

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK.....KTNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGE	AAAN.QKVSVVSSGSLALD	I	ALGAGGYPKGR	74	
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGE	RAE.QKVQVMSSGSLALD	I	ALGSGGYPKGR	73	
NTDB id 453 Spy49 1753c ACI62003.1	.MAKK.....LKKNEEITKKFG	DERRKALDDALKNIEKD	FGKGAVMRLGE	RAE.QKVQVMSSGSLALD	I	ALGAGGYPKGR	73	
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR.....IKKTEEITKKFG	DERKKALDDALKNIEKD	FGKGAVMRLGE	RAE.QKVQVMSSGSLALD	I	ALGAGGYPKGR	73	
NTDB id 115 BSU 16940 NP 389576.2	MSDRQAALDMALK	QIEKQFGKGSIMKLGE	KTD.TRISTVPSGSLALD	TALGIGGYPRGR			58	
NTDB id 625 LCA RS02525 WP 011374196.1	MAKDERQAALDA	ALKKIEKNFGKGSIMRMGE	KVD.TQVSTVSSGSLAL	DEALGVGGYPRGR			60	
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAM	SQIEKAFGKGSIMKLGA	ESK.LDVQVVSTGSLSLD	LALGVGGIPRGR		72	
NTDB id 1245 Cj1673c YP 002345041.1	MDDNKRKSLDA	ALKSLDKTFGKGTILRLG	DKEV.EQIDSIGTGSVGL	DLALGIGGVPKGR			59	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDKQV	.EKIDISTGSLGLD	LALGIGGVPKGR		61	
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDKQV	.EKIDISTGSLGLD	LALGIGGVPKGR		61	
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTS	PNDDKKKALAAVLEK	LDKTYGKGTVMKLG	DGTVDHNI	IEVIPS	SGSLGLDLALGVGGY	PKGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQ	VEPEQKKQALEAALA	QIEKQFGKGSIMKLG	QTEQ.LDIESVSTGSLGLD	LALGIGGLPMGR		76	
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QQUEENLEVISTGSLGLD	LALGVGGLPRGR			60	
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QQUEENLEVISTGSLGLD	LALGVGGLPRGR			60	
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QQUEENLEVISTGSLGLD	LALGVGGLPRGR			60	
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....K..KAAS	MSAEKQKALAAALA	QIEKQFGKGSIMKMG	DAEV.EPVQVVSTGSLGLD	VALGVGGLPRGR		68	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLG	DNRA.MDVETISTGSLSL	DIALGAGGLPMGR			59	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLG	DNRA.MDVETISTGSLSL	DIALGAGGLPMGR			59	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDNKSKALQAALS	QIEKQFGKNTVMRLG	DNNTV.QAVEAVSTGSL	TLDIALGIGGLPKGR			59	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDENKSKALQAALS	QIEKQFGKNTVMRLG	DNNTV.QAVEAVSTGSL	TLDIALGIGGLPKGR			59	
NTDB id 173729 A1D14 RS09130 WP 010947527.1	MEENKQKALSAALS	QIERQFGKGSVMRMG	DSTVSRDIEAISTGSLGL	DIALGIGGLPKGR			60	
NTDB id 1205 PSJM300 05545 AFN77183.1	MDENKKRALAAAL	GQIEKQFGKGAVMRMG	DHNR.QAIP	SISTGSLGLDIALGIGGL	PKGR		59	
consensus	*** **	***	***	*****	*****	*****	*****	

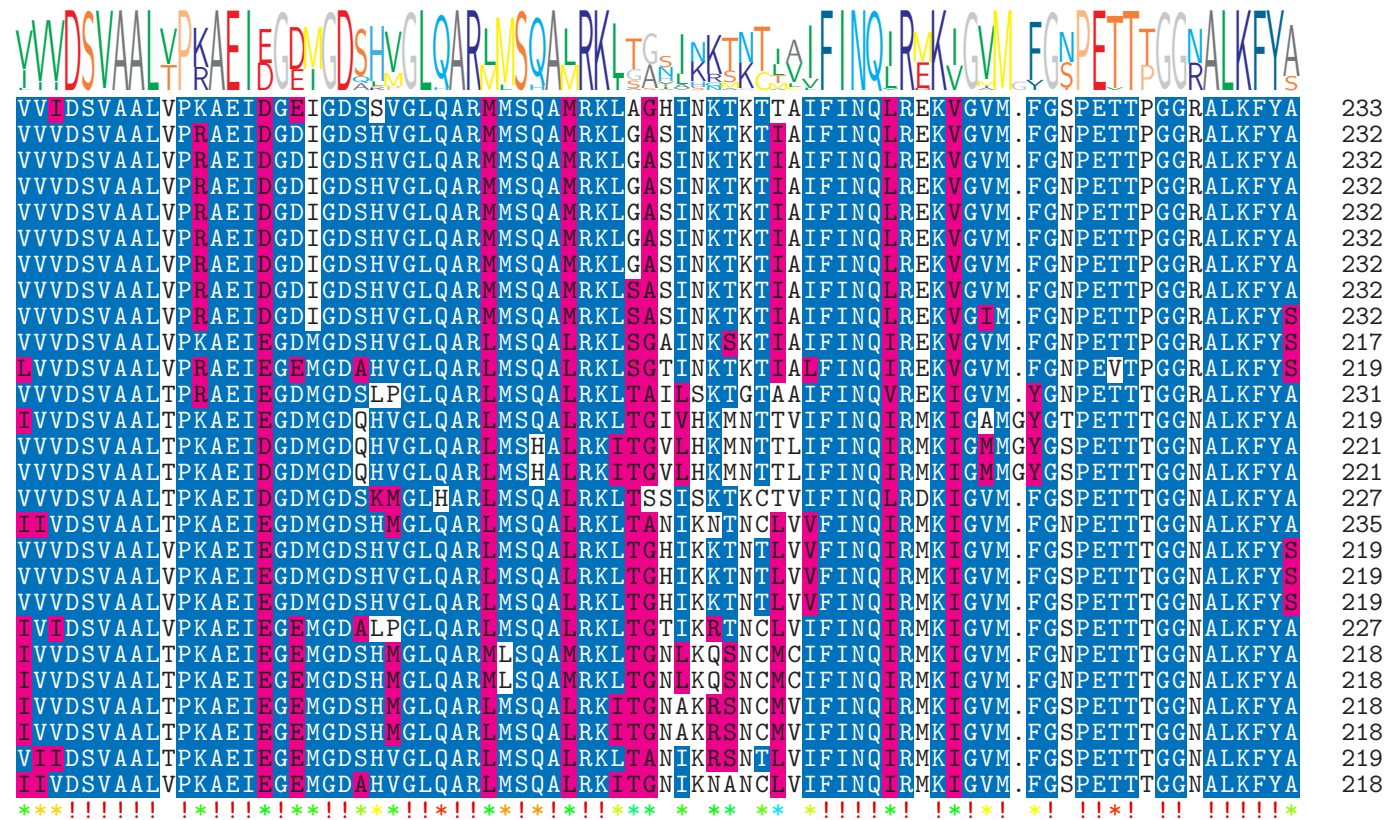
consensus



```

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 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 173729 A1D14 RS09130 WP 010947527.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

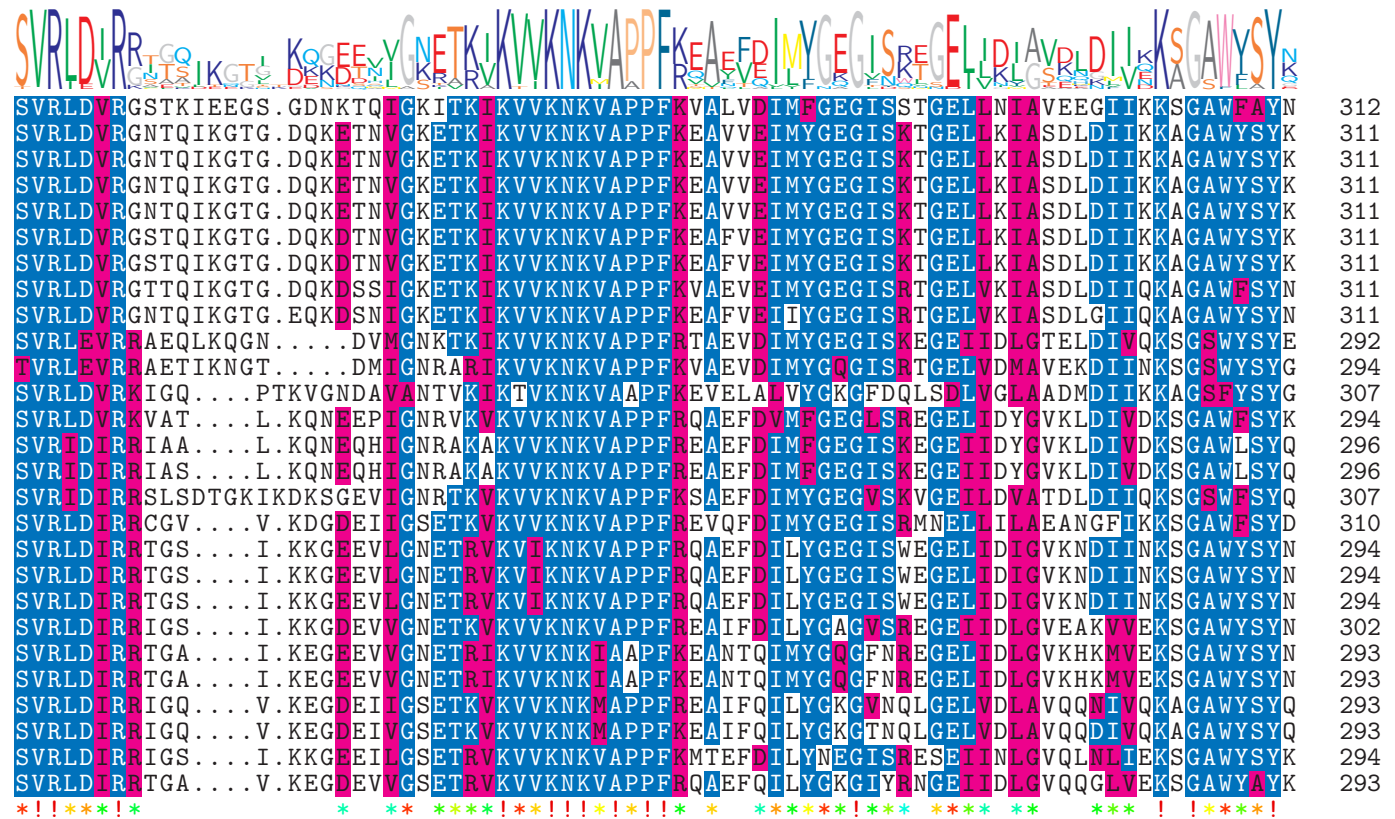
```



```

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 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 173729 A1D14 RS09130 WP 010947527.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEETT	ASKTKAKAKKE	EKAVETEEIELELED	....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKDE	PKKEEA	.VNEEVPLDLGDELEIE		385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKDE	PKKEEA	.VNEEVPLDLGDELEIE		385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKDE	PKKEEA	.VNEEVPLDLGDELEIE		385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKDE	PKKEEA	.VNEEVPLDLGDELEIE		385
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLAADNPEVFAE	IDHQVRVQFGL	IDGEEAAE	SKKDE	VAQVDS	.VNEEVTLDLGDELEIE	381
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLAADNPEIF	DEIDHQVRVQFGL	IDGEEIAE	SKKDE	AAQVDS	.VNEEVTLDLGDELEIE	381
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAVASE	E	TDDLALDLN	GIEIE	377
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQYGL	IEEDNTEEKQSSKEK	ETDEK	..ADKNLVLELDDT	IELE	382
NTDB id 115 BSU 16940 NP 389576.2	EERLGGG	RENAKQFLKENKDIMLMIQE	IREHYGL	DNNGVVQQAEETQEEL	EFEE	E	.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYLADHEDVE	DEVRLKVRAAYG	ISDVPEEDLPTTEDE	.QI	.NILPDDST	EE	355
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTIAYIAERP	EMEQEIRDRVMAAIRAGN	AGEAPALAPAPAAPEAAE	..A	.....		363
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGG	RENSKAFLENPEIADEITKAI	QNSMCI	EGMIS	GSED	..DEGE	..E	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGG	RENAKALLKEDKALADEITLK	IKESIGS	NEEIM	PLPD	..EPLE	..EME	347
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGG	RENAKALLKEDKALADEITLK	IKESIGS	NEEIM	PLPD	..EPLE	..EME	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGG	RDITVKELIKDNPELAEE	LEAKIREKLQAK	.....				343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWLKENPEIADKLEQE	IRNTLASNPNSV	LKATASDSND	..ESD	VEEFSEEL	.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEISDEIDAK	IRALNGVEMHIT	EGTQDET	DGE	..RPE	E	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEISDEIDAK	IRALNGVEMHIT	EGTQDET	DGE	..RPE	E	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEISDEIDAK	IRALNGVEMHIT	EGTQDET	DGE	..RPE	E	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQG	RDNCREFLRENAELAREIEN	KVREHLGVTPMGA	V	.TLAEEVEE	..D	.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYLKENPEIAKTLDK	KLREMLLNPENMQ	LIAETSSAAD	..DVE	FGAVPEEF	.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYLKENPEIAKTLDK	KLREMLLNPENMQ	LIAETSSAAD	..DVE	FGAVPEEF	.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRYLEENPQISTEIE	AVIREQLLTKASDQ	TAAHDET	..EE	..EPDLL	..ES	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRYFEENNQIAEEI	ERNIREQLLTTGTNG	AVQI	..ED	..EE	..EPDLL	349
NTDB id 173729 A1D14 RS09130 WP 010947527.1	QEKIGQG	KENVRLYLKENPQVAAELE	QQIRTELLEKKLSV	LASSSEDLFE	..TIDD	.....		348
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAACYLEENPEIGQIE	EQQIRAKLLVTSANT	KATPVAEDLA	..DADI	.....		347
consensus	***!!!	*****	**	*****	*****	**	**	

logo

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 527 SMSK321 RS11065 WP 001085454.1	IEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEE	384
NTDB id 453 Spy49 1753c ACI62003.1	D..	378
NTDB id 408 SMU RS09530 WP 002262392.1	D..	383
NTDB id 115 BSU 16940 NP 389576.2	...	348
NTDB id 625 LCA RS02525 WP 011374196.1	...	355
NTDB id 1313 DR RS12030 WP 010888966.1	...	363
NTDB id 1245 Cj1673c YP 002345041.1	...	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	...	347
NTDB id 1211 C694 RS00795 WP 000963128.1	...	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 173729 A1D14 RS09130 WP 010947527.1	...	348
NTDB id 1205 PSJM300 05545 AFN77183.1	...	347

consensus

 non conserved
 similar
 ≥ 50% conserved