

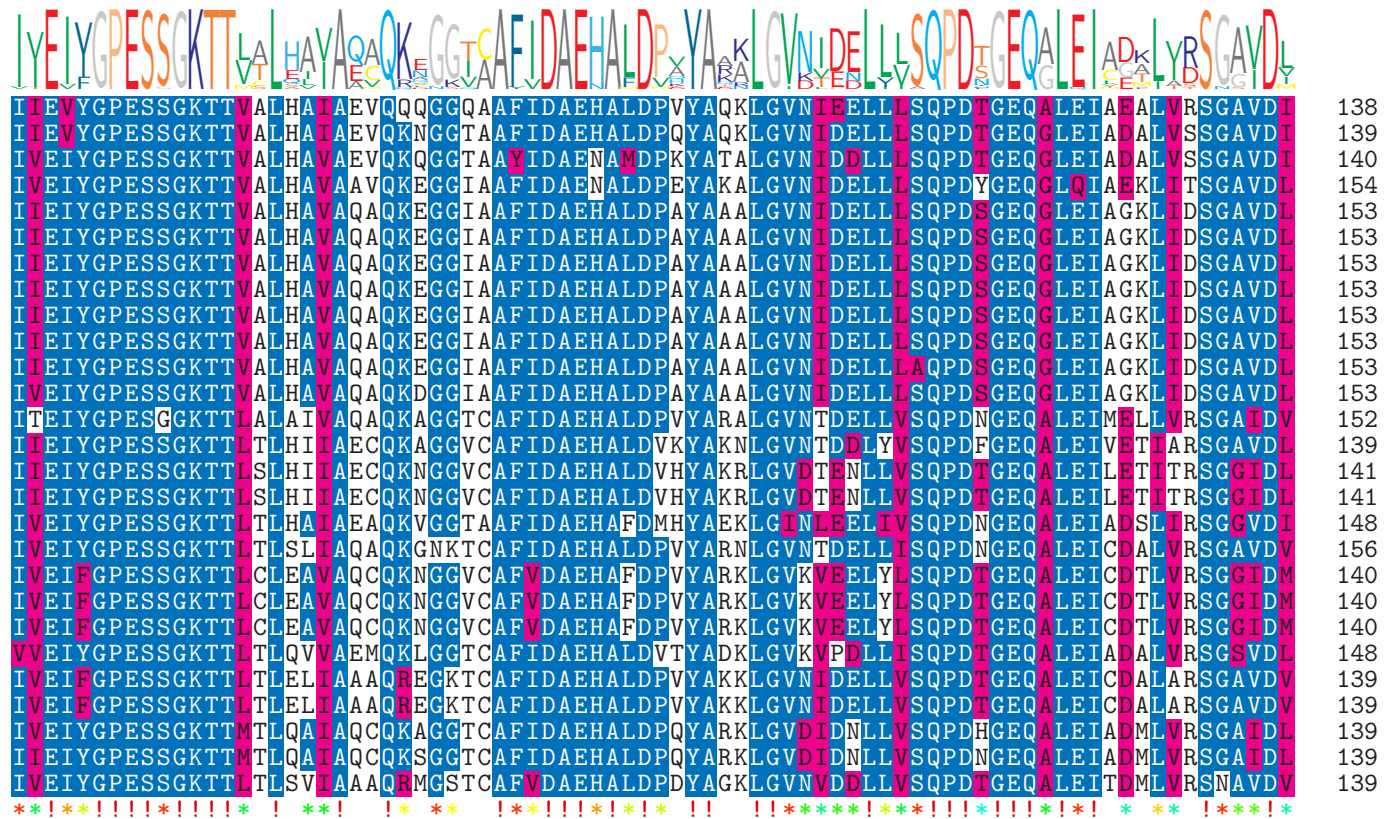
logo

NTDB id 115 BSU 16940 NP 389576.2	MS	DRQAALDMALKQ	IEKQ	FGKGSIMKLGEK	.TDTRI	ISTV	SGSLALD	TALGI	GGYPRGR	58			
NTDB id 258134 CWE29 RS00770 WP 002298208.1	MA	DDRKAALDAALKK	IEKS	YGKGSIMKLGEK	.IDQQI	ISTIP	SGSLALD	VALGV	GGYPRGR	59			
NTDB id 625 LCA RS02525 WP 011374196.1	MAK	DERQAALDAALKK	IEKN	FGKGSIMRMGEK	.VDTQV	VSTV	SSGSLALD	EALGV	GGYPRGR	60			
NTDB id 600 KW2 RS01765 WP 011675413.1	MATK.....	KKTNFDDITKKYGA	ERD	KALADALAL	IEKD	FGKGSIMRLGEA	.ANQKV	SVV	SSGSLALD	TALGAGGYPKGR	74		
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAK.....	KPKKLEEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 228 SPD RS09265 WP 001085462.1	.MAK.....	KPKKLEEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 194 SPR RS08825 WP 001085462.1	.MAK.....	KPKKLEEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 159 SP RS09750 WP 001085462.1	.MAK.....	KPKKLEEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAK.....	KPKKLDEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAK.....	KPKKLDEISKKFGA	EREK	ALNDALKL	IEKD	FGKGSIMRLGER	.AEQKV	VQV	SSGSLALD	TALGSGGYPKGR	73		
NTDB id 453 Spy49 1753c ACI62003.1	.MAK.....	KLKKNEEITKKFG	DERR	KALDDALKN	IEKD	FGKGAVMRLGER	.AEQKV	VQV	SSGSLALD	TALGAGGYPKGR	73		
NTDB id 408 SMU RS09530 WP 002262392.1	.MAK.....	RIKKTEEITKKFG	DERK	KALDDALKN	IEKD	FGKGAVMRLGER	.AEQKV	VQV	SSGSLALD	TALGAGGYPKGR	73		
NTDB id 1313 DR RS12030 WP 010888966.1	MSK	DATKEISAPTD	AKERS	KA	TET	AMSQ	IEKA	FGKGSIMKLGA	E.SKLDV	QVVSTGSLSLD	TALGVGGIPRGR	72	
NTDB id 1245 Cj1673c YP 002345041.1	MD	DNKRKSLDAALKS	LDKT	FGKGTILRLGDK	.EVEQ	IDSIG	TGSVGLD	LALGI	GGVPKGR	59			
NTDB id 1211 C694 RS00795 WP 000963128.1	MAID	EDKQKATISLA	IKQ	IDKV	FGKGALVRLGDK	.QVEK	IDAIST	TGSLGLD	LALGI	GGVPKGR	61		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAID	EDKQKATISLA	IKQ	IDKV	FGKGALVRLGDK	.QVEK	IDAIST	TGSLGLD	LALGI	GGVPKGR	61		
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..	ETTSNDDKK	KALAAVLEK	LDKT	YGKGTVMKLG	DGTVD	HNIEV	IPSGSLGLD	LALGVGGYPKGR	68			
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..	VKQVEPEQ	KKQALEAALA	QIEKQ	FGKGSIMKLQGT	.EQLD	IESV	TGSLGLD	LALGIGGLPMGR	76			
NTDB id 1130 NGFG RS03960 WP 003688695.1	MS	DDKSKALAAALA	QIEKS	SFGKGAIMKMDGS	QREENLEV	ISTGSLGLD	LALGVGGLPRGR	60					
NTDB id 1124 NGFG RS03960 WP 003688695.1	MS	DDKSKALAAALA	QIEKS	SFGKGAIMKMDGS	QREENLEV	ISTGSLGLD	LALGVGGLPRGR	60					
NTDB id 1123 OK783 RS03845 WP 003688695.1	MS	DDKSKALAAALA	QIEKS	SFGKGAIMKMDGS	QREENLEV	ISTGSLGLD	LALGVGGLPRGR	60					
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....	K..KAASMSA	EKQKALAAALA	QIEKQ	FGKGSIMKMGDA	.EVEP	VQVVSTGSLGLD	VALGVGGLPRGR	68				
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MD	ENKQKALAAALGQ	IEKQ	FGKGSIMRLGDN	.RAMDV	VETISTGSLSLD	TALGAGGLPMGR	59					
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MD	ENKQKALAAALGQ	IEKQ	FGKGSIMRLGDN	.RAMDV	VETISTGSLSLD	TALGAGGLPMGR	59					
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MD	DNKSKALQAALSQ	IEKQ	FGKNTVMRLGDN	.TVQAVE	AVSTGSLTLD	TALGIGGLPKGR	59					
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MD	ENKSKALQAALSQ	IEKQ	FGKNTVMRLGDN	.TVQAVE	AVSTGSLTLD	TALGIGGLPKGR	59					
NTDB id 1205 PSJM300 05545 AFN77183.1	MD	ENKKRALAAALGQ	IEKQ	FGKGAVMRMGDH	.DRQA	IPSISTGSLGLD	TALGIGGLPKGR	59					
consensus		*** **	*	***	***	*****	*	*****	*****	***	*****	***	***

```

NTDB id 115 BSU 16940 NP 389576.2
NTDB id 258134 CWE29 RS00770 WP 002298208.1
NTDB id 625 LCA RS02525 WP 011374196.1
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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



```

NTDB id 115 BSU 16940 NP 389576.2
NTDB id 258134 CWE29 RS00770 WP 002298208.1
NTDB id 625 LCA RS02525 WP 011374196.1
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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SMT261 RS08315 WP 078228268.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

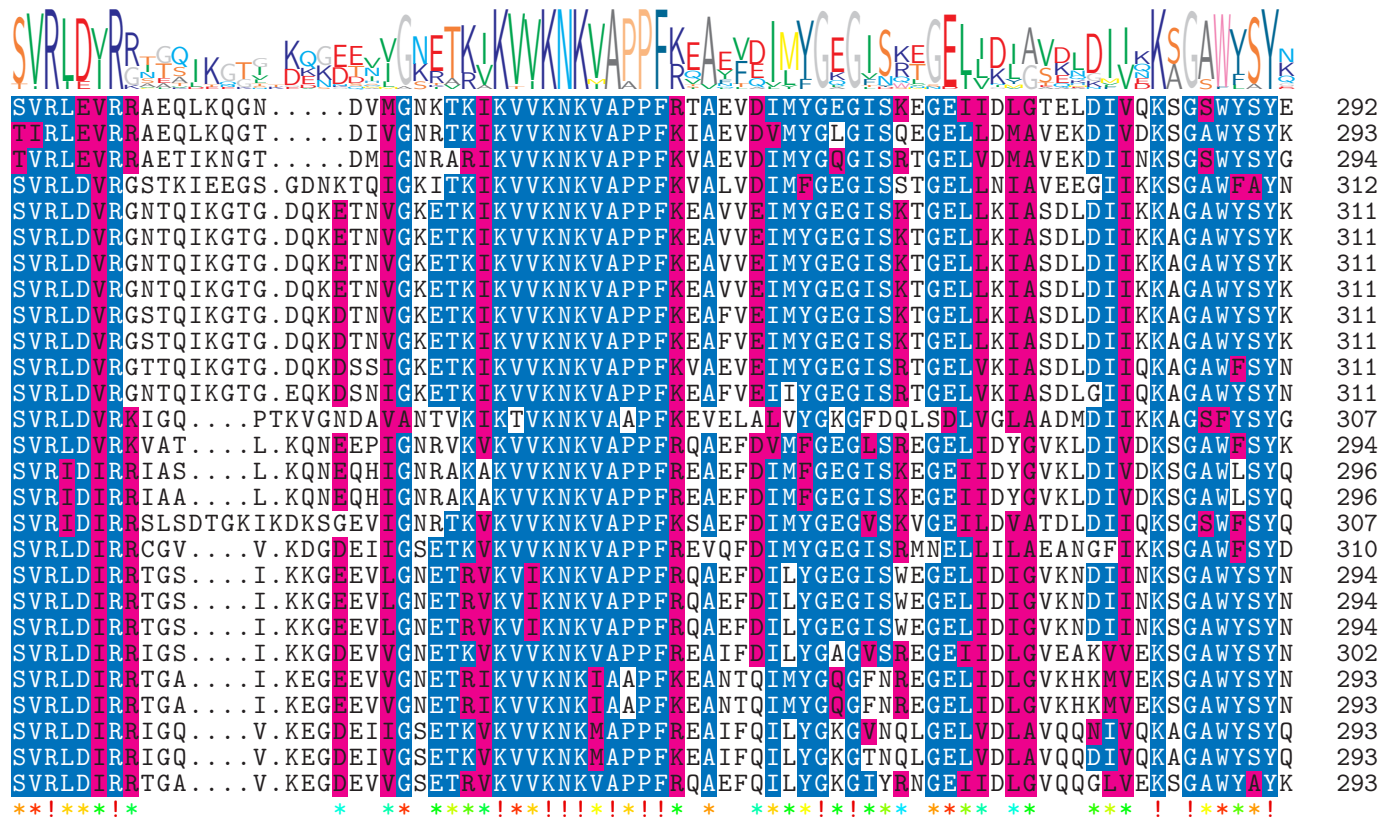
```



```

NTDB id 115 BSU 16940 NP 389576.2
NTDB id 258134 CWE29 RS00770 WP 002298208.1
NTDB id 625 LCA RS02525 WP 011374196.1
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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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 RAOC 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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



logo

NTDB id 115 BSU 16940 NP 389576.2	EERIGQGRENAKQFLKENKDIIMLMIQEQIREHYGLDNNGVVQQQAEET.....Q.EE.LEFEE.....	348
NTDB id 258134 CWE29 RS00770 WP 002298208.1	EDRIGQGRENAKIYMANHPEMMAEVSALVRAAYGIGEEVAV..PEDEK.....GQEE.LPLEE.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQGRENAKNYLADHEDVEDEVRLKVRRAAYGISDVPEEDLPTTED.....EQINILPDDSTEE.....	355
NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGAEKAKNYLKEHQDVFEIDHKVRAAHGLDDSEVAETEEET.....TASKTKAKAKKEEKAVETEEIELELE	386
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTEN.....KKDE....PKKEEA..VNEEVPLDLG	379
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTEN.....KKDE....PKKEEA..VNEEVPLDLG	379
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTEN.....KKDE....PKKEEA..VNEEVPLDLG	379
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTEN.....KKDE....PKKEEA..VNEEVPLDLG	379
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGSSENAKKYLADNPEVFAEIDHQVRVQFGLIDGEEAAE....S.....KKDE....VAQVDS..VNEEVTLDLG	375
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGSSENAKKYLADNPEIFDEIDHQVRVQFGLIDGEEIAE....S.....KKDE....AAQVDS..VNEEVTLDLG	375
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGSSENAKRYLADHPQLFDEIDRKVRVKFGLLEESEEEESAMAVA.....SE.....E.....TDDLALDLD	371
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGSSENAKKFLADNPEIFDDIDHKVVRVQYGLIEEDNTEEKQSSK.....EK.....ETDEK..ADKNLVLELD	376
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQGKEKTIAYIAERPEMEQEIRDRVMAAIRAGNAGEAPALAPAPAAPEAAEA.....	363
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGQGRENSKAFLENPEIADAITKAIQNSMGIEGMI....SGSEDD..EGEE.....	343
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGQGRENAKALLKEDKALADEITLKIKEISGSNEEI....MPLPDE..PLEEME.....	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGQGRENAKALLKEDKALADEITLKIKEISGSNEEI....MPLPDE..PLEEME.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGQGRDTVKELIKDNPELAELEAKIREKLQAK.....	343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQGGKNNAVKWLKENPEIADKLEQEIRNTLASNPNS....VLKATASDSNDESVDVEEFSEE.....EL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI....TEGTQDETDGER.....PEE.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI....TEGTQDETDGER.....PEE.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI....TEGTQDETDGER.....PEE.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGRDNCREFLRENAELAREIENKVREHLGVTPMG....AVTLA.EEVEED.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQGGKANACKYLVKENPEIAKTLDDKKLREMLLNPNENM....QLIAETSSAADDVEFGAVPEE.....F.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQGGKANACKYLVKENPEIAKTLDDKKLREMLLNPNENM....QLIAETSSAADDVEFGAVPEE.....F.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQGGKNNVIRYFEENNQIAEEIERNIREQLLTGASD....QTAA.HDETEEEPDLL..ES.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQGGKNNVIRYFEENNQIAEEIERNIREQLLTGASD....GAVQ.I.EDEEEPDLL..LES.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQGGKANAAKYLVLENPEIGQEIEQQIRAKLLVTSAN....TKATPVAEDLADADI.....	347
consensus	***!!!***** ** * *** ***** ** **	

logo

	DELEIELEE	
NTDB id 115 BSU 16940 NP 389576.2	.....	348
NTDB id 258134 CWE29 RS00770 WP 002298208.1	.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	.....	355
NTDB id 600 KW2 RS01765 WP 011675413.1	D.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DELEIEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	DELEIEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	DELEIEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	DELEIEIEE	388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DELEIEIEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	DELEIEIEE	384
NTDB id 453 Spy49 1753c ACI62003.1	NGIEIED..	378
NTDB id 408 SMU RS09530 WP 002262392.1	DTIELED..	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 RAOC 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 1022 ACIAD RS06390 WP 004925639.1	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347
consensus		

-  non conserved
-  similar
-  ≥ 50% conserved