

logo

NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RA0C RS04870 WP 004918236.1
NTDB id 1389 A4U84 RS07560 WP 021112712.1
NTDB id 1130 NGFG RS03960 WP 003688695.1
NTDB id 1124 NGFG RS03960 WP 003688695.1
NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 011000510.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus



```

NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RA0C RS04870 WP 004918236.1
NTDB id 1389 A4U84 RS07560 WP 021112712.1
NTDB id 1130 NGFG RS03960 WP 003688695.1
NTDB id 1124 NGFG RS03960 WP 003688695.1
NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 011000510.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1

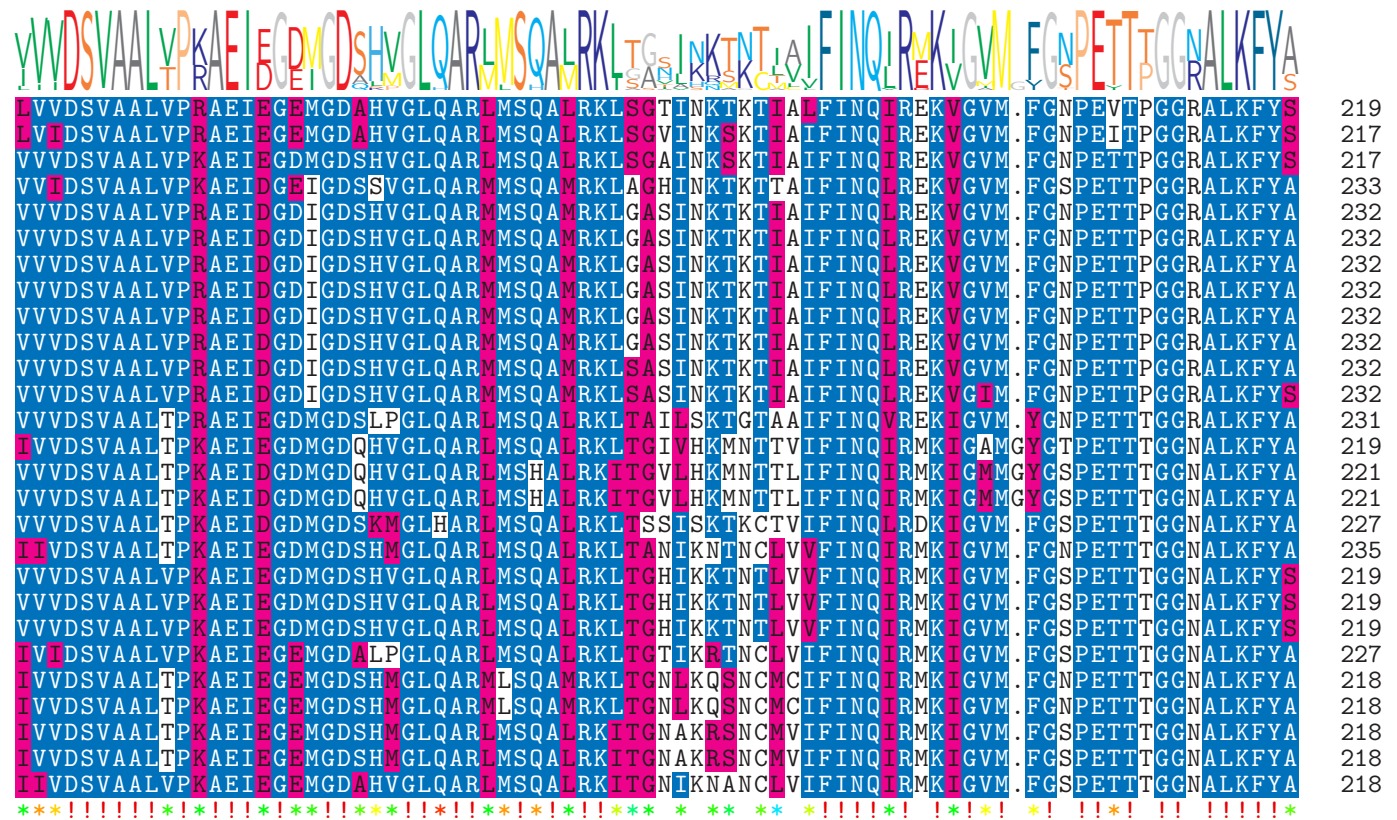
```

I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	E	V	Q	K	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	D	A	L	V	S	S	G	A	V	D	I		140
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	E	V	Q	K	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	E	A	L	V	R	S	G	A	V	D	I		138
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	E	V	Q	K	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	E	A	L	V	R	S	G	A	V	D	I		138
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	V	Q	K	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	E	K	L	I	T	S	G	A	V	D	I		154	
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	K	E	G	G	T	A	A	Y	D	A	E	N	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	G	L	E	I	A	G	K	L	I	D	S	G	A	V	D	I		153
I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A																																																													

```

NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RA0C RS04870 WP 004918236.1
NTDB id 1389 A4U84 RS07560 WP 021112712.1
NTDB id 1130 NGFG RS03960 WP 003688695.1
NTDB id 1124 NGFG RS03960 WP 003688695.1
NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 011000510.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



logo

NTDB id 625 LCA RS02525 WP 011374196.1	TVRLDVRRAETIKNGT....DMIGNRARIKVVKNKVAPPFKVAEVDIMYGGGISRTGELVDMAVEKDIINKSGSWYSYG	294
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1	TVRLDVRRAEQLKQGT....DVMGNKTKIKVVKNKVAPPFRIAEVDIMYGGGISREGELVDMAAEVDVINKSGSWYSYK	292
NTDB id 115 BSU 16940 NP 389576.2	TVRLDVRRAEQLKQGN....DVMGNKTKIKVVKNKVAPPFRTAEVDIMYGGGISKEGEIIDLGTELDIVQKSGSWYSYE	292
NTDB id 600 KW2 RS01765 WP 011675413.1	SVRLDVRGSTKIEEGS.GDNKTQIGKIITKIKVVKNKVAPPFKVALVDIMFGEGISSTGELLNIAVEEGTIKKSGAWFAYN	312
NTDB id 269 KZH43 RS08665 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKAEVVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 228 SPD RS09265 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKAEVVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 194 SPR RS08825 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKAEVVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 159 SP RS09750 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKAEVVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 499 SM12261 RS08315 WP 078228268.1	SVRLDVRGSTQIKGTG.DQKDTNVGKETKIKVVKNKVAPPFKAEFVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 527 SMSK321 RS11065 WP 001085454.1	SVRLDVRGSTQIKGTG.DQKDTNVGKETKIKVVKNKVAPPFKAEFVEIMYGGGISKTGELLKIASDLDIKKKAGAWYSYK	311
NTDB id 453 Spy49 1753c ACI62003.1	SVRLDVRGTTQIKGTG.DQKDSNIGKETKIKVVKNKVAPPFKVAEVEIMYGGGISRTGELVKIASDLDIQKAGAWFSYN	311
NTDB id 408 SMU RS09530 WP 002262392.1	SVRLDVRGNTQIKGTG.EQKDSNIGKETKIKVVKNKVAPPFKAEFVEIIFYGGISRTGELVKIASDLGIIQKAGAWYSYN	311
NTDB id 1313 DR RS12030 WP 010888966.1	SVRLDVRKIGQ....PTKVGNDAAVANTVKIKTVKNKVAAPFKEVELALVYGGKGFQDLSDLVGLAADM DIKKKAGSFYSYG	307
NTDB id 1245 Cj1673c YP 002345041.1	SVRLDVRKVAT....L.KQNEEPIGNRVKVVKNKVAPPFRQAEFDVFMFGEGLSREGELIDYGVKLDIVDKSGAWFSYK	294
NTDB id 1211 C694 RS00795 WP 000963128.1	SVRIDIRRIAS....L.KQNEQHIGNRAKAKVVKNKVAPPFRFAEFDIMFGEGISKEGEIIDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1214 NCTC11637 00359 SQJ03206.1	SVRIDIRRIAA....L.KQNEQHIGNRAKAKVVKNKVAPPFRFAEFDIMFGEGISKEGEIIDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1334 RAOC RS04870 WP 004918236.1	SVRIDIRRLSDDTGKIKDKSGEVIGNRTKVVKNKVAPPFKSAEFDIMYGGVSKVGEILDVATDLDIQKSGSWFSYQ	307
NTDB id 1389 A4U84 RS07560 WP 021112712.1	SVRLDIRRCGV....V.KDGDEIIGSETKVVKNKVAPPFRREVQFDIMYGGISRMNELLILAEANGFIKKSGAWFSYD	310
NTDB id 1130 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGEEVLGNETRVKVIKNKVAPPFRQAEFDILYGGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1124 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGEEVLGNETRVKVIKNKVAPPFRQAEFDILYGGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1123 OK783 RS03845 WP 003688695.1	SVRLDIRRTGS....I.KKGEEVLGNETRVKVIKNKVAPPFRQAEFDILYGGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1427 RS RS02760 WP 011000510.1	SVRLDIRRIGS....I.KKGDEVVGNETKVVKNKVAPPFRFAEFDILYGGVSRGEIIDLGVAKVVEKSGAWYSYN	302
NTDB id 1165 A1552VC RS01565 WP 000344154.1	SVRLDIRRTGA....I.KEGEEVLGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN	293
NTDB id 1142 GTF74 RS11550 WP 000344154.1	SVRLDIRRTGA....I.KEGEEVLGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN	293
NTDB id 1074 ABD1 RS10195 WP 000344167.1	SVRLDIRRIGQ....V.KEGDEIVGSETKVVKNKMAPPFKEAIFQILYGGKTNQLGELVDLAVQQDIVQKAGAWYSYQ	293
NTDB id 1022 ACIAD RS06390 WP 004925639.1	SVRLDIRRIGQ....V.KEGDEIVGSETKVVKNKMAPPFKEAIFQILYGGKVNQLGELVDLAVQQNIVQKAGAWYSYQ	293
NTDB id 1205 PSJM300 05545 AFN77183.1	SVRLDIRRTGA....V.KEGDEVVGSSETRVKNKVAPPFRQAEFQILYGGKIYFNGEIIDLGVQQGLVEKSGAWAYK	293
consensus	*!!**!* * ** *****!!!!!!*! * * *****!*!*** ***** ** *** ! !*****!	

logo

NTDB id 625 LCA RS02525 WP 011374196.1	SERIGGGREN	AKNYLADHEDVEDEVRLKVR	AAAYGISDVPEEDLPTTEDEQINILPDDSTEE	355	
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1	EERIGGGREN	AKQYLKEHTDIRDEISKRV	REEYEIDGSSKEPLD..EKEETLSLLDDE	348	
NTDB id 115 BSU 16940 NP 389576.2	EERLGGGREN	AKQFLKENKDIMLIQE	QIREHYGLDNNGVVQQAEETQEELEFEE	348	
NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EAKNYLKEHQDV	FDEIDHKVRAAHGLDDSEVAETEEETASKTKAKAKKEEKAVETEEIELELED	387	
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLADNPEIF	DEIDHQVRVQF	GLIDGEEIAES...KKDE...AAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLADNPEV	FAEIDHQVRVQF	GLIDGEEAAES...KKDE...VAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQL	FDEIDRKVRVKF	GLLEESEESAMAVASE.....E.....TDDLALDLNNGIEIE	377
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQY	GLIEEDNTEEKQSSKEK.....ETDEK..ADKNLVLELDDTIELE	382
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGGG	KEKTIAYIAERP	PEMEQEIRDRVMAAIRAGNAGEAPALAPAPAAPEAAEA	363	
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGG	RENSKAFLKEN	PEIADEITKAIQNSM	GIEGMI....SGSEDDE..GEE	343
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGG	RENAKALLKEDKALA	DEITLKIKESIG	SNEEI....MPLPDEP..LEEME	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGG	RENAKALLKEDKALA	DEITLKIKESIG	SNEEI....MPLPDEP..LEEME	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGG	RDTV	KELIKDNPELA	EELAKIREKLQAK	343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWLKEN	PEIADKLEQEIRNTLASNPNS	VLKATASDSNDESVDVEE..FSEEEL	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKEN	PEISDEIDAKIRALNGVEMHI	TEGTQDET.....GE..RPEE	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKEN	PEISDEIDAKIRALNGVEMHI	TEGTQDET.....GE..RPEE	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWLKEN	PEISDEIDAKIRALNGVEMHI	TEGTQDET.....GE..RPEE	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGGG	RDNCREFLRENAELARE	IEENKVRHLGV	TPMG....AV.TLAEVEED	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKY	LKENPEIAKTLDKKLREMLLN	NPENM....QLIAETSSAADDVEFGA..VPEEF	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKY	LKENPEIAKTLDKKLREMLLN	NPENM....QLIAETSSAADDVEFGA..VPEEF	354
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRYFEENN	QIAEIEIRNIREQLLT	TGTN....GAVQ.I.EDEEEDPD..L..LLES	349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRYLEEN	PQISTEIEAVIREQLLT	KASD....QTAA.HDETEEEDPD..L..LES	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAAKYLEEN	PEIGQEIEQQIRAKLL	VTSAN....TKATPVAEDLADAD..I	347
consensus	**!!!*****	* * *	*****	* * *	

logo

			IEE	
NTDB id 625 LCA RS02525 WP 011374196.1	...	355		
NTDB id 1102602 ACNS01 RS05765 WP 003732286.1	...	348		
NTDB id 115 BSU 16940 NP 389576.2	...	348		
NTDB id 600 KW2 RS01765 WP 011675413.1	...	387		
NTDB id 269 KZH43 RS08665 WP 001085462.1	IEE	388		
NTDB id 228 SPD RS09265 WP 001085462.1	IEE	388		
NTDB id 194 SPR RS08825 WP 001085462.1	IEE	388		
NTDB id 159 SP RS09750 WP 001085462.1	IEE	388		
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEE	384		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IEE	384		
NTDB id 453 Spy49 1753c ACI62003.1	D..	378		
NTDB id 408 SMU RS09530 WP 002262392.1	D..	383		
NTDB id 1313 DR RS12030 WP 010888966.1	...	363		
NTDB id 1245 Cj1673c YP 002345041.1	...	343		
NTDB id 1211 C694 RS00795 WP 000963128.1	...	347		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	...	347		
NTDB id 1334 RA0C RS04870 WP 004918236.1	...	343		
NTDB id 1389 A4U84 RS07560 WP 021112712.1	...	372		
NTDB id 1130 NGFG RS03960 WP 003688695.1	...	348		
NTDB id 1124 NGFG RS03960 WP 003688695.1	...	348		
NTDB id 1123 OK783 RS03845 WP 003688695.1	...	348		
NTDB id 1427 RS RS02760 WP 011000510.1	...	352		
NTDB id 1165 A1552VC RS01565 WP 000344154.1	...	354		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	...	354		
NTDB id 1074 ABD1 RS10195 WP 000344167.1	...	349		
NTDB id 1022 ACIAD RS06390 WP 004925639.1	...	349		
NTDB id 1205 PSJM300 05545 AFN77183.1	...	347		
consensus				

-  non conserved
-  similar
-  ≥ 50% conserved