGTVYEPK	-----PKKK	-----STRKI
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-----	-----	-----	-----
Stau_SCT90678.1	-P-AHHOOFQ	KPEGTVYEPK	-----PKKK	-----STRKI
Stpn_Bacilli_multispecies_WP_048762376.1	-----HHKFO	ASENNVYTPO	-----RKKR	-----SKKKK
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	-----TEKIT	PDSASNDKTK	-----SKK	-----KASHR
Stpn_WP_160544498.1	-----PKEKE	ASKKEASTPP	-----SSK	-----KSKKP
Stpn_Streptococcus_multispecies_WP_049527645.1	-----AVSKO	PRKNSTLAKN	-----KKK	-----KKKKS
PsAe_RUC36476.1	-----DI	ADDILAEQPP	-----KKN	-----RKKL-W
Enfu_WP_016624302.1	-----ELEA	ADETPAEKQP	-----KKK	-----KRKT-W
Limo_WP_003733096.1	-----AEVV	PEKKDKKKK	-----KMS	-----KKKK-I
Listeria_multispecies_WP_003767439.1	-----EEVA	VDDKKGKKKK	-----KMS	-----KKKK-V
Stpn_CJR66226.1	-----	AEVTTAQENK	-----TKKN	-----GKRKK-W
Stpn_COC44426.1	-----	GETDDKEQQP	-----AKK	-----KKRK-W
Stpn_CVM85423.1	-----HPV	QKPKKKEKQK	-----PKK	-----KRKK-W
Stpn_CVM86034.1	TP--RPEPQG	DTPAPATATH	-----RRV	-----RRRLRRR
Chtr_CQB85900.1	EPYTONTGYN	TRAAQLAANR	-----AKR	-----SKRI
Chtr_CRH87370.1	-----FTSQT	TDITPAIEEE	-----EET	-----QSKK-W
Chtr_CRH89418.1	-----TFA	PVATQEEEEE	-----PEK	-----KSKKG
PsAe_WP_121124925.1	-----	-----	-----	-----NOKL
Errh_WP_016357241.1	-----	-----	-----	-----KRKM
Errh_WP_173446533.1	-----EYS	DEPIETEE	-----PKK	-----KRKFPWF
Chtr_CRH67572.1	-----RTVVO	AAGVQAMHS	-----PKK	-----NRRS
Chtr_CRH88717.1	-----NSIOTG	TYVTTAEOHT	-----ESRK	GGTRSKK
PsAe_SQG56831.1	-----GYEHS	AFAGPAHAHE	-----EERS	G-MSKAMK
Codi_WP_003849886.1	-----GSAAV	AGAGGAHAAP	-----RSS	-----NRGLR
Chtr_CRH62988.1	-----NRKSA	THRAQLRAQE	-----DEK	-----RHKNKVI
PsAe_SQG59153.1	DPYAAAAPAA	PETIPPGPVE	EPPVERPIT	-----NRSKTS
Codi_WP_003852190.1	KPDYSPEPVA	POHAPAAATHE	-----PVT	-----NRSKIS
Chtr_CRH93390.1	-----PAKNN	AKQAEAEKKT	-----DKI	-----KRRMRTR
Chtr_CPS17231.1	-----	-----	-----	-----
Chtr_CQB89058.1	-----	-----	-----	-----

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

481

```

--VLLSLIFS LLM--IALV SFVA---M AMF---GN
-----
--VLLSLIFS LLM--IALV SFVA---M AMF---GN
--VAIFILA LLL--LSLI GFIA---W GML---GD
-----
--LLGTIMKL FFA--LCVV GIIVFAY--K ILV---SP
--FWQLFRF FIL--ALVL LLAGFAY--F FMS---SSN
--FFSTSLKV FLG--LVFI GIIIFAY--L VFT---NP
--GLAIAALIA LAI--GGL AFAMS---GG
--LWILIAALVA LVA--GAAV YFAAT---RN
--ALIVSSVIII FII--GILL L-----W LLG---KSP
--ILIVSSVIVL FII--GILL L-----W LLG---KGP
--PWVLLTICLV FIT--AGIL AVTVFPSL---FMP
--PWVLLAVCFI FIM--AAVL AVTVFPSL---FMP
--PWIVASILFV LTA--ATIL AITVFPGL---LFP
--TLAAGAVLI GLA--LVLP WLAAA---LR
--VITSVISA VVCAIVVAGI LLVLNRS---KLA
--LWVTLAVLGV IVA--MAGL FFGLKAA--G LLGTDPSLEI
--IIAALVVV ALL--LMSGI WYALSHAS---SDK
--ILI-----TN
--IVGASLLA LVI--IIFSI WMIFAPK---KP
--TWIIRTIIVIL IVC--LILLL GLVAGHVI--Q VDG---LL
--FIGKFLAI IAF--VAII GGVGGWWWWN EYG---PG
--LITALLLI ITL--IAAL SSGIYWW--F FFG---PG
--AALAVLAV LVL--GVGG AFAYD---F FVSN--SSKNR
--IIAAILAV LVL--AVGA GFAID---H FGGG--PFSQR
--AGVLGGTLVL IAI--IVALV S-----Y FMG---QG
--FIIWLVLV LVV--TASV AIGG---W WFG---SG
--FVLWLIIV ITL--ATAV ALGA---W WFG---SG
--YKVLIGAIFL LAA--AFV T-----I LLS---TP
--ILASVIIV LLA-----LL WMNLFTR---HG
  
```

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

521

```

--KYEETPD-VI GKSVKEAEQI FNKNLKLK GK -ISRSYS DKY
-----
--KYEETPD-VI GKSVKEAEQI FNKNLKLK GK -ISRSYS DKY
--KYAEMPD-LT GKTEKEAEKV LKASHLEIGH -ISREYNDDY
--KKVEVPD-VI GKELGEAYAI LDEAGLNLYS DNS-----
--GSVTLPN-FT GFTYGEVRDW LHKAGLAFKP
--TTIRVPD-VS NKTVAQAKMT LENSGLKVG A -IRNIESDSV
--DSATVPD-VS GQTIQEAQAT LEENSGLTVGA -VSRKESDSV
--DSTOVPN-VV GOELSTAQTK IEGAGFKVGE -VKEVEDDSV
--KDVEVPD-VT NETKADASQA LQSAGLKVDS ETKKIPDDKI
--SDVVVPD-VS GLTESEARTK LEAVNLKVAS ETQEIADDEI
--DEVAVPD-VS GKTEDQAVL LQKEGFVIGK -TAEKNSDEV
--DEVAVPD-VS GKTEDQAIAL LQKDGFIK V -TVEKNDSV
--KDVKIPD-VS GMEYEKAAGL LEKEGLQVDS EVLEISDEKI
--KDVSVPD-VR GMKYEKAEAL LEKNGLRADP DITDIEDEKI
--KDVEVTD-VS GMTVEKAEDT LKKAGFTVAS EPIDIADDEI
--TTVEVPA-VV GLQQDEAVAA LEDAGLVAVV --SSAYMADA
--GEVVVPTFTE TTTQDAAREK LRALGLIPDI --LEDDKSSQ
--TQVDVPD-MK GMDEDAARKA LTEAGLKIKV -GDVANDDEKI
--EMVAVPDNLI GMTQAEAKSA VESVGLVF AI SNETVASDEI
--GTNYMPD-LT GWSKSDVTKF GDLLGLTVEF
--SDIEIPD-LA GLSVSEAKEH LANLGLNYAP SYLYEISDKY
--GYQTIPN-VV NLSTSQAQKK LKAKNFTHIT -IKKVLSDSV
--SYLTMPQ-TA GRSSQAVKSE LAALGLGVIE --EEAFSDTV
--LRVSIPO-VA GMSVAEAEKT LTTVGFQTTT --AHEYSDTV
--SLVNIPK-LE KSSQQDAVNQ LEQLGLQVNV --IEEANPDV
--STVTIPK-LQ NSTQQDAVNQ LEKLGLQVNV --IEEPNPDI
--ATOEVPN-LL NLTOQEALMK IDNSNFFORG TVKEEFSSTV
--RYGEVPQ-VL GMSQIEATAL AQDAGFSTTT --SPVYSDDI
--RYGEVPQ-VL GLDOVQAVAV TEESGFGAVT --EPVYSDDV
--ATVKVPD-VA GLTRDOAVDK IESAGLKIQG -VKEEASSDV
--MVTLKD-LS NYSLKSAQDY AKEHGLTLQI --NQEYSDDV
--SSVEIPD-IY GLPESEAEQL LDKAHLRYEI -IDSVYTTVEV
  
```

561

StAu_newman_A6QGC0.1	PENEIIKTTP	NTGERVERGD	SVDVVISKGP	E---KVKMPN
Stau_aureus_CAA73980.1	-----	-----	-----	-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	PENEIIKTTP	NTGERVERGD	SVDVVISKGP	E---NVKMPN
Stau_SCT90678.1	PENEIIKTTP	NTGERVERGD	SVDVVISKGP	E---KVKMPN
Stpn_Bacilli_multispecies_WP_048762376.1	PENKIINSNP	KAGERVNQQE	KVDVVLSKGP	E---KINMPN
PsAe_WP_150019979.1	--GSIVKD--	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----D
Enfu_VFA68308.1	SEGLVVKTD	AAGRSRREGA	KVNLYIATPN	K---SFTLGN
Stpn_WP_160544498.1	EEGKVIKTD	KSGTTQKEGS	EVDLLVSKGS	K---RFVMTD
Stpn_Streptococcus_multispecies_WP_049527645.1	DTGKVIKTD	TAGTTRKEGS	SIDIYVSSGS	K---GFALKD
PsAe_RUC36476.1	EEGKVVKTD	EAKSSVKKGR	SVTLYISSGT	E---KIEMAD
Enfu_WP_016624302.1	EEGNVVKTD	AATTTTVKENR	EVTLYISSGS	K---AIELKD
Limo_WP_003733096.1	DEGKVINTDP	EAGEMKEKGT	KINLFVSIGS	K---KITMDD
Listeria_multispecies_WP_003767439.1	EEGKVINTDP	SAGEMKEKGT	KINLFVSIGS	K---KITMED
Stpn_CJR66226.1	EEGLMVKTD	KADTTVKEGA	TVTLYKSTGK	A---KTEIGD
Stpn_COC44426.1	EEELMVKTD	KAGSTVKEGS	SVKLYKSIGK	P---KTQLID
Stpn_CVM85423.1	EKGLVVKTD	KIGTKVKEGT	EIOLYOSTGK	E---KTELPD
Stpn_CVM86034.1	PDGTVTQSD	PTGTEVPRGA	KVRIRVSRGE	E---GIALSD
Chtr_CQB85900.1	PEGTFKQLP	KGGAKVSSGS	RVSVWFVSGP	Q---STKIPD
Chtr_CRH87370.1	PEGQFVSSD	AIGTSVDKGS	IVTVHFSAGI	A---NVKVPD
Chtr_CRH89418.1	EEGKVAKTD	PSGNQVEVGS	TVTAKLSSGA	E---SVVIPD
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	EDGKLIGTKP	EKGTKVLKGD	QIKLIVSQGK	----IYTVED
Errh_WP_173446533.1	DKGQVISCNY	DAGQSVYHGN	TIVLKVSQGP	G---YLVED
Chtr_CRH67572.1	QSGIVISSDP	DGGQPVHKNA	EVVRVTSKGI	D---MRAVPD
Chtr_CRH88717.1	DKDTVIASTP	EGGTTAHPSP	IITLRISDGV	E---YLVNPN
PsAe_SQG56831.1	PRGKVIRTNP	TSGSSVQKNT	TVTIVVSSGK	E---VTEVPD
Codi_WP_003849886.1	PRGKVIRTNP	TDGSNVQRNS	TVRLTISSGK	E---ITEVPD
Chtr_CRH62988.1	EKGKVIDQDP	DAGHKVAKGT	QINIVVSKGA	EPAADVTPD
PsAe_SQG59153.1	PADLVAGAI	EVGHRVAKGN	EITLLVSQGP	P---TVPS
Codi_WP_003852190.1	PKNAIAGTKP	DQGQRAVKGD	DITLLVSQGR	P---TVPD
Chtr_CRH93390.1	EAGKVIRTDP	AAKTSRREGS	AVDLFIADV	E---AVTVPD
Chtr_CPS17231.1	EKGLVISMED	GPGTKVERGS	TVTIKISKGP	KEDKETTVTK
Chtr_CQB89058.1	PKGAVYDLTP	KAGSKVKAGR	IIFITLNAYC	P---RNGIIPS

601

StAu_newman_A6QGC0.1	-VIG--LPKE	EALQKL-KSL	GLK--DVTIE	KVYNN-----
Stau_aureus_CAA73980.1	-----	--MQKL-KSL	GLK--DVTIE	KVYNN-----
Ecoli_MQS28384	-----	-----	-----	-----
PsAe_MUK59325.1	-VIG--LPKE	QALQKL-KSL	GLK--DVKIE	KVYNN-----
Stau_SCT90678.1	-VIG--LPKE	EALQKL-KSL	GLK--DVTIE	KVYNN-----
Stpn_Bacilli_multispecies_WP_048762376.1	-VIG--IKKE	DAIKKL-KDH	KLN--HVTIN	QEYNS-----
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	-YKE--HNYK	DILKDL-QGK	GVKKSLIKVK	RKINN-----
Stpn_WP_160544498.1	-YTG--MSYR	DAVSDLTENY	GLSKNQIVKK	EVTNN-----
Stpn_Streptococcus_multispecies_WP_049527645.1	-YKG--KNYK	DAIEDLTSNY	GVSEDQIDIO	HVEDD-----
PsAe_RUC36476.1	-YTN--ESYE	SAVEAL-KKL	GFSEDQITTK	KEY-----
Enfu_WP_016624302.1	-YTD--MSYE	EVESEL-LSL	GFSASQIKKT	TEFNS-----
Limo_WP_003733096.1	-YTG--RSYT	DTKALL-EEQ	GFK--NISSE	EAYSS-----
Listeria_multispecies_WP_003767439.1	-YTG--RSYS	ETKTLL-EQQ	GFS--NISAE	EAYSS-----
Stpn_CJR66226.1	-VTG--QTVQ	OAKKAL-KDQ	GFN--HVTIN	EVND-----
Stpn_COC44426.1	-VKG--ROIG	DAKKAL-KEK	GFK--HVNPK	EEND-----
Stpn_CVM85423.1	-VTG--EKVE	KAKERL-EKK	GFK--QVVVE	EVNDN-----
Stpn_CVM86034.1	SLHG--LSED	AARREL-ERL	GLR--VSSVQ	YQDDG-----
Chtr_CQB85900.1	-VTG--KSQD	VARKAL-ERA	GFK--ISNVR	VEDST-----
Chtr_CRH87370.1	-VTGGTSTQE	EARKQL-EEA	GLR--VGNVE	TTDEP-----
Chtr_CRH89418.1	NLVG--MSPD	AAKQAI-EAL	GLVY--EQTAD	PVASA-----
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	-FTG--KSVN	DVKAIL-SDK	NIN--IKTT	SEYSS-----
Errh_WP_173446533.1	-FTG--QTLT	EAETTL-DKE	GVKL--NIEVK	YKNAA-----
Chtr_CRH67572.1	-LVG--KNKS	EIETLL-IDA	GLA--VGTIN	EEYSE-----
Chtr_CRH88717.1	-VVG--KTAD	EAQHIL-TQA	RFA--ASAS	EDWSN-----
PsAe_SQG56831.1	-LAR--KNTA	DAAKIL-EEA	GLQL--DSTVR	EESSD-----
Codi_WP_003849886.1	-LSG--KNTA	DAVKIL-EAA	GLLL--DPTVR	EDSSD-----
Chtr_CRH62988.1	-LKG--KSPS	EAEAIL-SQL	GLK--SQAGD	SVNSD-----
PsAe_SQG59153.1	-TPS--SHDTA	EVRALL-EER	SLS--YSEAP	PEYSD-----
Codi_WP_003852190.1	-VPO--SRSAS	EYRRLL-EER	TLE--YRESA	PEFSD-----
Chtr_CRH93390.1	-VSG--SDLE	TAKAKL-QEL	GFK--VGEVK	YKNSE-----
Chtr_CPS17231.1	TFTV	-----	-----	-----
Chtr_CQB89058.1	-LID--VSER	QARARL-ISL	GFE--NITPS	YVAGPFDGLV

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

641

```

---QAPKGYI ANQSVT-ANT EIAIHDSN-- IKLYESLGIK
---QAPKGYI ANQSVT-ANT EIAIHDSN-- IKLYESLGIK
---QAPKGYI ANQSVT-ANT EIAIHDSN-- IKLYESLGIK
---QAPKGYI ANQSVT-ANT EIAIHDSN-- IKLYESLGIK
---QAPKGYI ANQSVT-ANT EIAIHDSN-- IKLYESLGIK
---QMPKGYI FKQNIN-PNE SVKINDHH-- IVLTESLGVK
-----
---DYTTGTI LAQSLP-EGT SFNPDGNN-K LTLTVAV-ND
---QYEPGEI ISQTP-AGE DFNPSGND-K IIFEVAT-AS
---SAEEGEI LSQSPG-KNK SFNPKDSKAK IKFRVAT-PK
-----
---DVEEGNI ISQDPG-KGS KVEPDSDT-- ISFVVSDBGQ
---EIEKGLI ISQTP-EGT EVVAKSTD-- VKFVVSCKGAE
---EVDKGM IISQTP-EGT EVVAKSTD-- VKFVVSCKGAE
---EKNAGTV IDQNP-AGT ELVPSDQ-- VKLTVSIGPE
---DSEAGTV IDQNP-AGT DMVASDDE-- VNLTVSLGPA
---DTESGIV MEQKPS-ANT ELVAADDE-- VTLTVSIGPA
---RLERGLL ARTDPA-MGT HV-PPGSS-- VVLHLSSGM-
---EVKKNHV TRTDPS-ADS FA-DKGSM-- VTLYISSGLT
---GIAQGMV VSTDPA-PGT VI-PKOTP-- VTLYVASGE-
---DVEEGKV AQVNPS-VGS KV-KKGST-- VKVSLSSGPK
-----
---SVPTGHT IRQEGMLPGD KIKPEORY-D IVLVVSSDKE
---DTNPGVI LSQKLLKAGT RIDPNANE-T IQFVVSQNPT
---EVAKDIV ISQSLD-PDT SI-PHDTK-- IDVVVSKGRE
---DVPKGTV ISQTP-AGE SI-PHDSS-- VTYIVSKGRE
---SVPNGEI IEQTPS-AGS QV-SRGSK-- VVITVSTGVQ
---TVPKGEI IEVSPA-AGS QV-SRGSK-- VSITVSTGVE
---DVEVGKI AAOTPA-AGT TA-KAGDT-- ITYOLSKGPN
---DVPEGKV VSLKPE-PGT TV-RVGSE-- VAVALSARGPA
---SVPEGKI ARVVPG-SGN EV-AVGSA-- VSVALSQGPA
---SVAEGNV ISTAPK-ANT SK-SKGST-- INLVVSSGVE
-----
MGVQLPSPQT LA-----PGT RV-PLSTP-- LILLISVST-

```

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

681

```

QVYVEDFEHK SFSKAKKALE EKG--FKVES KEEY-----
QVYVEDFEHK SFSKAKKALE EKG--FKVES KEEY-----
QVYVEDFEHK SFSKAKKALE EKG--FKVES KEEY-----
QVYVEDFEHK SFSKAKKALE EKG--FKVES KEEY-----
QVYVEDFEHK SFSKAKKALE EKG--FKVES KEEY-----
KVYVKDYENK NYQNAKKELE SRG--LKVQV KTTN-----
-----
PMIMPDVITGM TVGEVIETLT DLG--LDADN LVFYQMONGV
TVTIPTLVGY SYADAKNALL DLG--FKASQ IQTD-----
TVTMPDVITGL TVSTAVQTLN RKS--ISSSS IEYHDYNTGA
-----
TVTLRNYTGE DYNVYNELI AQG--FTDSM LSFS-----
PITLKDRLGY TKTAVEDYAS PLG--LKVSS KEEN-----
PITLIDLRGY TKTAVEDYAS PLG--LKVSS KEEN-----
DITLRDLKTY SKEAASGYLE DNG--LKLVE KEAY-----
DVTLRDLKTY SKEAASGYLE DNG--LQOLVE KOAH-----
DITLRDLTTY SKQAASNYLE DNG--LKLDE KEAY-----
VAVPDVVGGM SAPDARRQLA LSAPELRVRI QDED-----
KVP-DGLVGO SKDVVTSELO NLG--FTVNV VEEV-----
VKIDSYIGL SLSEAEKSLN ALK--IQFDT EQVS-----
SVEVPDVITGM TQDQAREALA AKG--LTVGS VQVS-----
-----
LVLPGLDIGK SIADAKAOLE GLG--VEVTT SELPT-QNLS
IVIPESLIGM DVNEAKESLN DQG--IAVVL -----
PLTVPDLMAM SSADAQAAIE ALG--LVASP SEEY-----
PITIPKIGEL SGSDYEKALT DAG--FSVTK QEEF-----
NVRVPVVTGM KWDQAEGLNT SLG--FVPDV RT-----
TVRVPVITGM KWDQAEGLNT SLG--FKPEV VR-----
EADVPNVVGK TEDEAQAAIT AAG--FNVSV QREE-----
PVNVPHVAEM SEESARDQLE KLG--LKVNI TEEF-----
PVTIPNVSER PVDQARNELE KLG--FDVTI AKEF-----
TVTVPDVAGI SOSVAKDALT AAG--LTVGT VTENA-----
-----
NYVGD DLSKSEKPDN DKG-----

```

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

721

```

---SDDID-E GDVISQSPK- GKSVD---EG STISFVV---
---SDDID-E GDVISQSPK- GKSVD---EG STISFVV---
---SDDID-E GDVISQSPK- GKSVD---EG STISFVV---
---SDDID-E GDVISQSPK- GKSVD---EG STISFVV---
---SDDID-E GDVISQSPK- GKSVD---EG STISFVV---
---SDTKD-K DIIISQSPK- QTEVN---EG STVELMV---
---                QMPKP GAMVK---VN TTVLLY---
---                T GTAVSQDESG GTTVK---AG TAITVHF---
YQAVVTPPSS SKIASQDPYY GGEVGL-RRG DKVKLYLLGS
---SDQPSS- ATVYAQYPYA GTSVEL-SSG ETVTLYL-
KLDKDKVPSS TEVLYQDPQA GTSVD----- GTVILYV---
---SDSVS-----
YVYDDNVA-S GSIVSQSVAA GVAID---PTR TTVSFEV---
---SSTVE-K GOVISQSPSA GTAMN---SG DTIEIVI---
---SNSVE-K GOVISQSPSA GTAIN---AG DTIEIVI---
---SDDVP-E GOVMKQEPGA GTAVK---PG NEIEVTF---
---SDDVP-E GOVMKQEPGA GTAVK---PG SNVEVTF---
---SDDVP-E GEVMKQEPGA GTAVK---PG DTVKITF---
---GATTD-T GTVVAQDPQA GVRVD---NR SSLTLTA---
---SDTAS-E GTVTKMNPSS GAAVK---PH SSVTVYV---
---SDEP---A GTIVGQNPQA GK-IA---YN SRVKLSI---
---DDPSQKE GLVISTNPAA GTSVN---KD TAVTLTL---
---                E GYVTKQSIAA ETEIT-----
ISELNSLS-Y GTVIRSNPMP GSYYIQ-NSG NSVTLYY---
---SGSGD-T GVVNVSPSV GSTYTQEGSD SVVTLYYQ-
---SDSVA-E GSLISQTTAA GTTLY---KG DKVEYVV---
---SDSVP-E GAVISVDPAE GTOLY---RG DAVTLTI---
---VDAPEPA GTVVGVSDE GTEIP---KG STVTVKV---
---VDSVEPA GTVVAV-PDE GAEVP---KG SSVTVQI---
---SNKP---E GTVTKQSATG KLA---RK STVTITV---
---NSEIR-G GDAIGTLPEA GTTLP---RG TTVTLRI---
---SDTIP-G GDAIGTDPAA GTTLP---RG SSVTLKV---
---SDTVA-A GLVISTDPAA KAQVA---KG STVNLVI---
---SNNSE--- SESVN---GKG DHVQIYI---
---RDSIP-H GTLQPYDSIM GS-----GG SAI---P-
  
```

StAu_newman_A6QGC0.1
 Stau_aureus_CAA73980.1
 Ecoli_MQS28384
 PsAe_MUK59325.1
 Stau_SCT90678.1
 Stpn_Bacilli_multispecies_WP_048762376.1
 PsAe_WP_150019979.1
 PsAe_WP_121410777.1
 Enfu_VFA68308.1
 Stpn_WP_160544498.1
 Stpn_Streptococcus_multispecies_WP_049527645.1
 PsAe_RUC36476.1
 Enfu_WP_016624302.1
 Limo_WP_003733096.1
 Listeria_multispecies_WP_003767439.1
 Stpn_CJR66226.1
 Stpn_COC44426.1
 Stpn_CVM85423.1
 Stpn_CVM86034.1
 Chtr_CQB85900.1
 Chtr_CRH87370.1
 Chtr_CRH89418.1
 PsAe_WP_121124925.1
 Errh_WP_016357241.1
 Errh_WP_173446533.1
 Chtr_CRH67572.1
 Chtr_CRH88717.1
 PsAe_SQG56831.1
 Codi_WP_003849886.1
 Chtr_CRH62988.1
 PsAe_SQG59153.1
 Codi_WP_003852190.1
 Chtr_CRH93390.1
 Chtr_CPS17231.1
 Chtr_CQB89058.1

761

```

-----SKGKK SD-----
-----SKGKK SD-----
-----SKGKK SD-----
-----SKGKK SD-----
-----SKGKK A-----
-----SKGKD KK----- KDSKEDSDS-----SD
-----SR-----
KTTNNSSSTP ID-----
-----TTPEP SS-----
-----SVATA SS-----
-----
-----SQGSQ PK-----
-----SAGPK EK-----
-----SAGPK EK-----
-----SLGPE KK-----
-----SLGPE EK-----
-----SLGPK EK-----
-----SSWIA PT----- AEPSEPAPP-----
-----SKGKP KV-----
-----SSGKA PT-----
-----SSGK-----
-----
-----SKGPE TV-----
-----SKGPE LL-----
-----SNGQM-----
-----SNGAM-----
-----AKAPS OV-----
-----STAVE IPDVRGKSKQ EATSELAAAG IRVNSVTRSD
-----STSVE IPDVRGKSRH AAISALADAG ITVESISRSD
-----SKGAA-----
-----SDSTS HS-----
  
```

StAu_newman_A6QGC0.1	-----	-----	-----	SSDVKT
Stau_aureus_CAA73980.1	-----	-----	-----	SSDVKT
Ecoli_MQS28384	-----	-----	-----	SSDVKT
PsAe_MUK59325.1	-----	-----	-----	SSDVKT
Stau_SCT90678.1	-----	-----	-----	-----
Stpn_Bacilli_multispecies_WP_048762376.1	DKKDNH	-----	-----	TTSVKN
PsAe_WP_150019979.1	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----
Enfu_VFA68308.1	-----	-----	-----	SSAS
Stpn_WP_160544498.1	-----	-----	-----	TQPS
Stpn_Streptococcus_multispecies_WP_049527645.1	-----	-----	-----	SLQS
PsAe_RUC36476.1	-----	-----	-----	-----
Enfu_WP_016624302.1	-----	-----	-----	KLND
Limo_WP_003733096.1	-----	-----	-----	QVKE
Listeria_multispecies_WP_003767439.1	-----	-----	-----	QVKE
Stpn_CJR66226.1	-----	-----	-----	PAKT
Stpn_COC44426.1	-----	-----	-----	PAKT
Stpn_CVM85423.1	-----	-----	-----	PAKT
Stpn_CVM86034.1	-----	-----	-----	SSEAPE
Chtr_CQB85900.1	-----	-----	-----	EVPR
Chtr_CRH87370.1	-----	-----	-----	PAPE
Chtr_CRH89418.1	-----	-----	-----	ITIPS
PsAe_WP_121124925.1	-----	-----	-----	-----
Errh_WP_016357241.1	-----	-----	-----	-----
Errh_WP_173446533.1	-----	-----	-----	-----
Chtr_CRH67572.1	-----	-----	-----	EVPS
Chtr_CRH88717.1	-----	-----	-----	EVPN
PsAe_SQG56831.1	-----	-----	-----	FNVPN
Codi_WP_003849886.1	-----	-----	-----	FTVPE
Chtr_CRH62988.1	-----	-----	-----	SLST
PsAe_SQG59153.1	AESGNSADEI	TSIMPPSGSL	IDPARTSVDL	VLAGEVNVPS
Codi_WP_003852190.1	NEVGNSADEV	TSITPSSGNL	IDPAHTKVSL	ILAGRVEVPS
Chtr_CRH93390.1	-----	-----	-----	ITMPD
Chtr_CPS17231.1	-----	-----	-----	KD
Chtr_CQB89058.1	-----	-----	-----	LEPD

StAu_newman_A6QGC0.1	TTESVDVP	YTG	KNDK	SQKVKVYIKD	KDNDGSTK
Stau_aureus_CAA73980.1	TTESVDVP	YTG	KNDK	SQKVKVYIKD	KDNDGSTK
Ecoli_MQS28384	TTESVDVP	YTG	KNDK	SQKVKVYIKD	KDNDGSTK
PsAe_MUK59325.1	TTESVDVP	YTG	KNDK	SQKVKVYIKD	KDNDGSTK
Stau_SCT90678.1	-----	TH	QMSK	ROLNR	-----
Stpn_Bacilli_multispecies_WP_048762376.1	YTETYHIP	YTG	NDGE	SQKVKIYIRD	KNNSGTQVS
PsAe_WP_150019979.1	-----	-----	-----	-----	-----
PsAe_WP_121410777.1	-----	-----	-----	-----	-----
Enfu_VFA68308.1	SSTGTTT	-----	-----	-----	SDSVSSSTD
Stpn_WP_160544498.1	SSSEET	-----	-----	-----	DTDSSNQTS
Stpn_Streptococcus_multispecies_WP_049527645.1	SSSSTT	-----	-----	-----	HSSSTSS
PsAe_RUC36476.1	-----	-----	-----	-----	-----
Enfu_WP_016624302.1	ISGYTK	-----	-----	-----	SEAQKYLSE
Limo_WP_003733096.1	VTKTFNIP	YTPSDEENPO	PQKIQIYIQD	-----	KDHSMTSAY
Listeria_multispecies_WP_003767439.1	VTKTFNIP	YTPSDPENPO	PQKVQIYIQD	-----	KDHSMTSAY
Stpn_CJR66226.1	VREKVKIP	YEP	ENEGD	ELQVQIAVDD	ADHSISDTY
Stpn_COC44426.1	VKEKISIP	YEP	EHEGE	ELEVQIAIDD	KDHSISDTY
Stpn_CVM85423.1	VTEKIAIP	YEP	ETEGQ	EMNVQISIDD	AEHSISDLY
Stpn_CVM86034.1	PTPSASASP	SPP	PTESPE	P	SESAEPSPS
Chtr_CQB85900.1	LAVGTVTF	-----	-----	-----	KQAKQVLEA
Chtr_CRH87370.1	NPDKEK	-----	-----	-----	-----
Chtr_CRH89418.1	GLVGYDQ	-----	-----	-----	AYVVQTLQE
PsAe_WP_121124925.1	-----	-----	-----	-----	-----
Errh_WP_016357241.1	-----	-----	-----	-----	YSESSRPKEE
Errh_WP_173446533.1	-----	-----	-----	-----	-----
Chtr_CRH67572.1	ITGKQE	-----	-----	-----	AEAKRILEA
Chtr_CRH88717.1	VVGKOR	-----	-----	-----	DEATRILEE
PsAe_SQG56831.1	ITRLTV	-----	-----	-----	ADAVRALNA
Codi_WP_003849886.1	ITROTI	-----	-----	-----	GDAVRILHD
Chtr_CRH62988.1	LVSKGM	-----	-----	D	ATEASOKLSD
PsAe_SQG59153.1	VVGKKY	-----	-----	-----	SEAKKILEE
Codi_WP_003852190.1	VVGKRY	-----	-----	-----	AEAKRELEA
Chtr_CRH93390.1	FGYMKVSY	-----	-----	-----	AEARROLOA
Chtr_CPS17231.1	-----	-----	-----	-----	DDHSLNNIY
Chtr_CQB89058.1	-----	-----	-----	-----	DDESWM

881

StAu_newman_A6QGC0.1	GSFDITSQDR	I	---	---	---	DIPLRIEK
Stau_aureus_CAA73980.1	GSFDITSQDR	I	---	---	---	DIPLRIEK
Ecoli_MQS28384	GSFDITSQDR	I	---	---	---	DIPLRIEK
PsAe_MUK59325.1	GSFDITSQDR	I	---	---	---	DIPLRIEK
Stau_SCT90678.1	---	---	---	---	---	---
Stpn_Bacilli_multispecies_WP_048762376.1	QTYNIHKDKI	I	---	---	---	TIPLKIEQ
PsAe_WP_150019979.1	---	---	---	---	---	AE
PsAe_WP_121410777.1	---	---	---	---	---	---
Enfu_VFA68308.1	ASTSDSSSTS	T	---	---	---	SSSTLPSD
Stpn_WP_160544498.1	SSRSSSSSNH	S	---	---	---	TEATGDAN
Stpn_Streptococcus_multispecies_WP_049527645.1	STESTSSSTE	T	---	---	---	PTEATHAD
PsAe_RUC36476.1	---	---	---	---	---	---
Enfu_WP_016624302.1	IGADYMGHES	Y	---	EFSDS	VEKDKVIRTN	PAAGTDISK
Limo_WP_003733096.1	REMSITQNTS	V	---	---	---	EITFQIEE
Listeria_multispecies_WP_003767439.1	REMNIQNTS	V	---	---	---	EVTFQIEE
Stpn_CJR66226.1	EEFKIKEPTE	R	---	---	---	TIELKIEP
Stpn_COC44426.1	DSFKIKEPTE	K	---	---	---	TIELKIDQ
Stpn_CVM85423.1	ETFKITAPTE	R	---	---	---	TIKFKIEP
Stpn_CVM86034.1	PSASATPSPE	PT	TTETPS	PTQSPSPSTA	APSEPTGQPP	SEKEGAKIDK
Chtr_CQB85900.1	KGFKVVASDA	S	---	AKDDDIVTGM	SEKEGAKIDK	EKEKEKEKE
Chtr_CRH87370.1	---	---	---	---	---	---
Chtr_CRH89418.1	LGLRTSVAEQ	Y	---	SNS	LEAGGVLALN	PTEGSVVAQ
PsAe_WP_121124925.1	---	---	---	---	---	EK
Errh_WP_016357241.1	ADEK	---	---	---	EE	KPSEPEEKP
Errh_WP_173446533.1	---	---	---	---	---	---
Chtr_CRH67572.1	AGLNVTVQRV	LGG	VFGTAR	YTD	---	PDAGTVVKK
Chtr_CRH88717.1	AGFNVAVKEL	LGG	YFGTVR	LQDT	---	AGGTAKAK
PsAe_SQG56831.1	AGWTGTASKL	TOGERVPTVS	---	LSDQNLIASQ	VPTAGTKPLRK	---
Codi_WP_003849886.1	AGWKGNASRL	IOAAKVPTVA	---	VTQNLIASQ	LPTPGTALRK	---
Chtr_CRH62988.1	AGFGVRVKRO	P	DAL	VKKDTVI	---	SFPDKAKK
PsAe_SQG59153.1	AGFTVKGTGA	K	KPSSR	VYWQ	---	SPTGGRET
Codi_WP_003852190.1	AGFSVTTSGT	S	KSSAR	VYWQ	---	TPAGGRAEP
Chtr_CRH93390.1	LGVSVSAIEK	O	TDSTVT	ASTSDMVISQ	YPSAGSVIDG	---
Chtr_CPS17231.1	RDLYIKHDMS	F	---	---	---	SIPFNIRE
Chtr_CQB89058.1	---	---	---	---	---	---

921

StAu_newman_A6QGC0.1	GKTASYIVKV	DGKT	---	---	VAEKE	VSYYDD
Stau_aureus_CAA73980.1	GKTASYIVKV	DGKT	---	---	VAEKE	VSYYDD
Ecoli_MQS28384	GKTASYIVKV	DGKT	---	---	VAEKE	VSYYDD
PsAe_MUK59325.1	GKTASYIVK	---	---	---	---	---
Stau_SCT90678.1	---	---	---	---	---	---
Stpn_Bacilli_multispecies_WP_048762376.1	GDSAGYTIEV	DDNV	---	---	IADKD	IDYE
PsAe_WP_150019979.1	GQSS	---	---	---	---	---
PsAe_WP_121410777.1	---	---	---	---	---	---
Enfu_VFA68308.1	STTNT	---	---	---	GT	ANNPLTQ
Stpn_WP_160544498.1	SQ	---	---	---	---	PETTD
Stpn_Streptococcus_multispecies_WP_049527645.1	QQ	---	---	---	---	---
PsAe_RUC36476.1	---	---	---	---	---	---
Enfu_WP_016624302.1	GDVVSVVYSK	GVDPAKE	S	SSEEDSSSSS	SEEKSSDTT	---
Limo_WP_003733096.1	GSSAGYKIIS	DDKV	---	IDEGT	VPYPN	---
Listeria_multispecies_WP_003767439.1	GSSAGYKIIS	DDKV	---	IDEGT	VPYPN	---
Stpn_CJR66226.1	GQKGYQVMV	NNKV	---	VSYSK	IEYPKDE	---
Stpn_COC44426.1	GQKGYQVMV	DDKV	---	VSYSK	IEYPKDN	---
Stpn_CVM85423.1	GQKGYQVTV	DDKV	---	VSSKT	IEYDPDE	---
Stpn_CVM86034.1	STSPTATPVD	PLPTLTP	---	DPEPS	IDPPST	---
Chtr_CQB85900.1	GSTITLTVKS	ATPPSDLTKP	GTGLDLNKPS	TEDPSTSTTT	---	---
Chtr_CRH87370.1	GSGTT	---	---	PP	GETPSHN	---
Chtr_CRH89418.1	GSTVNLTVSK	G	---	PQPA	PPNPNSG	Q
PsAe_WP_121124925.1	KLTVTLEGTE	---	---	---	---	---
Errh_WP_016357241.1	GSN	---	---	---	---	---
Errh_WP_173446533.1	---	---	---	---	---	---
Chtr_CRH67572.1	GSTVTLFIV	---	---	---	---	---
Chtr_CRH88717.1	GSTITLTIV	---	---	---	---	---
PsAe_SQG56831.1	DAPIEIHLYE	---	---	FSLSA	LTNPR	---
Codi_WP_003849886.1	DAPIEIRLYE	---	---	FNLAA	LVPQAQ	---
Chtr_CRH62988.1	GQVTLVSD	GLPLINDSH	---	---	---	---
PsAe_SQG59153.1	GAEIKLRTIG	S	---	---	---	---
Codi_WP_003852190.1	GATIKLKTLS	S	---	---	---	---
Chtr_CRH93390.1	TVTLVSVAS	---	---	TSGTT	STTGSSSTTK	---
Chtr_CPS17231.1	GSGQLKVVRN	GDTV	---	LNEKV	TK	---
Chtr_CQB89058.1	---	---	---	---	---	---

StAu_newman_A6QGC0.1	-----	-----	V
Stau_aureus_CAA73980.1	-----	-----	V
Ecoli_MQS28384	-----	-----	I
PsAe_MUK59325.1	-----	-----	
Stau_SCT90678.1	-----	-----	
Stpn_Bacilli_multispecies_WP_048762376.1	-----	-----	
PsAe_WP_150019979.1	-----	-----	
PsAe_WP_121410777.1	-----	-----	
Enfu_VFA68308.1	-----	-----	
Stpn_WP_160544498.1	-----	-----	
Stpn_Streptococcus_multispecies_WP_049527645.1	-----	-----	
PsAe_RUC36476.1	-----	-----	
Enfu_WP_016624302.1	TSDKAE	STTA	ESENKD
Limo_WP_003733096.1	-----	-----	
Listeria_multispecies_WP_003767439.1	-----	-----	
Stpn_CJR66226.1	-----	-----	
Stpn_COC44426.1	-----	-----	
Stpn_CVM85423.1	-----	-----	
Stpn_CVM86034.1	-----	-----	
Chtr_CQB85900.1	TNTGL	-----	
Chtr_CRH87370.1	-----	-----	
Chtr_CRH89418.1	ANSGS	-----	
PsAe_WP_121124925.1	-----	-----	
Errh_WP_016357241.1	-----	DR	EA
Errh_WP_173446533.1	-----	-----	
Chtr_CRH67572.1	-----	-----	
Chtr_CRH88717.1	-----	-----	
PsAe_SQG56831.1	-----	-----	
Codi_WP_003849886.1	-----	-----	
Chtr_CRH62988.1	-----	-----	
PsAe_SQG59153.1	-----	-----	
Codi_WP_003852190.1	-----	-----	
Chtr_CRH93390.1	TTTGS	TTS	E
Chtr_CPS17231.1	-----	-----	
Chtr_CQB89058.1	-----	-----	