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NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK....KTNFDDITKKYGAERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVS	VSSGSLALDI	ALGAGGYPKGR	74	
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK....PKKLEEISKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVMSSGSLALDI	ALGSGGYPKGR		73	
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK....PKKLEEISKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVMSSGSLALDI	ALGSGGYPKGR		73	
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK....PKKLEEISKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVMSSGSLALDI	ALGSGGYPKGR		73	
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK....PKKLEEISKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVMSSGSLALDI	ALGSGGYPKGR		73	
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK....PKKLDEISKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVMSSGSLALDI	ALGSGGYPKGR		73	
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NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR....IKKTEEITKKFGERDKALDDALKNIEKD	FGKGVMLRGER	.AEQKVQVMSSGSLALDI	ALGAGGYPKGR		73	
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NTDB id 625 LCA RS02525 WP 011374196.1MAKDERQAALDAALKKIEKNFGKGSIMRM	GEK	.VDTQVSTVSSGSLALDE	ALGVGGYPRGR		60	
NTDB id 1313 DR RS12030 WP 010888966.1MSKDATKEISAPTDAKERSKATETAM	QIEKAFGKGSIMKLGAE	.SKLDVQVVSTGSLSLDL	ALGVGGIPRGR		72	
NTDB id 1245 Cj1673c YP 002345041.1MDNKRKSLDAALKS	LDKTFGKGTILRLGDK	.EVEQIDSIGTGSVGLDL	ALGIGGVPKGR		59	
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NTDB id 1205 PSJM300 05545 AFN77183.1MDENKRRALAAALGQIEKQ	FGKGVMLRMDH	.DRQAIPSI	STGSLGLDI	TALGIGGLPKGR	59	
consensus	*** **	***	**	***!	*!!*****	*	***!!*!!*!!*!!*!!*!!*!!*!!

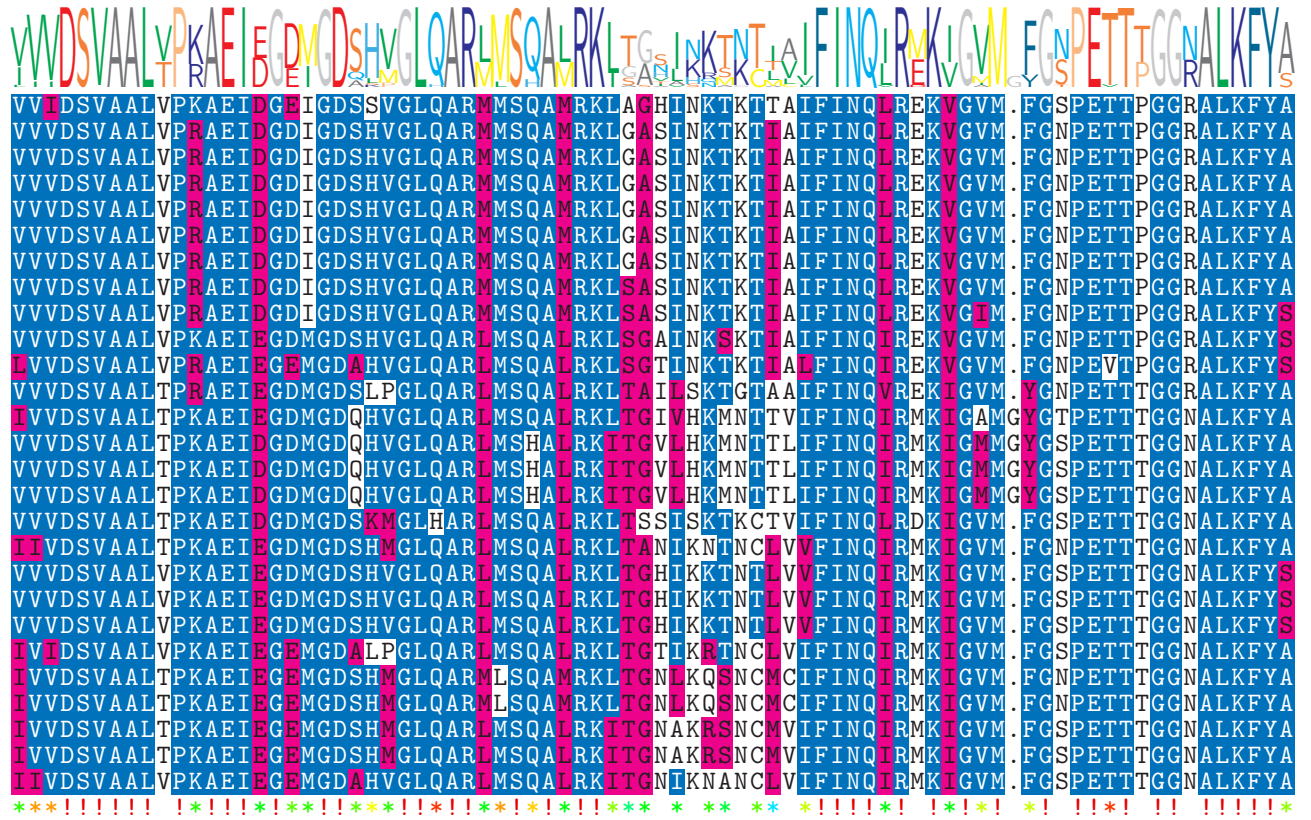
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NTDB id 228 SPD RS09265 WP 001085462.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153		
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NTDB id 453 Spy49 1753c ACI62003.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	L	G	V	N	I	D	E	L	L	A	Q	P	D	S	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153		
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NTDB id 1165 A1552VC RS01565 WP 000344154.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	T	L	E	L	I	A	A	A	Q	R	E	G	K	T	C	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	K	K	L	G	V	N	I	D	E	L	L	V	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	A	L	A	R	S	G	A	V	D	I	139
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NTDB id 1022 ACIAD RS06390 WP 004925639.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	M	T	L	Q	A	I	A	Q	C	Q	K	A	G	G	T	C	A	F	I	D	A	E	H	A	L	D	P	Q	Y	A	R	K	L	G	V	D	I	D	N	L	L	V	S	Q	P	D	H	G	E	Q	A	L	E	I	A	D	M	L	V	R	S	G	A	I	D	L	139
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NTDB id 600 KW2 RS01765 WP 011675413.1
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NTDB id 194	SPR	RS08825	WP 001085462.1	SVRLDVRG	NTQIKGTG	.DQK	E	T	N	V	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	V	V	E	I	M	Y	G	E	G	I	S	K	T	G	E	L	L	K	I	A	S	D	L	D	I	T	K	K	A	G	A	W	Y	S	Y	K	311													
NTDB id 159	SP	RS09750	WP 001085462.1	SVRLDVRG	NTQIKGTG	.DQK	E	T	N	V	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	V	V	E	I	M	Y	G	E	G	I	S	K	T	G	E	L	L	K	I	A	S	D	L	D	I	T	K	K	A	G	A	W	Y	S	Y	K	311													
NTDB id 499	SM12261	RS08315	WP 078228268.1	SVRLDVRG	STQIKGTG	.DQK	D	T	N	V	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	F	V	E	I	M	Y	G	E	G	I	S	K	T	G	E	L	L	K	I	A	S	D	L	D	I	T	K	K	A	G	A	W	Y	S	Y	K	311													
NTDB id 527	SMSK321	RS11065	WP 001085454.1	SVRLDVRG	STQIKGTG	.DQK	D	T	N	V	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	F	V	E	I	M	Y	G	E	G	I	S	K	T	G	E	L	L	K	I	A	S	D	L	D	I	T	K	K	A	G	A	W	Y	S	Y	K	311													
NTDB id 453	Spy49	1753c	ACI62003.1	SVRLDVRG	TQIKGTG	.DQK	D	S	S	I	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	V	A	E	V	E	I	M	Y	G	E	G	I	S	R	T	G	E	L	V	K	I	A	S	D	L	D	I	I	Q	K	A	G	A	W	F	S	Y	N	311													
NTDB id 408	SMU	RS09530	WP 002262392.1	SVRLDVRG	NTQIKGTG	.EQK	D	S	N	I	G	K	E	T	K	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	F	V	E	I	I	Y	G	E	G	I	S	R	T	G	E	L	V	K	I	A	S	D	L	G	I	I	Q	K	A	G	A	W	Y	S	Y	N	311													
NTDB id 115	BSU	16940	NP 389576.2	SVRL	EVRR	A	E	Q	L	K	Q	G	N	D	V	M	G	N	K	T	K	I	K	V	V	K	N	K	V	A	P	P	F	R	T	A	E	V	D	I	M	Y	G	E	G	I	S	K	E	G	E	T	I	D	L	G	T	E	L	D	I	V	Q	K	S	G	S	W	Y	S	Y	E	292						
NTDB id 625	LCA	RS02525	WP 011374196.1	TVRLE	VRR	A	E	T	I	K	N	G	T	D	M	I	G	N	R	A	R	I	K	V	V	K	N	K	V	A	P	P	F	K	V	A	E	V	D	I	M	Y	G	Q	I	S	R	T	G	E	L	V	D	M	A	V	E	K	D	I	I	N	K	S	G	S	W	Y	S	Y	G	294							
NTDB id 1313	DR	RS12030	WP 010888966.1	SVRLDVR	K	I	G	P	T	K	V	G	N	D	A	V	A	N	T	V	K	I	K	T	V	K	N	K	V	A	P	P	F	K	V	A	E	L	A	L	V	Y	G	K	G	F	D	Q	L	S	D	L	V	G	L	A	A	D	M	D	I	I	K	K	A	G	S	F	Y	S	Y	G	307						
NTDB id 1245	Cj1673c	YP 002345041.1	SVRLDVR	K	V	A	L	K	Q	N	E	E	P	I	G	N	R	V	K	V	V	K	N	K	V	A	P	P	F	R	Q	A	E	F	D	V	M	F	G	E	L	S	R	E	G	E	L	I	D	Y	G	V	K	L	D	I	V	D	K	S	G	A	W	F	S	Y	K	294											
NTDB id 46729	HPV225	RS00765	WP 000963126.1	SVR	I	D	I	R	R	I	A	L	K	Q	N	E	Q	H	I	G	N	R	A	K	A	K	V	V	K	N	K	V	A	P	P	F	R	E	A	E	F	D	I	M	F	G	E	G	I	S	K	E	G	E	T	I	D	Y	G	V	K	L	D	I	V	D	K	S	G	A	W	L	S	Y	Q	296			
NTDB id 1211	C694	RS00795	WP 000963128.1	SVR	I	D	I	R	R	I	A	L	K	Q	N	E	Q	H	I	G	N	R	A	K	A	K	V	V	K	N	K	V	A	P	P	F	R	E	A	E	F	D	I	M	F	G	E	G	I	S	K	E	G	E	T	I	D	Y	G	V	K	L	D	I	V	D	K	S	G	A	W	L	S	Y	Q	296			
NTDB id 1214	NCTC11637	00359	SQJ03206.1	SVR	I	D	I	R	R	I	A	L	K	Q	N	E	Q	H	I	G	N	R	A	K	A	K	V	V	K	N	K	V	A	P	P	F	R	E	A	E	F	D	I	M	F	G	E	G	I	S	K	E	G	E	T	I	D	Y	G	V	K	L	D	I	V	D	K	S	G	A	W	L	S	Y	Q	296			
NTDB id 1334	RAOC	RS04870	WP 004918236.1	SVR	I	D	I	R	R	S	L	S	D	T	G	K	I	K	D	K	S	G	E	V	I	G	N	R	T	K	V	V	K	N	K	V	A	P	P	F	K	S	A	E	F	D	I	M	Y	G	E	G	V	S	K	V	G	E	I	L	D	V	A	T	D	L	D	I	I	Q	K	S	G	S	W	F	S	Y	Q	307
NTDB id 1389	A4U84	RS07560	WP 021112712.1	SVRLD	I	R	R	C	G	V	V	K	D	G	D	E	I	I	G	S	E	T	K	V	V	K	N	K	V	A	P	P	F	R	E	V	Q	F	D	I	M	Y	G	E	G	I	S	R	M	N	E	L	L	I	L	A	E	A	N	G	F	I	K	K	S	G	A	W	F	S	Y	D	310						
NTDB id 1130	NGFG	RS03960	WP 003688695.1	SVRLD	I	R	R	T	G	S	I	K	K	G	E	E	V	L	G	N	E	T	R	V	K	V	I	K	N	K	V	A	P	P	F	R	Q	A	E	F	D	I	L	Y	G	E	G	I	S	W	E	G	E	L	I	D	I	G	V	K	N	D	I	I	N	K	S	G	A	W	Y	S	Y	N	294				
NTDB id 1124	NGFG	RS03960	WP 003688695.1	SVRLD	I	R	R	T	G	S	I	K	K	G	E	E	V	L	G	N	E	T	R	V	K	V	I	K	N	K	V	A	P	P	F	R	Q	A	E	F	D	I	L	Y	G	E	G	I	S	W	E	G	E	L	I	D	I	G	V	K	N	D	I	I	N	K	S	G	A	W	Y	S	Y	N	294				
NTDB id 1123	OK783	RS03845	WP 003688695.1	SVRLD	I	R	R	T	G	S	I	K	K	G	E	E	V	L	G	N	E	T	R	V	K	V	I	K	N	K	V	A	P	P	F	R	Q	A	E	F	D	I	L	Y	G	E	G	I	S	W	E	G	E	L	I	D	I	G	V	K	N	D	I	I	N	K	S	G	A	W	Y	S	Y	N	294				
NTDB id 1427	RS	RS02760	WP 011000510.1	SVRLD	I	R	R	I	G	S	I	K	K	G	D	E	V	V	G	N	E	T	K	V	V	K	N	K	V	A	P	P	F	R	E	A	I	F	D	I	L	Y	G	A	G	V	S	R	E	G	E	I	D	L	G	V	E	A	K	V	V	E	K	S	G	A	W	Y	S	Y	N	302							
NTDB id 1165	A1552VC	RS01565	WP 000344154.1	SVRLD	I	R	R	T	G	A	I	K	E	G	E	E	V	V	G	N	E	T	R	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	N	T	Q	I	M	Y	G	Q	G	F	N	R	E	G	E	L	I	D	L	G	V	K	H	K	M	V	E	K	S	G	A	W	Y	S	Y	N	293				
NTDB id 1142	GTF74	RS11550	WP 000344154.1	SVRLD	I	R	R	T	G	A	I	K	E	G	E	E	V	V	G	N	E	T	R	I	K	V	V	K	N	K	V	A	P	P	F	K	E	A	N	T	Q	I	M	Y	G	Q	G	F	N	R	E	G	E	L	I	D	L	G	V	K	H	K	M	V	E	K	S	G	A	W	Y	S	Y	N	293				
NTDB id 1074	ABD1	RS10195	WP 000344167.1	SVRLD	I	R	R	I	G	V	K	E	G	D	E	I	V	G	S	E	T	K	V	V	K	N	K	M	A	P	P	F	K	E	A	I	F	Q	I	L	Y	G	K	G	T	N	Q	L	G	E	L	V	D	L	A	V	Q	N	I	V	Q	K	A	G	A	W	Y	S	Y	Q	293								

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consensus

 non conserved
 similar
 ≥ 50% conserved