



logo

psl1	LSIAYALRVADR	VW...	TPSQYSADAEVRLFP	GVAGKVRVLPNQVDG	FAGEPADLSAR	CLPPRYWLLVGTREL	RKNVPWFVSAWTRAR	AQAPGV	PLVLVGS	LDDLHLP	PEEQ	247
gelK	LF..	AKLFGAKFIHIESF	ARFDHPSAF	GKMVKGIATISIVQ	SPALKQIWPDAEL	FDPFRMLDT	PRPPK	QALTFATVG	ATL...	PFPRLV	QAVLDLKRA	208
dpsK	LL..	AKLSGAKFVHIESF	ARFDHPSAF	GKMVKGIATVTIVQ	SAALKETWPDAEL	FDPFRLLDT	PRPPK	QALIFATVG	ATL...	PFPRLV	QAVLDLKRA	208
spsK	LL..	AKLSGAKFVHIESF	ARFDHPSAF	GKMVKGIATVTIVQ	SAALKETWPDAEL	FDPFRLLDT	PRPPK	QALTFATVG	ATL...	PFPRLV	QAVLDLKRA	212
pslF	LVTLT	TGLGGE....	CLARRMLPP	GRVEINVHGNLEIAT	VLPLSLDTRL..	LLYFG	FIYR.....	GKGIEDLLEAL	ADLFASA	PEMRQVR	TLA	230
gelB	VVV.	ACTEEHRAVW...	ALLLKGMNIK	GEIL..VPQFNALGA	IGVDAYDGKDTLV	VVSQ	GPLSM.....	PNRAK	KRALDLLITVPAVL	LALAPLMILV	AIAIKLESP	308
dpsB	VIV.	ACTKEHRAVW...	ALLLKGMNIK	GEIL..VPQFNALGA	IGVDAFDGKDTLV	VVSQ	GPLNM.....	PNRAK	KRALDLAITVPAVL	LALAPLMILV	AIIKLESP	308
spsB	VVV.	ACTEEHRAVW...	ALLLKGMNIK	GEIL..VPQFNALGA	IGVDSYEGKDTLV	VVSQ	GPLNM.....	PNRAK	KRALDLLITVPAVL	ALAPLMIVV	AIIKLESP	308
pslC	LY..	AHAD..	IGVAYGRQLP....	HPGAGLLGAQARR	.....	FNYP	.....	PESRS	KRLADASELGIKTC	FSDFSAYS	RSDAL.AAV	171
dpsQ	LVTFA	KQHPEAAAW...	GGRSY..SPS	GDL...EPANFMSL	PTPAD.....	FLTAIF	NAR.....	ALRSGGLQEGATT	PGFAEVLNGG	FMMVRTDVW	.QAI	186
gelQ	LVAFA	RAHPEAAAW...	GGRSY..DTAG	KL...DPGNFLPL	PTPMD.....	FVASIV	SAR.....	RLRRGGLAEDATE	PGPVDVLNGG	FMMVRA	ADVW..REI	186
spsQ	LVAFA	KAHPDAAAW...	GGRSYFPN..	GQL...DHANFLPL	PTVRD.....	FVVSIF	SSS.....	PMRRGGLPADATA	PGPVEVLNGG	FMMVDA	ARVW..REI	186
pslH	DQW.	RYRRWERR	VMSQAAAVVAVTEK	DARQL..GAMLRP	VVPVVNGVDCEH	FATARTPEAQ	.....	RVLFLGNIEYAP	NVD	AWEVMLDE..	ILPRVW..AHC	254
gelL	....	AQVAPGRFV....	GGHMFVIKPE	GPL....SGAEALE	LAVA.....	FDNEGY	VRR.....	AQYTVTANLFV	MRADF..ERV			165
dpsL	....	TRVAPGRFI....	GGHMYVRKPE	G....PPNGAEALE	MALA.....	FDNEGY	VRR.....	TQFTVTANLFV	MRADF..ERV			165
spsL	....	AHVAPGRFV....	GGHMYVLKPE	GRL....TGAEALE	MALA.....	FDNEGY	VRR.....	AKFTVTANLFV	MRADF..ERV			165
consensus	*	*	*	*		*	*	*	*	*	*	

logo

psl1	RGLPGLHALG.....GLDDAELHAL..YRQAERLWQPSYAEGFGL.....PVVEALSVGTPV.....AVASGTSLEDVTPP	311
gelK	GGLPGKLILQYGDQALTDGPIDPVEIRPTIPFDELQLMLRDADIVICHGGTG.....SLVTLARAGCRVIAFPRRFDL...GEHYDDHQ.EEIAQT	295
dpsK	GGLPGKLILQYGDQDLDPGPIDPVEIRRTIPFDDLQLLLRDADMVICHGGTG.....SLVTLARAGCRVAFPRRHDL...GEHYDDHQ.EEIAQT	295
spsK	GGLPGKLVLQYGDQDLADGPIDPVEIRRTIPFDDLQLLLRDADMVICHGGTG.....SLVTLARAGCRVAFPRRHDL...GEHYDDHQ.EEIAQT	299
pslF	GGTAAEMAF.....GAGGNYLYQL.KAQIAELGLADAIIDWNLNLAAADIPRTIQAHHVMVLPYRESKKLGLLGQQRGTSGALSWAAACGRGAITSDFARAFEEVA	329
gelB	G..PVLFAQDR.....VGRGNRLFkil.KFRSMRQALCDANGNVASARDDDRITKVGRFIRKTSIDELPQLLNVLRGDMSVVGPRPHAL...GSRAADHYFWEIDER	404
dpsB	G..PVLFAQDR.....VGRGNRLFkim.KFRSMRVTLCDANGNVASARDDDRITKVGRFIRKTSIDELPQLLNVLRGDMSVVGPRPHAL...GSRAADHLFWWEIDER	404
spsB	G..PVFFAQDR.....VGRGNRLFkil.KFRSMRVALCDANGNVASARDDDRITKVGRIRKTSIDELPQLLNVLRGDMSVVGPRPHAL...GSRAANHLFWWEIDER	404
pslC	GDFPEDVI.....GSEDAYFAARLLQAGYAVRYA.SAEVYHSHDYRLLEEF..RR.....YFDIGVFGYGRERWIRAAFGGA...GGEGKRYVLAETIQA	255
dpsQ	GGFDESFFLY.....SEEDLDFQRI.RTLGHKVLVDPSVKV.VHNTGSGQSMSQ.....NRLMYLTTGRMHYARKHFGAL...GTLATGALWLITAAK	269
gelQ	GGFDESFFLY.....SEEVDMFKRI.RERGYAVLVDPGVA.VVHDAGSGHSLSS.....SRIMFMTTGRMHYARKHFTKG...GALVTGWAIWLAAK	269
spsQ	DGFDEGFFLY.....SEEDLDFQRI.RARGYSVLVDPAVG.VVHDTGGGHSLSLSP.....TRVLFLTGRMHYARKHFGHV...GAVVTGWALWANAAK	269
pslH	PEARMSVCGYA.....LPAE..WAQ...RWSDPRIEWQGFVPDLLQLQSSSSVFLA..ALRHGGGSKLKVLEALAAGLPLASTAQGVSG...LELRDGEDYLGGESE	346
gelL	GEFRTGV.....SEDMEWCHRA.IAKGLTIDYAAQASVGHPPR.....RDWEALLVKTRRIQRELYLFY...KERPQGRRLRWLA...	235
dpsL	GGFRVGV.....SEDLWCHRA.IASGLTINYAPDASVGHPPR.....PDWSALLVKTRRIQRELYLFN...IERPKGRRLRWLA...	235
spsL	GGFRVGV.....SEDLWCHRA.IATGLAIDYAPEASVGHPPR.....PDWATLLVKTRRIQRELYLFN...IERPKGRRLRWLA...	235
consensus	** * * * * * * * * *	

logo														
pslI	SAPR	..	FSPSDGAALERLMLRL	LADAPREASAEELI	AWAARFNREAYRQRLAAL	IIEELS	.....	367					
gelK	FADRGL	LQA	.....	VRDERELGAA	.VAAAKA	TEPRLATTDHTALAARLR	TL	LAEWGAKR	.....	348		
dpsK	FADRGL	LQA	.....	VRDERQLGAA	.VEAAKA	TEPQLATTDHTALAARLR	QL	LAQWSAKR	.....	348		
spsK	FADRGL	LHA	.....	VRDERELGAA	.VEAAKA	TEPQLATTDHTALAGRLR	EL	LAQWSAKR	.....	352		
pslF	SGNGAI	YPQGDVAAL	SEQLLNLAREP	..	RLAQ	AWAERAGAIGHART	WPRTALRFQAL	FN	DMVGT	VHGT	395			
gelB	YWH	RHT	LKPGMTGLAQ	VRGFR	GATDRRIDLT	NRLQANMEYIDGWDI	WRDITIL	FKTL	RVIVHS	NAF	..	470		
dpsB	YWH	RHT	LKPGMTGLAQ	VRGFR	GATDRRVDLT	NRLQADMEYIDGWDI	WRDITIL	FKTL	RVIVHS	NAF	..	470		
spsB	YWH	RHT	LKPGMTGLAQ	IRGFR	GATDRRVDLT	NRLQADMEYIDGWDI	WRDVTIL	FKTL	RVIVHS	NAF	..	470		
pslC	RAAGAL	YRVPEIAL	..	RSAFKLLGYRLG	QLERHLPVALK	.....	RRISM	FPGYWK	.....	303		
dpsQ	Y...	TLVGAAL	WRLSPRTGT	RYKELS	.....	NGWRAVFSNPGRW	..	WSGYPRR	.....	312		
gelQ	Y...	QL	LGSL	LAPLLPKKRER	LTAVS	RAWAPVVRERRRW	..	WAGYPAKK	313			
spsQ	Y...	VVIGGL	LGR	LSPR	RAAR	WNA	LR	D	AWSIVFGQPRRW	..	WHGWRDHVRT	315
pslH	EQLANAV	VRLLQDPAQAR	AL	GENGRAYVRR	AHDWSVAASQLEQV	..	YAGLAEGAPACA	.....	402				
gelL	...	RSAL	LQPALLPSDA	AKIL	RTSTTQ	G	ARAKALLTACRLRF	WKSGVGL	LQL	LGRPA	288	
dpsL	...	RSVAQ	PAMIPQDVAKIL	RTPGTR	G	ARLA	AVTTLVRLRL	WRGGAGL	LQL	LGRDI	288	
spsL	...	RST	LQPALIPADTAKIL	RTPGTR	GSRIA	AVGTLVRLRF	WRAGAGL	LQL	LGRPI	288		
consensus	*	*		*	*		*		*	*	*			

non-conserved

≥ 50% conserved