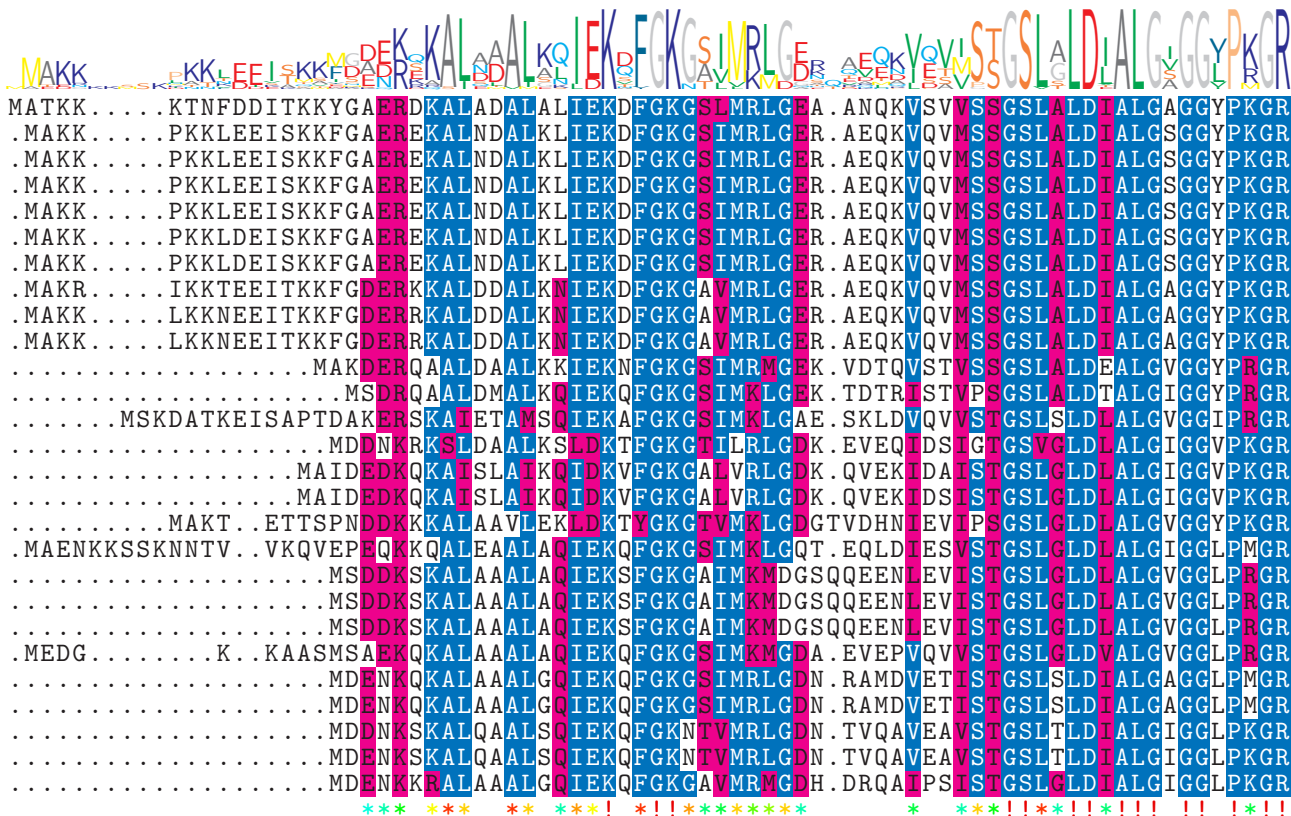


logo

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 408 SMU RS09530 WP 002262392.1
NTDB id 978185 MGAS37826 RS08910 WP 010922753.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 115 BSU 16940 NP 389576.2
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 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



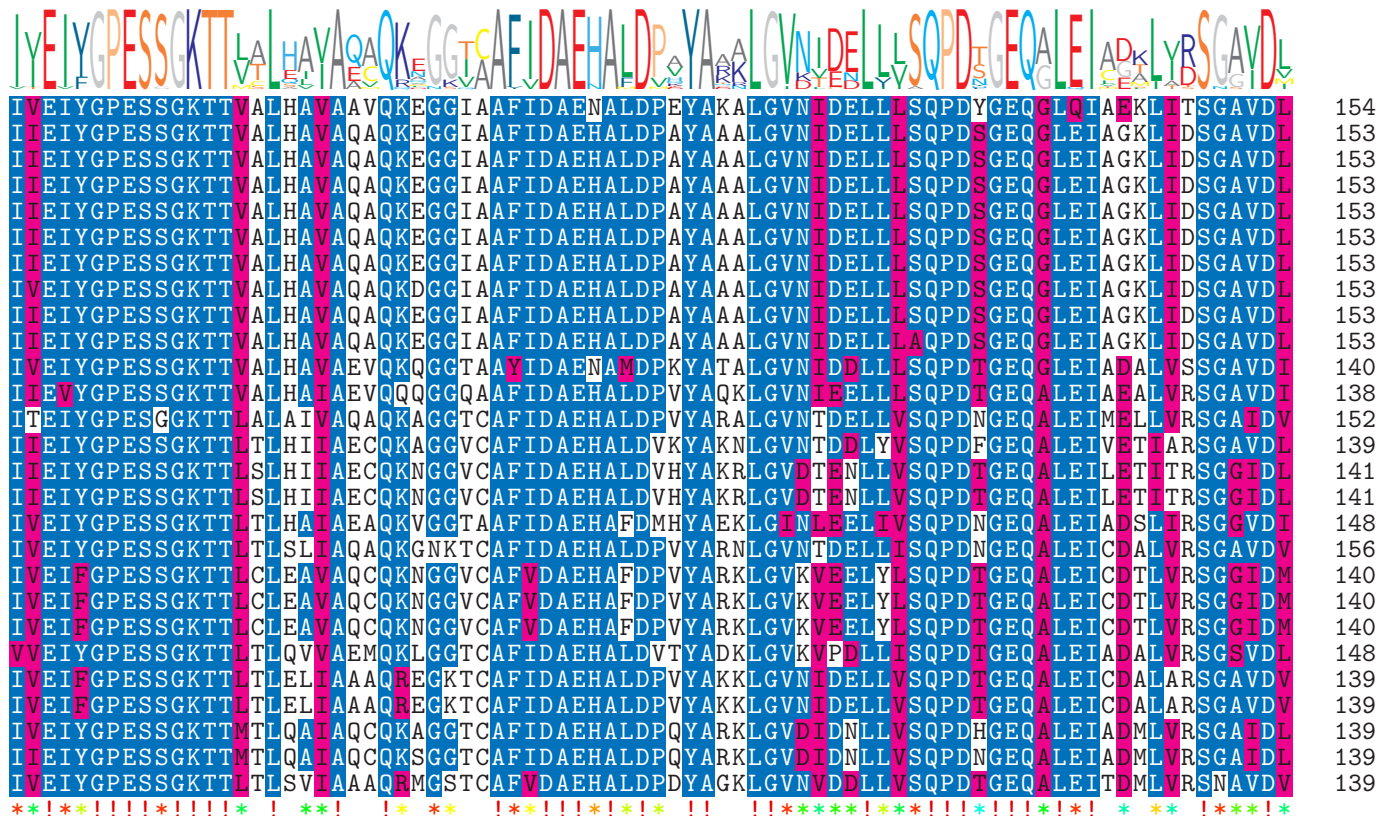
logo

```

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 408 SMU RS09530 WP 002262392.1
NTDB id 978185 MGAS37826 RS08910 WP 010922753.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 115 BSU 16940 NP 389576.2
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 1205 PSJM300 05545 AFN77183.1

```

consensus



logo

[illegible]

logo

NTDB	id	600	KW2	RS01765	WP	011675413.1	SVRLDVRG	STKIEEGS	.GDNKTQ	IGK	ITK	IKVVKN	KVAPPF	KVALV	DIMF	GEGIS	STGEL	IN	IAVEEG	TI	KSGAW	FAYN	312				
NTDB	id	269	KZH43	RS08665	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	228	SPD	RS09265	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	194	SPR	RS08825	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	159	SP	RS09750	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	499	SM12261	RS08315	WP	078228268.1	SVRLDVRG	STQIKGTG	.DQKDTN	VGKETK	IKVVKN	KVAPPF	KEAFV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	SVRLDVRG	STQIKGTG	.DQKDTN	VGKETK	IKVVKN	KVAPPF	KEAFV	EIMY	GEGIS	KTGEL	LK	IASDL	DII	KKAGAW	YSYK	311					
NTDB	id	408	SMU	RS09530	WP	002262392.1	SVRLDVRG	NTQIKGTG	.EQKDSN	IGKETK	IKVVKN	KVAPPF	KEAFV	EIIY	GEGIS	RTGEL	VK	IASDL	GII	QKAGAW	YSYN	311					
NTDB	id	978185	MGAS37826	RS08910	WP	010922753.1	SVRLDVRG	TQTQIKGTG	.DQKDSI	IGKETK	IKVVKN	KVAPPF	KVAEV	EIMY	GEGIS	RTGEL	VK	IASDL	DII	QKAGAW	YSYN	311					
NTDB	id	453	Spy49	1753c	ACI62003.1		SVRLDVRG	TQTQIKGTG	.DQKDSI	IGKETK	IKVVKN	KVAPPF	KVAEV	EIMY	GEGIS	RTGEL	VK	IASDL	DII	QKAGAW	YSYN	311					
NTDB	id	625	LCA	RS02525	WP	011374196.1	TVRLEVRRA	ETIKNGT		DS	IGNRARI	IKVVKN	KVAPPF	KVAEV	DIMY	GQGIS	RTGEL	VDMAVEK	DI	INKSGS	WYSYG	294					
NTDB	id	115	BSU	16940	NP	389576.2	SVRLEVRRA	EQLKQGN		DVM	GNKTKI	IKVVKN	KVAPPF	RTAEV	DIMY	GEGIS	KEGE	IIDL	GT	ELDI	VQKSGS	WYSYE	292				
NTDB	id	1313	DR	RS12030	WP	010888966.1	SVRLDVRK	IGIQ		PTKVG	ND	AVANTV	KIK	TKVKN	KVA	APFKE	VELA	LVY	GK	GFD	QLSD	LVGLA	ADM	DII	KKAG	SFYSYG	307
NTDB	id	1245	Cj1673c	YP	002345041.1		SVRLDVRK	KVAT		L.KQNE	EPI	IGNRV	KV	IKVVKN	KVAPPF	RQAEF	DVMF	GEGIS	RE	GELIDY	GVKLDI	VDKSGAW	FSYK	294			
NTDB	id	1214	NCTC11637	00359	SQJ03206.1		SVRTDIR	RIAA		L.KQNE	QHI	IGNRA	KA	IKVVKN	KVAPPF	REAEF	DIMF	GEGIS	KEGE	IIDY	GVKLDI	VDKSGAW	LSYQ	296			
NTDB	id	1211	C694	RS00795	WP	000963128.1	SVRTDIR	RIAS		L.KQNE	QHI	IGNRA	KA	IKVVKN	KVAPPF	REAEF	DIMF	GEGIS	KEGE	IIDY	GVKLDI	VDKSGAW	LSYQ	296			
NTDB	id	1334	RAOC	RS04870	WP	004918236.1	SVRTDIR	RLSL	SDTKIK	DKSGE	IGNR	TKV	IKVVKN	KVAPPF	KSAEF	DIMY	GEGV	SKVGE	ILD	VAT	LDI	DII	QKAGAW	SFYSYQ	307		
NTDB	id	1389	A4U84	RS07560	WP	021112712.1	SVRLDIRR	RCGV		V.KDG	DEI	IGSET	KV	IKVVKN	KVAPPF	REVQF	DIMY	GEGIS	RMNELL	LILAE	ANGFI	KKSGAW	FSYD	310			
NTDB	id	1130	NGFG	RS03960	WP	003688695.1	SVRLDIRR	TGS		I.KKG	EEV	LGNETR	VKV	IKN	KVAPPF	RQAEF	DILY	GEGIS	WE	GELID	IGVKN	DI	INKSGAW	YSYN	294		
NTDB	id	1124	NGFG	RS03960	WP	003688695.1	SVRLDIRR	TGS		I.KKG	EEV	LGNETR	VKV	IKN	KVAPPF	RQAEF	DILY	GEGIS	WE	GELID	IGVKN	DI	INKSGAW	YSYN	294		
NTDB	id	1123	OK783	RS03845	WP	003688695.1	SVRLDIRR	TGS		I.KKG	EEV	LGNETR	VKV	IK													

logo

```

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 408 SMU RS09530 WP 002262392.1
NTDB id 978185 MGAS37826 RS08910 WP 010922753.1
NTDB id 453 Spy49 1753c AC162003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 115 BSU 16940 NP 389576.2
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 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 PSJ3M300 05545 AFN77183.1

```

consensus

DEKIGQGKENVAKKYLKENPEIDFEDDKYRERKGLPDEVEEETETKSPDEEEEEVLDLQDETIE

DEKIGQGA	EKA	KNYLKE	HQDV	FDEID	HKV	RAAH	G	LDD	SEVA	ETEE	ET	TASK	T	KAKAK	KKEE	KAV	ETEE	I	E	L	E	D		387																																								
DEKIGQGS	ENAK	KYLAE	HP	EIF	DEID	KQV	RSK	F	G	LIDG	EEV	SEQD	TEN	KKDE		PKKEEA	..	VNEEV	PLD	L	G	DE	LEIE	385																																								
DEKIGQGS	ENAK	KYLAE	HP	EIF	DEID	KQV	RSK	F	G	LIDG	EEV	SEQD	TEN	KKDE		PKKEEA	..	VNEEV	PLD	L	G	DE	LEIE	385																																								
DEKIGQGS	ENAK	KYLAE	HP	EIF	DEID	KQV	RSK	F	G	LIDG	EEV	SEQD	TEN	KKDE		PKKEEA	..	VNEEV	PLD	L	G	DE	LEIE	385																																								
DEKIGQGS	ENAK	KYLAD	N	PEI	F	DEID	HQV	RV	Q	F	G	LIDG	EE	IAES		KKDE		AAQ	V	D	S	..	VNEEV	T	L	D	L	G	DE	LEIE	381																																	
DEKIGQGS	ENAK	KYLAD	N	PEI	F	DEID	HQV	RV	Q	F	G	LIDG	EE	AAES		KKDE		VAQ	V	D	S	..	VNEEV	T	L	D	L	G	DE	LEIE	381																																	
GEKIGQGS	ENAK	KFLAD	N	PEI	F	DD	I	H	K	V	R	V	Q	F	G	L	I	E	E	D	T	E	E	K	S	S	E	K		ETDEK	..	ADK	N	L	V	L	E	L	D	D	T	I	E	L	E	382																		
GEKIGQGS	ENAK	R	YLAD	H	P	E	L	F	DEI	D	L	K	V	R	V	K	F	G	L	E	E	S	E	E	S	A	M	A	V	A	S	E		E		T	D	D	L	A	L	D	L	N	G	I	E	I	E	377														
GEKIGQGS	ENAK	R	YLAD	H	P	E	L	F	DEI	D	R	K	V	R	V	K	F	G	L	E	E	S	E	E	S	A	M	A	V	A	S	E		E		T	D	D	L	A	L	D	L	N	G	I	E	I	E	377														
SERIGQG	RENA	K	N	YLAD	H	E	D	E	V	E	R	L	K	V	R	A	A	Y	G	I	S	D	V	P	E	E	D	L	P	T	T	E	D	E	..	Q	I	..	N	I	L	P	D	D	S	T		E	E		355													
EERLGG	RENA	K	Q	F	L	K	E	N	D	I	M	L	M	I	Q	E	I	R	E	H	Y	G	I	D	N	G	V	V	Q	Q	A	E	T	Q	E	E	L	..	E	F	E	..	E		348																			
DERIGQG	EK	T	I	A	Y	I	A	E	R	P	E	M	E	Q	I	R	D	R	V	M	A	A	I	R	A	G	N	A	G	E	A	P	A	L	A	P	A	P	A	E	A	E	..	A		363																		
DKKLGG	QREN	S	K	A	F	L	K	E	N	P	E	I	A	D	E	I	T	K	A	I	Q	N	S	M	G	I	E	G	M	I		S	G	S	E	D	..	E	G	E	..	E		343																				
DKKLGG	QREN	S	K	A	L	L	K	E	D	K	A	L	A	D	E	I	T	L	K	I	K	E	S	I	G	S	N	E	E	I		M	P	L	P	D	E	..	P	L	E	..	E	M	E		347																	
DKKLGG	QREN	S	K	A	L	L	K	E	D	K	A	L	A	D	E	I	T	L	K	I	K	E	S	I	G	S	N	E	E	I		M	P	L	P	D	E	..	P	L	E	..	E	M	E		347																	
DTKLGG	Q	R	D	T	V	K	E	L	I	K	N	P	E	L	A	E	L	E	A	K	I	R	E	K	L	Q	A	K		343																																		
G	T	K	I	G	Q	G	K	N	N	A	V	K	L	K	E	N	P	E	I	A	D	K	L	E	Q	E	I	R	N	T	L	A	S	N	P	N	S		V	L	K	A	T	A	S	D	S	N	D	..	E	S	D	V	E	E	F	S	E	E	E	L		372
G	A	K	I	G	Q	G	K	D	N	V	R	V	L	K	E	N	P	E	I	S	D	E	I																																									

logo

				IEE		
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	408	SMU	RS09530	WP 002262392.1	D..	383
NTDB id	978185	MGAS37826	RS08910	WP 010922753.1	D..	378
NTDB id	453	Spy49	1753c	ACI62003.1	D..	378
NTDB id	625	LCA	RS02525	WP 011374196.1	...	355
NTDB id	115	BSU	16940	NP 389576.2	...	348
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	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	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