

277624	---	TDLHRV	---	IRT	-QELSDDH-	---	IQY	FTYQ	---	---	---	TLRA	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
77457	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	TLRA	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
89431	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	TLRA	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
484632	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	TLRA	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
161998	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQVSNITS	DFITSIRAIF	SLFTASLRAH	CDAACPAGAG	LDANITLRA	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
324877	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQVRPLPP	SL--SIRSGR	SLST	---	---	---	LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
117759	---	TDLHRV	---	IRS	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---	
489827	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
115935	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
482781	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
545919	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
6536562	---	TDLHRV	---	IHT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKTLSHA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
309997	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TVRG	-LKAHLTA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
316873	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TVRG	-LKAHLTA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
429267	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAHLTA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
103465	---	TMHQA	---	IQT	-QELSDDH-	---	IQY	FIYQ	---	---	---	---	---	SLRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
167039	---	TDLHKA	---	IVS	-QELSDDH-	---	VOY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
8637	---	ADLHTV	---	IQT	-QELSDDH-	---	IKY	FIYQ	---	---	---	---	---	ILKG	-VKYLHSC	GVVHRDLKPA	NLLNANCDL	KICDFGLAR	---	---
65963	---	TDLHVV	---	IRS	-QELSDDH-	---	VOY	LMVQ	---	---	---	---	---	ALKG	-VKCLHSC	GVVHRDLKPA	NLLNANCDL	KICDFGLAR	---	---
246409	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
246352	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
668220	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
619500	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
64492	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
80250	---	TMHVR	---	IRT	-QELSDDH-	---	SOY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	AVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
21917	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
600175	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
721307	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
847084	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
280696	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
908144	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
148879	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
102030	---	TDLHRI	---	IHT	-QELSDDH-	---	VOY	FIYQ	---	---	---	---	---	TLRA	-LKYTHSC	NVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
92334	---	TDLHRI	---	IHT	-QELSDDH-	---	VOY	FIYQ	---	---	---	---	---	TLRA	-LKYTHSC	NVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
146634	---	TDLHRV	---	IYS	KKIKTMDH-	---	IQY	FVYQ	---	---	---	---	---	TLRA	-LKYVHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
72485	---	TDLHAI	---	IRS	QGLSDQH-	---	VOY	FVYQ	---	---	---	---	---	TVRG	-LKWVHSA	GIHVRDLKPG	NLLNANCDL	KVDFGLAR	---	---
124061	---	DHLHLG	---	YHQ	AAYLGVVHGD	L--	LQY	FVYQ	---	---	---	---	---	TLRA	-LKSITHSA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
109792	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
408982	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FVYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
149279	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
13526	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
465497	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
216389	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
17191	---	TDLHRV	---	VRS	-QELSDDH-	---	AOY	FVYQ	---	---	---	---	---	TLRA	-LKVHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
530963	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FVYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
84099	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
928715	---	SLLNAL	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	ALRG	-LKALHSA	GLHVRDLKPS	NLLNANCDL	KICDFGLAR	---	---
480104	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FVYQ	---	---	---	---	---	TLRA	-LKSITHA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
37144	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKSITHA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
993637	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKSITHA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
706327	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FVYQ	---	---	---	---	---	TLRA	-LKMTHSA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
5366	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FVYQ	---	---	---	---	---	TLRA	-LKMTHSA	DVLRHDLKPA	NLLNANCDL	KVDFGLAR	---	---
144998	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
232199	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
60405	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
572633	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
37912	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
819552	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
1026351	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
352542	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
42114	---	TDLHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
204011	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRG	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
46962	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
3452	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
1531701	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
375250	---	MHRV	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
391393	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
518679	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
1272884	---	TMHVR	---	IRT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKAMHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
108249	---	TDLHRV	---	IHT	-QELSDDH-	---	COY	FIYQ	---	---	---	---	---	TLRA	-LKYVHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
111885	---	TDLSKV	---	ISN	SRDSFLQTVG	RTVTLLEH	IQY	FIYQ	---	---	---	---	---	ILRG	-LKALHSA	KVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
228039	---	SDLHQI	---	IHT	C--YLQD	DHLQY	FIYQ	---	---	---	---	---	---	ILRG	-LKYVHSA	NVLRHDLKPS	NLLNANCDL	KICDFGLAR	---	---
117728	---	TDLHAI	---	IHT	GI--LHVH	KQY	ITVQ	---	---	---	---	---	---	TLRA	-LKYVHSA	NVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
267276	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
295270	---	TMHVR	---	IRT	-QELSDDH-	---	AOY	FIYQ	---	---	---	---	---	TLRA	-LKALHSA	DVLRHDLKPS	NLLNANCDL	KVDFGLAR	---	---
174214	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FVYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
111562	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
385026	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
4793	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
91658	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
361397	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQY	FIYQ	---	---	---	---	---	ILRG	-LKYVHSA	GVVHRDLKPS	NLLNANCDL	KICDFGLAR	---	---
368356	---	TDLHRL	---	LTS	-RPLEKQF-	---	IQ													

100890	LNQILQILG	---TPDDAT	LSRIGSERA	---	QMY	IRS-LPYMPK	V-SWERT	-F	P	---	NAT	PLA	---	LDLLEKM	L	---	-DFDPSRI	TVEALHPY
288633	LNQILVVLG	---TPDDHT	IGRVGSERA	---	QLY	IKS-LDKDFE	I-PLCLR	-Y	P	---	NAS	PLA	---	LDLLEKM	L	---	-TFDPTRI	TIEVALHPY
69432	LNQILHYLG	---TPPEET	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-Y	P	---	RAN	PLA	---	LDLLEQM	L	---	-HFDPIKRI	SCEQALHPY
602729	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFANT	-Y	P	---	KAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
166223	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-Y	P	---	NAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
1111368	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-Y	P	---	HAN	PLA	---	LDLLESNL	L	---	-CFDPAKRI	SCEQALHPY
7180514	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
671172	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
695955	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRM	SCEQALHPY
188424	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
799680	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
178052	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
129301	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFATL	-Y	P	---	RAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
208817	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFATL	-Y	P	---	RAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
424444	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-LFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
830405	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRM	SCEQALHPY
892596	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HGN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
186189	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSSL	-F	P	---	RAN	PMA	---	LDLLEQM	L	---	-NFDPAKRI	TCEQALHPY
164780	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFTTL	-Y	P	---	HAN	PLA	---	LDLLEKM	L	---	-TFDPAKRI	TCEQALHPY
167312	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-F	P	---	RAN	PLA	---	LDLLEQM	L	---	-HFDPAKRI	TCEQALHPY
119588	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQM	L	---	-HFDPAKRI	TCEQALHPY
423592	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	HAN	PLA	---	LDLLEKM	L	---	-NFDPAKRI	TCEQALHPY
474667	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFSTL	-F	P	---	QAN	PLA	---	LDLLESM	L	---	-CFDPAKRI	SCEQALHPY
459613	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFSTL	-F	P	---	QAN	PLA	---	LDLLESM	L	---	-CFDPAKRI	SCEQALHPY
156206	LNQILHYLG	---TPSEET	LRRVGSRA	---	QDY	IRS-LPKKPR	V-PFSTL	-F	P	---	QAN	PLA	---	SDLLEQL	L	---	-CFDPAKRM	SCEQALHPY
791811	LNQILHYLG	---TPSEET	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-QFDPAKRI	TCEQALHPY
146905	LNQILHYLG	---TPTEED	LRRVGSRA	---	QDY	IRS-LPIKAR	I-PFATL	-Y	P	---	HAN	PLA	---	VDLLEQM	L	---	-TFDPAKRI	TCEQALHPY
175329	LNQILHYLG	---TPLEED	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-HFDPAKRI	TCEQALHPY
511921	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFQSL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
373951	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQM	L	---	-HFDPAKRI	TCEQALHPY
545584	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFQSL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
102765	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFQSL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
203557	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-SFPM	-Y	P	---	QAN	PLA	---	LDLLESM	L	---	-CFDPAKRI	SCEQALHPY
302829	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLESM	L	---	-CFDPAKRI	SCEQALHPY
701651	LNQILHYLG	---TPSEET	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-QFDPAKRI	TCEQALHPY
972433	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQL	L	---	-CFDPAKRI	SCEQALHPY
931864	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQL	L	---	-CFDPAKRI	SCEQALHPY
813292	WVLLLRTRY	---AELAH	-----EPA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQL	L	---	-CFDPAKRI	SCEQALHPY
78187	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRM	SCEQALHPY
406308	LNQILHYLG	---TPNEET	LGRIGSRA	---	QDY	VRN-LPFMPK	I-PFDR	-F	P	---	NAN	PDA	---	LDLDRM	L	---	-AFDPTSR	SVEQALHPY
118382	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
100328	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSSL	-F	P	---	RAN	PMA	---	LDLLEQL	L	---	-NFDPAKRI	TCEQALHPY
1411022	LNQILHLLG	---TPTEED	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-NFDPAKRI	SCEQALHPY
741167	LNQILHLLG	---TPTEED	LRRVGSRA	---	QDY	IRS-LPIKPR	I-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-NFDPAKRI	SCEQALHPY
138511	LNQILQCLG	---TPTEDA	LRRIGSRA	---	QDY	IRS-LPIRAR	V-PFSTL	-Y	R	---	NAN	HEA	---	LDLLEGM	L	---	-AFDPAKRL	TCEQALHPY
756718	LNQILQCLG	---TPTEDA	LRRIGSRA	---	QDY	IRS-LPIRAR	V-PFSTM	-Y	R	---	NAN	AEA	---	LDLLEGRM	L	---	-AFDPAKRL	TCEQALHPY
302653	LNHILNVLG	---TPTEED	LRRVGSRA	---	QDY	IRS-LPIKPR	Q-PWHQL	-Y	P	---	KAN	PLA	---	LDLLEKL	L	---	-CFDPAKRI	SCEQALHPY
1311110	LNQILHYHG	---TPDDAT	LRRVGSRA	---	QDY	IRS-LPFKPG	V-PFNQL	-Y	P	---	NAN	PVG	---	LDLLEKLL	L	---	-AFDPSQRI	TCDQALHPY
722894	LNQILHYLG	---TPSEQT	LRRVGSRA	---	QDY	IRS-LPHKAG	V-PFQTL	-F	P	---	NAN	PLA	---	LDLLEKL	L	---	-SFDPSERI	SNCEALHPY
288507	LNQILHYLG	---TPNEQA	LRRVGSRA	---	QDY	IRS-LPFKPK	I-PFQQL	-Y	P	---	SAN	PLA	---	LDLLEKM	L	---	-EFDPAKRI	TCDQALHPY
757539	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFANT	-Y	P	---	KAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
184184	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
917307	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQL	L	---	-CFDPAKRI	SCEQALHPY
6355211	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
249241	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRM	SCEQALHPY
216822	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	QAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
805839	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFATL	-Y	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
355172	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
302825	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFSTL	-F	P	---	HAN	PLA	---	LDLLEQM	L	---	-CFDPAKRI	SCEQALHPY
239059	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	I-SFSTL	-F	P	---	QAN	PLA	---	LDLLESM	L	---	-CFDPAKRI	SCEQALHPY
251409	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-HFDPAKRI	TCEQALHPY
251443	LNQILHYLG	---TPSEDT	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-HFDPAKRI	TCEQALHPY
23484	LNQILGILG	---PDEEET	LCRVGSRA	---	QVY	IRS-LTRMPK	I-PFNQL	-Y	P	---	RAS	PLA	---	LDLLETKL	L	---	-AFDPAKRI	TVEALHPY
306334	LNQILAVLG	---TPDDAT	LKRVGSRA	---	QVY	IRS-LPRMPR	V-PFTTM	-F	P	---	KAT	PLA	---	LDLLEKL	L	---	-QFDPAQRI	TVEALHPY
306351	LNQILAVLG	---TPDDAT	LKRVGSRA	---	QVY	IRS-LPRMPR	V-PFTTM	-F	P	---	KAT	PLA	---	LDLLEKL	L	---	-QFDPAQRI	TVEALHPY
148766	LKQILGTLG	---TPDDQT	LQRMGSRA	---	QYQ	IKS-LPRMQK	V-PFQQL	-Y	P	---	KAT	PAA	---	LDLLERL	L	---	-DLHTRRI	TAQALHPY
84676	LKQILGTLG	---TPDDQT	LQRMGSRA	---	QYQ	IKS-LPRMQK	V-PFQQL	-Y	P	---	KAT	PAA	---	LDLLERL	L	---	-DLHTRRI	TAQALHPY
74082	LNQILHYLG	---TPNEDT	LSRIGSRA	---	QDY	VRH-LPRMPK	V-PFASL	-F	R	---	NAN	PDA	---	LDLLEDM	L	---	-AFDPSERI	SVEALHPY
97664	LNQILHYLG	---TPSEET	LARIGSRA	---	QDY	VRN-LPYMQK	I-SFQSL	-F	R	---	NAN	PDA	---	LDLLEDM	L	---	-AFDPSQRI	SVEALHPY
97676	LNQILHYLG	---TPSEET	LARIGSRA	---	QDY	VRN-LPYMQK	I-SFQSL	-F	R	---	NAN	PDA	---	LDLLEDM	L	---	-AFDPSQRI	SVEALHPY
297954	LTQILKLLG	---TPNEET	LSRIGSRA	---	QDY	VRN-LGYMEK	I-PFRQT	-F	P	---	HAN	PDA	---	LDLLEDM	L	---	-AFDPSQRI	TVEALHPY
323749	LNQILHILG	---TPNEET	LSRIGSRA	---	QDY	VRN-LPFMPK	K-SFQSL	-F	P	---	NAN	PDA	---	LDLLEDM	L	---	-AFDPTSR	SVEALHPY
1926181	LNQILHILG	---TPNEET	LSRIGSRA	---	QDY	VRN-LPFMPK	K-PFSSL	-F	P	---	QAN	PDA	---	LDLLEDM	L	---	-AFDPSERI	SVEALHPY
1457364	LNQILHILG	---TPNEET	LSRIGSRA	---	QDY	VRN-LPFMPK	K-TFSSL	-F	P	---	QAN	PDA	---	LDLLEDM	L	---	-AFDPSERI	SVEALHPY
78435	LNQILHILG	---TPNEET	LLRIGSRA	---	QDY	VRN-LPYMAK	K-TFSSL	-F	P	---	NAN	PDA	---	LDLLEDM	L	---	-AFDPSQRI	SVEALHPY
1457361	LNQILHILG	---TPNEET	LSRIGSRA	---	QDY	VRN-LPFMPK	K-TFSSL	-F	P	---	QAN	PDA	---	LDLLEDM	L	---	-AFDPSERI	SVEALHPY
1328540	LNQILHYHG	---TPDDAT	LRRVGSRA	---	QDY	IRS-LPFKPG	V-PFNQL	-Y	P	---	NAN	PVG	---	LDLLEKL	L	---	-AFDPSQRI	TCDQALHPY
1364342	LNQILHYHG	---TPDDAT	LRRVGSRA	---	QDY	IRS-LPFKPG	V-PFNQL	-Y	P	---	NAN	PVG	---	LDLLEKL	L	---	-AFDPSQRI	TCDQALHPY
1885808	LNQILHYHG	---TPNEQA	LRRVGSRA	---	QDY	IRS-LPFKPK	I-PFQQL	-Y	P	---	SAN	PLA	---	LDLLEKM	L	---	-EFDPAKRI	TCDQALHPY
283473	LNQILHYLG	---TPLEED	LRRVGSRA	---	QDY	IRS-LPIKPR	V-PFQTL	-F	P	---	RAN	PLA	---	LDLLEQL	L	---	-HFDPAKRI	TCEQALHPY
734869	LNQILQCLG	---TPTEDA	LRRIGSRA	---	QDY	IRS-LPIRAR	V-PFSTM	-Y	R	---	NAN	AEA	---	LDLLEGRM	L	---	-AFDPAKRL	TCEQALHPY
9394	ITEIVKVLG	---TPSIDI	IKRVGNIA	---	WLF	FSPKPYQQA	V-LWSNV	-Y	P	---	YAS	KVA	---	VDLIGRL	L	---	-CWDSSRL	NVEALHPY
167564	STELKVLG	---TPSRI	ILRVSSAA	---	FWF	FSPSPQFPQ	M-AWSDV	-Y	P	---	FAS	ENA	---	HDLMSKL	L	---	-CWDSSRY	

922124	LNKLDVLG	---	TPAESV	IQRIGSEKA	---	QTY	IRS-LPIKVV	Q-PPKLL--V	PAADSN	---	A-	---	IDLTKM	L-	---	YFDPMSRI	SVEALAHWP
319286	LNLLQTLG	---	MPDSDT	LTRIGSEKA	---	CAY	IRS-VPTYEK	V-PPEKL--Y	PDADTD	---	A-	---	LDLLEK	L-	---	YFDPAEIRI	SVAEALRHP
332677	INLLAALG	---	SPDDET	LTVKGSEKA	---	CAY	MRT-LPHYDP	V-DFSTI--L	PDSDPD	---	A-	---	LDLILAQL	L-	---	TDFPSSRL	TVPQSLTHPY
75030	VNKLIDLVLG	---	TPSERV	LQSISSERA	---	QAY	IRS-LPIKPP	V-PLVQL--M	PKANPD	---	A-	---	LDLILKFM	L-	---	SDFPSDRP	SVAEALQHPW
740342	VNKLIDLVLG	---	TPSERV	LQSISSERA	---	QAY	IRS-LPIKPP	V-PLVQL--M	PKANPD	---	A-	---	LDLILKFM	L-	---	SDFPSDRP	SVAEALQHPW
769030	VNKLIDLVLG	---	TPSERV	LQSISSERA	---	QAY	IRS-LPIKPP	V-PLVQL--M	PKANPD	---	A-	---	LDLILKFM	L-	---	SDFPSDRP	SVAEALQHPW
493654	LNLIINTL	---	TPSDET	IRKIGSDKA	---	REY	VRT-LPFFKL	Q-SLPLK--F	PXTDNMG	---	A-	---	RDLIHKF	L-	---	RFPDPERI	TVEALAHFP
12113	LNLIINTL	---	TPSDDT	IRKIGSDKA	---	REY	VRN-LPFFKL	Q-SLPLK--F	PXTDNMG	---	A-	---	RDLIHKF	L-	---	RFPDPERI	TVEALAHFP
150511	LNLIINTL	---	TPPDDT	IRKIGSDKA	---	REY	VRN-LPFFKL	Q-SLPLK--F	PXTDNMG	---	A-	---	RDLIHRF	L-	---	RFPDPERI	TVEALAHFP
192401	LNLIINTL	---	TPSDET	IRKIGSDKA	---	REY	VRT-LPFFKL	Q-SLPLK--F	PXTDNMG	---	A-	---	RDLIHKF	L-	---	RFPDPERI	TVEALAHFP
543665	LNLIINTL	---	TPSDDT	IRKIGSDKA	---	REY	VRN-LPFFKL	Q-SLPLK--F	PXTDNMG	---	A-	---	RDLIHKF	L-	---	RFPDPERI	TVEALAHFP
91520	LNKILEVLG	---	TPDESI	YAQVSEKA	---	---	---	---	---	---	A-	---	LDLILTKM	L-	---	SDFPATRI	SVTEALQHPW
127212	LNKILEVLG	---	TPDESI	YAQVSEKA	---	---	---	---	---	---	A-	---	LDLILTKM	L-	---	SDFPATRI	SVTEALQHPW
438879	LNKLDVLG	---	TPRDEV	IKKIGSEKA	---	---	---	---	---	---	A-	---	LDLILNKM	L-	---	SDFPTDRI	TVGALHEWP
174304	LNKLDVLG	---	TPRDEV	IKKIGSEKA	---	---	---	---	---	---	A-	---	LDLILNKM	L-	---	SDFPTDRI	TVGALHEWP
174289	LNKLDVLG	---	TPRDEV	IKKIGSEKA	---	---	---	---	---	---	A-	---	LDLILNKM	L-	---	SDFPTDRI	TVGALHEWP
244084	LNKILEVLG	---	TPBESV	IHRIGSDKA	---	---	---	---	---	---	A-	---	LDLILSKM	L-	---	SDFPWTRI	TISEALHPW
123741	LNKILEVLG	---	SPDDKV	VTRIANERA	---	---	---	---	---	---	A-	---	LDLILSRM	L-	---	AFDDAQRI	RVPEALHPW
127264	LNKILEVLG	---	SPDDKV	VTRIANERA	---	---	---	---	---	---	A-	---	LDLILSRM	L-	---	AFDDAQRI	RVPEALHPW
40528	LNKLDVLG	---	TPDDEV	IKRIASDRA	---	---	---	---	---	---	A-	---	LDLILAKM	L-	---	TDFDPAARI	TVADALEHPW
39781	LNKLDVLG	---	TPDDEV	IKRIASDRA	---	---	---	---	---	---	A-	---	LDLILAKM	L-	---	TDFDPAARI	TVADALEHPW
1155690	VNKLILEL	---	TPSEKV	LQAISSERA	---	---	---	---	---	---	A-	---	LDLILRKM	L-	---	SDFMNDRP	TVMQALHRW
247448	INLLAALG	---	SPDDET	LTVKGSEKA	---	---	---	---	---	---	A-	---	LDLILAQL	L-	---	TDFPSSRL	TVPQSLTHPY
269975	IARINNVLG	---	SPDAKT	IAKVGSEKA	---	---	---	---	---	---	A-	---	VDLISKL	L-	---	CWDPEDRI	SAAEALQHPW
246067	IARINNVLG	---	SPDAKT	IAKVGSEKA	---	---	---	---	---	---	A-	---	VDLISKL	L-	---	CWDPEDRI	SAAEALQHPW
44396	IARINNVLG	---	SPDAKT	IAKVGSEKA	---	---	---	---	---	---	A-	---	VDLISKL	L-	---	CWDPEDRI	SAAEALQHPW
111248	LTLIDLVLG	---	TPMED	YGIKSSRA	---	---	---	---	---	---	A-	---	LDLILEKL	L-	---	AFNPKARI	TVEALAHPY
54538	LTLIDLVLG	---	TPMED	YGIKSSRA	---	---	---	---	---	---	A-	---	LDLILEKL	L-	---	AFNPKARI	TVEALAHPY
1341438	LSILIDLVLG	---	TPSLDD	FYAISSSRS	---	---	---	---	---	---	A-	---	VDLTKS	L-	---	TDFDKKRI	DVEALAHPY
1267921	LSILIDLVLG	---	TPSLDD	FYAISSSRS	---	---	---	---	---	---	A-	---	VDLTKS	L-	---	TDFDKKRI	DVEALAHPY
692594	FSITITELG	---	TPPDDV	IQTICSENT	---	---	---	---	---	---	A-	---	IDLLESM	L-	---	TDFSKKRI	DVEALAHPY
384872	LNQLIHYLG	---	TPNEBT	LSRIGSPRA	---	---	---	---	---	---	A-	---	LDLILDRM	L-	---	AFDPSERI	SVEALERHP
419622	LNQLIHYLG	---	TPSDET	LARISSERA	---	---	---	---	---	---	A-	---	LDLILDRM	L-	---	AFDPSERI	SVEALERHP
328081	LNKILNYLG	---	TPTEET	LRVGSPPRA	---	---	---	---	---	---	A-	---	LDLILQRL	L-	---	AFDPAARI	NCEVALHPW
61803	LKLIQTQIG	---	TPGNDD	I-QPVSTK	---	---	---	---	---	---	A-	---	LDLILNRM	L-	---	VFMGKARI	GNDVALHPW
40664	LKLIQTQIG	---	TPGNDD	I-QPVSTK	---	---	---	---	---	---	A-	---	LDLILNRM	L-	---	VFMGKARI	GNDVALHPW
105104	IRIITDKIG	---	TPSDED	LISFVKSTK	---	---	---	---	---	---	A-	---	LDLILQRM	L-	---	TFMPAKRI	TVQDALHPW
147180	LRLICQVLG	---	SPSNEE	M-APMSSEGS	---	---	---	---	---	---	A-	---	LDLILSKM	L-	---	TFSFKARI	TALAEALHPW
148245	LQVIBILG	---	TPSASE	I-DFINSPS	---	---	---	---	---	---	A-	---	LDLILQRM	L-	---	VDFPGRRI	TIDALEHPW
146852	LTLISDLG	---	KPQDBD	L-AFVTSK	---	---	---	---	---	---	A-	---	VNLLERM	L-	---	VDFPSARI	TVEALAHPY
33818	LTLISDLG	---	KPQDBD	L-AFVTSK	---	---	---	---	---	---	A-	---	VNLLERM	L-	---	VDFPSARI	TVEALAHPY
116469	LTLISDLG	---	KPQDBD	L-AFVTSK	---	---	---	---	---	---	A-	---	VNLLERM	L-	---	VDFPSARI	TVEALAHPY
503885	LQIMSVLG	---	TPSDEV	LDRIKPTP	---	---	---	---	---	---	A-	---	IDLLEKL	L-	---	VWCPSDRL	TAEQVLAHPW
503914	LQIMSVLG	---	TPSDEV	LDRIKPTP	---	---	---	---	---	---	A-	---	IDLLEKL	L-	---	VWCPSDRL	TAEQVLAHPW
6817382	---	---	DVNV	IRKIGSPKA	---	---	---	---	---	---	A-	---	LDLILAKM	L-	---	SDFPSARI	TVDEALHWS
145980	LNQLIHYLG	---	TPS-ES	TLRS	I-	---	---	---	---	---	A-	---	LDLILDRM	L-	---	AFDPSARI	GVEALERHP
328170	LNQLIHYLG	---	TPN-ED	TLRS	I-	---	---	---	---	---	A-	---	LDLILDRM	L-	---	AFDPSARI	SVEALERHP
691008	LNQLIHYLG	---	TPN-EE	TLRS	I-	---	---	---	---	---	A-	---	LDLILDRM	L-	---	AFDPSARI	SVEALERHP
73316	LNQLIHYLG	---	TPD-ES	TLQL	I-	---	---	---	---	---	A-	---	LDLILAKM	L-	---	AFVPAKRI	TTEALAHPY
1219281	LNQLIHYLG	---	TPN-EE	TLNR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	AFDPTSRV	SVTEALERHP
422525	LNQLIHILG	---	TPD-DE	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
212435	LNQLIGILG	---	TPD-EE	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
187307	LNQLIHYLG	---	TPS-ED	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
146240	LNQLIHYLG	---	TPS-ED	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
156221	LNQLIHYLG	---	TPS-EE	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
126510	LNQLIHYLG	---	TPS-EE	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
821431	LNQLIHYLG	---	TPS-ED	TLRR	I-	---	---	---	---	---	A-	---	LDLILNEM	L-	---	KFPDPAARI	TVEALSHPY
127874	LNHLINVLG	---	TPD-ED	TLRR	I-	---	---	---	---	---	A-	---	LDLILSKL	L-	---	CDFDAKAM	SCEALNHPW
157692	LNQLIHYLG	---	TPS-EA	TLRR	I-	---	---	---	---	---	A-	---	LDLILSKL	L-	---	CDFDAKAM	SCEALNHPW
47352	IRIITDKIG	---	TPSDED	LISF	I-	---	---	---	---	---	A-	---	LDLILQRM	L-	---	IPRISCA	TVQSAGTRPG
136580	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
142298	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
71188	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
2049832	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
2023270	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
62157	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
117327	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
1420954	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
146600	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
427542	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
524866	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
304061	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
262011	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
385460	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
322662	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
1531698	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
1273298	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
211888	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
1140823	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
84032	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
337569	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
675946	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
188798	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
364357	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
417259	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
391850	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
420539	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
1649896	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
280694	LTLILEMLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
381396	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
685453	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
284413	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
384436	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
907966	LTLIDLVLG	---	TPMED	YGI	I-	---	---	---	---	---	A-	---	LDLILDKL	L-	---	TFMPAKRI	TVQDALHPW
205730	LSLIDMLG	---	TPSLED	FNAI	I-	---	---	---	---	---	A-	---	VDLLEKM	L-	---	TDFPTKRI	TVEALSHPY
86646	LSLIDLVLG	---	TPSMD	FYAI	I-	---	---	---	---	---	A-	---	VDLLEKM	L-	---	TDFPTKRI	TVEALSHPY
9721	LTLIDLVLG	---	TPSID	FTAI	I-	---	---	---	---	---	A-	---	VDLLEKM	L-</			

1340042	LTLILDVLG	---TPTLDE	FYAI	---	NSRRSRDY	L-RALPFRKK	R-PFSQL	---	Y	---	PNAS	ALA	---	VDFLTKT	L	---	TDFPKKRL	TVEALQHPY
225932	LTLILDVLG	---TPTLDE	FYAI	---	NSRRSRDY	L-RALPFRKK	R-PFNVL	---	Y	---	PNAS	ALA	---	IDPLNKT	L	---	TDFPKKRL	TVEALQHPY
346924	LSRLDVLG	---TPTLDE	FYAI	---	TSRRSKYE	V-RNMPFRKK	K-DFATL	---	Y	---	PNAS	PAA	---	IDPLTKT	L	---	TDFPKKRF	TVEACLSHPY
760343	LTLILDVLG	---TPTLDE	FYAI	---	NSRRSRDY	L-RALPFRKK	R-PFSQL	---	Y	---	PNAS	ALA	---	VDFLTKT	L	---	TDFPKKRL	TVEALQHPY
151487	LRLLDVLG	---TPMEE	FYDV	---	TSRRSRDY	L-RNLVPRTK	K-SFESL	---	Y	---	PKAS	PAA	---	IDPLRKT	L	---	TFSKKRM	TVEACLQHPY
108600	LTLILDIG	---TPSLDD	FYAI	---	SSHRSRDY	L-RALPFRKK	K-PFSQL	---	Y	---	PNAS	ALA	---	IDLLERC	L	---	TFMKKRI	TCEALRHPY
724148	LTLILDIG	---TPSLDD	FYAI	---	SSHRSRDY	L-RALPFRKK	K-PFSQL	---	Y	---	PNAS	ALA	---	IDLLERC	L	---	TFMKKRI	TCEALRHPY
276168	LSLLEILG	---TPSLDD	FYAI	---	SSRSRDY	I-RALPFRKK	R-NFPQM	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	TAEDALRHPY
194959	LTLILDVLG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	KEA	---	IDPLTKT	L	---	TDFPKKRM	TVEALRHPY
345309	LDLILDIG	---TPSID	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	KEA	---	IDPLTKT	L	---	TDFPKKRI	TVEALRHPY
718596	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	KEA	---	IDPLTKT	L	---	TDFPKKRM	TVEALRHPY
439783	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	KEA	---	IDPLTKT	L	---	TDFPKKRM	TVEALRHPY
73775	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PHAS	AEA	---	IDPLSKT	L	---	TDFPKKRM	TDEALRHPY
681486	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PHAS	KEA	---	IDPLAKT	L	---	TDFPKKRM	TVEALRHPY
671673	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PHAS	KEA	---	IDPLAKT	L	---	TDFPKKRM	TVEALRHPY
829815	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	QEA	---	IDPLSRT	L	---	TDFPKKRM	NVDALCHPY
413627	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PQAS	ADA	---	IDPLNQT	L	---	TDFPKKRM	TVDALRHPY
109090	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTSL	---	F	---	PKAS	EDA	---	IDPLQRT	L	---	TDFPKKRI	TVEALRHPY
43366	LELILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFAAL	---	F	---	PKAS	PEA	---	IDPLSKT	L	---	TDFPKKRI	TADQALRHPY
706326	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-SFGAL	---	F	---	PKAS	EDA	---	IDPLAKT	L	---	TDFPKKRL	TVDQALRHPY
1157202	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-SFSSV	---	F	---	PKAT	PEA	---	IDPLSKT	L	---	TDFPKKRL	TVDQALRHPY
743174	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-SFSAL	---	F	---	PKAS	PEA	---	IDPLRKT	L	---	TDFPKKRL	TVDQALRHPY
5331	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-SFSTI	---	F	---	PKAT	PEA	---	IDPLTKT	L	---	TDFPKKRL	TVDQALRHPY
713967	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-SFSAL	---	F	---	PKAS	PEA	---	IDPLRKT	L	---	TDFPKKRL	TVDQALRHPY
151043	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTAL	---	F	---	PKAS	PEA	---	IDPLQKT	L	---	TDFPKKRL	TVDQALRHPY
481570	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTAL	---	F	---	PKAS	PEA	---	IDPLQKT	L	---	TDFPKKRL	TVDQALRHPY
104738	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	R-PFTAL	---	F	---	PKAS	PDA	---	IDPLQKT	L	---	TDFPKKRL	TVDQALRHPY
689474	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-QFTQL	---	F	---	PKAS	ADA	---	IDPLHKT	L	---	TDFPKKRL	TVEALRHPY
179470	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-SFTQL	---	F	---	PKAS	ADS	---	IDPLQRT	L	---	TDFPKKRL	TVEALRHPY
31001	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-NFSSL	---	F	---	PKAS	PDA	---	IDPLQKT	L	---	TDFPKKRL	TVEALRHPY
155293	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-PLISL	---	I	---	PKAS	PST	---	IDPLSNT	L	---	TDFPKKRM	TIEALRHPY
83606	LDLILDIG	---TPSLDE	FYAI	---	TSRRSRDY	I-RALPFRKK	K-PLISL	---	I	---	PKAS	PST	---	IDPLSNT	L	---	TDFPKKRM	TIEALRHPY
79026	LSLILDIG	---TPSID	FYAI	---	SSARSREY	L-RALPFRKK	V-NFHHV	---	F	---	SKAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
79053	LSLILDIG	---TPSID	FYAI	---	SSARSREY	L-RALPFRKK	V-NFHHV	---	F	---	SKAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
188294	LSLILDIG	---TPSID	FYAI	---	SSARSREY	L-RALPFRKK	K-NFAQL	---	F	---	PKAN	PLA	---	IDLLEK	L	---	TFSPKRI	EVSEALRHPY
422326	LSLILDIG	---TPSID	FYAI	---	SSARSREY	L-RALPFRKK	K-NFATL	---	F	---	PKAN	PLA	---	IDLLEK	L	---	TFSPKRI	EVSEALRHPY
59295	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	R-QFSSL	---	F	---	PGAN	PLA	---	IDLMEK	L	---	TFSPKRI	DVEALRHPY
91727	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	K-PFSQL	---	F	---	PGAN	PLA	---	IDLMEK	L	---	TFSPKRI	DVEALRHPY
92869	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	K-PLSOL	---	F	---	PGAN	PLA	---	IDLMEK	L	---	TFSPKRI	DVEALRHPY
513929	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	K-PFSOL	---	F	---	PGAN	QEA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
166192	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	K-PLSOL	---	F	---	PGAN	PLA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
210022	LSLILDIG	---TPSLDD	FYAI	---	TSQRSREY	I-RALPFRKK	K-PFSVL	---	F	---	PGAN	PLA	---	VELLERC	L	---	TFSPKRI	QVEALRHPY
847083	LSLILDIG	---TPSID	FYAI	---	TSRSREY	I-RALPFRKK	R-PFAQL	---	F	---	PNAS	PLA	---	IDPLEHC	L	---	TFSPKRI	EVSEALRHPY
819022	LSLILDIG	---TPSID	FYAI	---	TSQRSREY	I-RALPFRKK	K-SFHQL	---	F	---	PKAN	PLA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
50473	LSLILDIG	---TPSID	FYAI	---	TSQRSREY	I-RALPFRKK	K-SFHQL	---	F	---	PKAN	PLA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
850567	LSLILDIG	---TPSID	FYAI	---	SSPRSREY	I-RALPFRGG	K-DPKIM	---	F	---	QGAN	ELA	---	IDPLEKC	L	---	TFSPKRI	TVEALRHPY
183076	LSLILDIG	---TPSID	FYAI	---	SSPRSREY	I-RALPFRGG	K-ELSGM	---	F	---	SGAN	ELA	---	IDPLEKC	L	---	TFSPKRI	TVEALRHPY
1114014	LSLILDIG	---TPSID	FYAI	---	SSRSREY	I-RALPFRKN	R-PFAQL	---	F	---	PKAN	PLA	---	IDPLEKC	L	---	TFSPKRI	TVEALRHPY
47661	LSLILDIG	---TPSLDD	FYAI	---	TSPRSREY	I-RALPFRKK	K-PFSTL	---	F	---	PNAN	PLA	---	IDPLEQC	L	---	TFSPKRI	QVEALRHPY
6536531	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	K-NFSQM	---	F	---	PNAN	PLA	---	IDLMEK	L	---	AFSPKRL	DVAEALRHPY
277624	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	R-NFTQM	---	F	---	PNAN	PLA	---	IDLMEK	L	---	AFSPKRL	DVAEALRHPY
77457	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	K-NFAQM	---	F	---	PKAN	PLA	---	IDLMEK	L	---	AFSPKRL	DVEALRHPY
89431	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	K-NFAQM	---	F	---	PKAN	PLA	---	IDLMEK	L	---	AFSPKRL	DVEALRHPY
484632	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	K-SFAQM	---	F	---	PNAN	PLA	---	IDLMEK	L	---	TFSPKRL	QVEALRHPY
161998	LSLILDIG	---TPSID	FYAI	---	SSPRSREY	I-RALPFRKK	R-SLMTL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	QVDDALRHPY
131877	LSLILDIG	---TPSID	FYAI	---	TSQRSREY	L-RALPFRKK	K-SFASL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	DVEALRHPY
117759	LSLILDIG	---TPSLDD	FYAI	---	NSQRSREY	I-RALPFRKK	K-SFASL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	EVSEALRHPY
489827	LSLILDIG	---TPSLDD	FYAI	---	TSLSREY	I-RALPFRKK	K-PFQOL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
115935	LSLILDIG	---TPSLDD	FYAI	---	TSLSREY	I-RALPFRKK	K-PFTQL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
482781	LSLILDIG	---TPSLDD	FYAI	---	TSLSREY	I-RALPFRKK	K-PFSOL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
545919	LSLILDIG	---TPSLDD	FYAI	---	TSLSREY	I-RALPFRKK	K-PFSOL	---	F	---	PNAN	PLA	---	VDMERK	L	---	TFSPKRI	TVEALRHPY
6536562	LSLILETG	---TPSID	FYAI	---	NSQRSREY	I-RALPFRKK	K-NFSQM	---	F	---	PNAN	PLA	---	IDLMEK	L	---	AFSPKRL	DVAEALRHPY
309997	LSLILDVVG	---TPNMD	FDEI	---	TSARSKDY	L-RQLPFRMR	R-DFAEI	---	C	---	PKAT	PRA	---	VDFIKRC	L	---	TFSPTKRM	TVOALRHPY
316873	LSLILDVVG	---TPNMD	FDEI	---	TSARSKDY	L-RQLPFRMR	R-DFAEI	---	C	---	PKAT	PRA	---	VDFIKRC	L	---	TFSPTKRM	TVOALRHPY
492267	LSLILDIG	---TPSID	FYAI	---	TSQRSREY	L-RALPFRKK	K-PFSOL	---	F	---	PKAN	PLA	---	IDLMEK	L	---	TFSPKRI	DVEALRHPY
103465	LLLIFELG	---TPSSDD	MLSV	---	RSKRAREY	I-RTLQPPFR	V-NLRAK	---	F	---	SPAN	PLG	---	IDLLEK	L	---	IDFPTKRI	KVTEALRHPY
167039	LMILFQVLG	---SPIGDD	YKSI	---	RSRRAREY	I-RSLTFYKK	Q-PFSOL	---	F	---	PKAN	PKA	---	IDLDDKM	L	---	TDFDPKRI	TVEALRHPY
8637	LALIFEVG	---TPTAE	MKCI	---	KLKKARDF	V-ASQRVRRK	I-PMKFI	---	F	---	RNAN	PLA	---	IDPIKT	V	---	CFDPEKRM	TIEQTLRHPY
65963	LLLIFEILG	---TPGAD	FQSI	---	KSKRAREY	I-RSQRFPPK	I-PLRKI	---	F	---	PNAN	PSA	---	VDMDRM	L	---	KDFPTQL	TVEALRHPY
246409	LSLILDIG	---TPSLDD	FYAI	---	TSPRSREY	I-RALPFRKK	R-PFSAL	---	F	---	PNAN	PLA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
246352	LSLILDIG	---TPSLDD	FYAI	---	TSPRSREY	I-RALPFRKK	R-PFSAL	---	F	---	PNAN	PLA	---	IDLMEK	L	---	TFSPKRI	EVSEALRHPY
668220	LTLILDVLG	---TPTLDE	FYAI	---	TTRRSRDY	I-RALPFRKK	K-PFAQL	---	F	---	PNAS	PLA	---	VDFLTRS	L	---	TDFPKKRI	TVEALRHPY
619500	LTLILDVLG	---TPTLDE	FYAI	---	TTRRSRDY	I-RALPFRKK	K-PFAQL	---	F	---	PNAN	PLA	---	VDFLAKT	L	---	TDFPKKRI	TVEALRHPY
64492	LTLILDVLG	---TPTLDE	FYAI	---	TTRRSRDY	I-RALPFRKK	K-PFAQL	---	F	---	PNAN	PLA	---	IDPLTRT	L	---	TDFPKKRI	TVEALRHPY
80250	LTLILDIG	---TPSLDD	FYAI	---	SSHRSRDY	L-RALPFRKK	K-PFSQL	---										

Table with 10 columns: ID, Alignment, Consensus, and various alignment parameters. It lists 1051981 to 1457372 with corresponding alignment details.

Table with 10 columns: ID, Alignment, Consensus, and various alignment parameters. It lists 1201 to 1457372 with corresponding alignment details.

Table with 10 columns: ID, Species, Alignment, Species, Alignment, Species, Alignment, Species, Alignment, Species, Alignment. Contains multiple rows of sequence alignment data.


```

188798
364357
417259
391850 -----GY E
420539 -----RG HC
1649896
280694
381396 -----PS
685453
284413
384436
907966
205730 -----YQ DQIVQQQQIY VQQAQQPAQA APAQQGYPAQ PVPPAGYPPA AAYAGEQPNQ --A
86646 -----PQ VQNPALPFNG QGQI
9721 -----LP RPPPVVINEH HNNQMMA
2612 -----TG
102501 -----YN
98652 -----Y
78159 -----H
240194
193495 -----S
171744 -----S
4564
6035 -----VN GA
256278
120199 -----AP IV
1003994 -----AP IT
145010 -----PP MA
183924 -----PP IS
725911 -----PP IV
1166877 -----PP LV
574353 -----PP IS
277341 -----AP IT
965410 -----AP IT
1040134 -----AP IT
801239 -----AP IT
457049 -----AP IT
777636 -----AP IV
167531 -----AP MT
179443 -----PP MV
388203 -----IA MLPGSEPLAA LQLVFFLSLR PSLGPNNHIS FCSYIHMYGK ISKINLFAPS HLYFLCRSNA FPSGCLGDP SCSLTSCLVFL PAVDPMEKEG M
761034 -----PP MVVSSLSHGS LDVYNTITSH FGLF-SLHLA GARVAHPYR -RRVDLPASS ---LLCCASV
117742 -----TI
506090 -----TI GTI
21911 -----TI GTL
7342346 -----AP IT
435735 -----LP IT
267232 -----AP IT
679497 -----AP IT
457636 -----AP IT
1340042 -----DW LA
225932 -----PC LTTLRATH
346924 -----AQ
760343 -----LA
15147 -----PH STSQAMEPME M
108680
724148
276168
194959 -----SI
345309 -----SI
7189608 -----AI
439783 -----SI
73775 -----SI
681486 -----SI
671673 -----SI
829815 -----TI
413627 -----SI
109090 -----GL
43366 -----AI
706326 -----CI
1157202 -----CI
743174 -----AI
5331 -----CI
713967
151043 -----LI
481570 -----LI
104738 -----LI
689474 -----QS RTERWAATAS PKYADLTVSS RAPI
179470 -----AI
31001 -----AI
155293 -----TL GQ
83606
79026 -----VLIYEVT KPPLQSSPYL APAYS
79053 -----VLIYEVT KPPLQSSPYL APAYS
188294 -----VLIYEVT KPYPQPLLT SNEYS
422236 -----VLIYEIT RPVENLGSS A
59295 -----ALIYEIT RPRGE
91727 -----IVLIYEVT RPRQPVTQ
92869 -----VLIYEVT KPRLQPAQST Q
513929 -----VLIYEVT KPRPPPGTQ
166192 -----VLIYEVT KPRLQPAQST Q
210022 -----VLIYEVT SPH
847083 -----ELIYEIT RPYVQPS
819022 -----VLIQEIT KPDEQATSY LLSQQGVGAA GMNGS
50473 -----VLIQEIT KPDEQATSY LLSQQGVGAA GMNGS
850567 -----PR STELIQEVT S-RPPFPASS LTIGDQSP
183076 -----ELIYNEVT STRTQPPSLF LSGADAAP
1114014 -----VLIYEIT TFRQSPFLS STTGGG
47661 -----LLACHSGS ACTDFRLSTS AHI
6536531 -----NN RAPLLLARYT
277624 -----DD RAPLLLAKYT
77457 -----SS HFFLQCVYM KRLHQQMII EHHYFFRNTH NVIPHVFLLV VI
89431 -----CP TWVLIYEIT RSDDGRPPLA LAEYR
484632 -----VLIYEIT RSDDGRPPLA LAEYR
161998 -----ELIYEVUM RFM
324877 -----VLIYEIT HS
117759
489827 -----VLIYEEM RDPL
115935 -----VLIYEEM RDSM
482781 -----GMQYLPQ VNAHGSNFAI SSHIRGDHA
545919 -----VLIYEEM RDPL
6536562 -----EII KPDNNRAPLL LARYT
309997 -----ELIYEIM GAPNVNGR
316873 -----ARGICLVY GSGVYGIAL
429267
103465 -----H
167039
8637
65963
246409
246352
668220 -----PP M
619500 -----AP IT
64492 -----PP IS
80250
21917
600175 -----AR
721307 -----SQ ATSYLLSQGQ VGAAGMNGS
847084 -----QP S
280696
908144
148879 -----ES IYPDVL
102030 -----YP QSDSVEDESEV DDEDM

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92334 -----LS QHLGAG
146634 -----DA PRFIAEQKAA NPDAAPLQA PA
72485 -----FK MAQMKLQAKQ LQSTKSPASA RITPKKEGPIE RDDHDEDINA PESLDAELRR AGIAVGDQ
124061 -----I
109792 -----SF KPLA
408982 -----SF RPLPIT
149279 -----SF RPOQIT
13526 -----NR APILLSKYS
465497 -----GR PPLPLAEYR
216389 -----GC IPLLLAGYS
17191 -----I
530963 -----GD -TDGLDLGAM TDGLAVQT
84099 -----DQ GNEATAAGGL TENGAA
928715 -----TW PIPSA
480104 -----SI
37144 -----SI
993637 -----SI
706327 -----CI
5366 -----CI
144998 -----PP MA
232199 -----PP IV
60405 -----AP IT
572635 -----AP IT
37912 -----AP IV
819552 -----AP IT
1026351 -----I
352542 -----NE LGSSA
42114 -----GC IPLLLAGYS
204011 -----I
46962 -----I
3452 -----I
1531701 -----I
375250 -----PL LPSPTIKRLL SQLQIDCIMR LTHPRPKLAP
391393 -----WA TGQS
518679 -----I
1272884 -----WR HR
108249 -----I
111885 -----DE TTGPF
228039 -----I
117728 -----HL QFLKIHLIR CQLPKLSLQL FAIKHKFSTL PFPPIQNDK AG
267276 -----SI CIKMTSAANS
295270 -----I
174214 -----AA EPAAENGTAI P
111562 -----AA GGLTENGAA
385026 -----AN GDAVENGGVG QI
47937 -----VG VPQ
191658 -----AA VPEQENNGS
361397 -----AA AQEQENGS
368356 -----AA TQEQENNGS
422287 -----AA AQEQENDS
1051981 -----DE FMNGQGAEQ
512786 -----VD PEQYNGQ
700253 -----EQ EQQFNGQ
171641 -----DD --QFNGQ
447383 -----ES QLNGH
134451 -----ME EIT-NGQ
525556 -----QV LVEGVGDSQQ AFAA
1776212 -----I
443108 -----I
129540 -----AL PLESQALP
341724 -----AL SLDNTLGTVP R
138417 -----AL PLESQALP
158191 -----TW TPRAPMSTPT VPASLNAF
376076 -----RI VSWRFETVTG LGYALNSQLR GGRWYKXHRN T
368607 -----LP EDGASGF
1312592 -----T--PEGABAAA RAVGAAPAEV STTA
46955 -----G--VEGALAGP EDPSHAIAAG VVQAE
1164008 -----G--NVPEGALAAP EGDVVQAFAP GAEA
600771 -----G--VPEGALAAP EDTATATAV AATAE
161654 -----GD NIPEGSLAGP DKDGEIVGSG PSSVEEAAVP TIQPSAQAGA
149140 -----GD NIPEGSLAGP DKDGEIVGSG PSSVEEAAVP TIQPSAQAGA
474692 -----LG -IPEGALAGP EDGGYSNGHA
134758 -----SG -IPEGISGP EDGAGGPGQP VAAAAS
177791 -----TE -VEGALSAP ENHL--SNGI PLVTN
132015 -----SG -IPGALAGP ENGLQTINGI VLAA
917530 -----SG TVPEGALAGP DAQGVFVE
428496 --------EGALAGP DTTA
1276586 -----VD PQTFGVFPASA VAAT
115601 -----LG AMTDGLSVTA
171809 -----PR AISGTTSDS KLDRTFDHLS PPVT
571775 -----IL SITEDPHQVG EASITASGIP GGALAGPDNG TLQANGIVLT A
722302 -----EG PLAAPVV
289694 -----AG PVPPVSS
137978 -----FL GTPLTGPITL N
19116 -----PI TLFVCVN
129801 --------QIQAQSE QLQYQMQQP AQ
80382 -----ND NSVQGYESD IIQQHLLQR LEQQQQQQQQ QQQQGERVG EKSS
141916 -----ND NSVQGYESD IIQQHLLQR LEQQQQQQQQ QQQQGERVG EKSS
187748 -----ND LTSNADGSTN PQQQEQLAQI QQEGIQAPIN KHEQQI
168984 -----I
71808 -----PH MSAATNDTSV SESTSKAVAD DNVAAPL-N
432 -----IP EENENFDVQE AQFR
59395 -----MN GGSDTNGASV DLLPS
2865 -----SG TENNGN
189766 -----QN DS
88183 -----I
216492 -----DS YNQLIQGQE ILQGA
188879 -----DS YNQLIQGQE ILQGA
182850 -----DS YNQLIQGQE ILQGA
174697 -----DS YNQLIQGQE ILQGA
934899 -----GG VPEGALAGPE VFNATAASA
362397 -----A--EGITG-E LPPAPAS
416973 -----TG IPEGALAGPE NGQLSNGAPV TI
551386 -----LG AMTDGLAVQT
15239 -----LG AMTDGLSVTA
497504 -----I
1117682 -----I
252496 -----ID
148867 -----TE NGGSD
423027 -----EP FLPPDPPLSLP EVLDPLGQIQ TQSMVTKSAD TLDQDILQY- LQI
1104996 -----I
29266 -----SA ESQLNHG
171653 -----VM DDQFNGQ
117063 -----VM QEFTNGQ
158104 -----VD ANGAS
160940 -----DA ENGS
2813 -----GS GTENNGN
129541 -----AL PLESQALP
257371 -----I
389086 -----A
73401 -----TL ABEPRSGADL LNFSTIPFVL GRETDTPNDS TFSLLEPWST WDIGG-LDLS ---LPESDYV DPAGPFLSTT IG
1139913 -----TL ABEPRSGADL LNFSTIPFVL GRETDTPNDS TFSLLEPWST WDIGG-LDLS ---IPATDV DPAGPFLSTT IGLKATFWFV YCIGVVHISQ LSKKRTSSRL RVQTDSDHTW P-RRRDVYVL NWEQGALTCI PPRTDIAPGP
1168371 -----TL ABEPRSGADL LNFSTIPFVL GRETDTPNDS TFSLLEPWST WDIGG-LDLS ---IPATDV DPAGPFLSTT IGLKATFWFV YCIGVVHISQ LSKKRTSSRL RVQTDSDHTW P-RRRDVYVL NWEQGALTCI PPRTDIAPGP
698519 -----RL ISRPSYPC
332332 -----AL SLDNTLETVP RVFDNALGWG NSTVTKMSVG IWELLDFCSM LGPGVMLNSN ---IMVVGYC DKGRA
243292 -----AA ENCTAIP
243775 -----AA ENCTAIP
24163 -----AA EQNASVP
1431451 -----I
99398 -----TR IIR
171665 -----DD QFNGQ
15876 -----A
43014 -----I

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43498
1148336
220391
774567
138915
757677
313819
290180
12232
865310
312015
500478
500460
243933
64065
2938
196733
145976
501440
71512
543038
99402
1431403
342880
417966
Consensus

MPRHFTF ALNS-TFVVD SEYEFVKELG QGAYGCVVA-
M TLYSKRHSPN ALNS-TFVVD AEYEFVKELG QGAYGCVVA-
MQLQRHSPT ALNS-TFVVD SEYQFVKELG QGAYGCVVA-
M SRSAGSWYES WVRGRITALM-
M GDLQGRKVKF VFNQ-DFIVD ERYVTTKELG QGAYGIVCA-
HDVSS-
MEINTG NGFWGIRSRV
MSRPGSSRR SSRGHRRES CADGKGEEPK SSSPVSPGS -----MN VDRGRSRVRR PSNPFSEDNL RRRGVHSLLS SPGK-VPHVE RRWKLIREMG SGAYGVVIS-
MREHL SQTSSSSDEE SSSPVASPVS -----AT VDRGRSRIRR PSNQLAEHNL RKRGVHSPMS SPGK-MPHVE KRWKLIREMG SGAYGVVIS-
MISVHNF TPLNTVVFIFK KRREVTFNVS DYIEIKDIIG EGAYGIVCS-
M ENYQKLEKIG EGTYGVVYKA
MPAPRQLP PPSRPRPPPP ANGGMQRQTS SSSTLVSDSS QLQIAAVPDD PKRLSTRLQG VPAQLSTPDS NQPSINQPSN SHYRKYSSY LTCNTRFDLP PRYRLIHPGL SGSPFLVCAA
MPAPRQLP PPSRPRPPPP ANGGMQRQTS SSSTLVSDSS QLQIAAI-----

1501
6423
160078
116650
377992
289793
670269
32808
156295
22314
417978
414783
1074946
865350
1656563
333276 QMWLREAVRR LDMDGQ
422586
342887
386771
14976
130981
435286
1457372
249807
1142566
1008492
152510
336937
1649893
371270
82103
42859
212507
212502
461664
39613
91135 NYQNNHNNS NTNANNNAG NAGYNDNNT NNNHNVNSFD NLEKELEFGL DRYC
103403
112360
4266
168486
35227
67581
59367
336175
177826
212434
164796
100890
288633
69432
60279
166223
1111368
7180514
671172
69595
188428
799680
178052
129301
208817
424444
830405
892596
186189
164780
167312
119588
423592
474667
459613
156206
791811
---RQARKSW IF--GCFTLS SWPPPWFVD GPRFRINKEA SIRWLGRR-T LIESS----- ----TSHLR AFSVFVVRRA QKLCDFRVA IMKFARLRA RR---YHAAG WPRVPRMDK RVNHRVRELF VDA
715329 ---VCQVRPY DIADGSLHTG NVIAYVFFIL APGLSLSPA EFRFMTRGS VVRPI----- ----DPLET PSAVKWRINS RFAYDMPPTR SSKSVGDQRD HSRLLRITMG SPLTAAGTAS AALTRSRKET RDAKDAFMLW DAMIITNASL
511921 ---PILRRP- ----TRSG SWGRPM--PP RPLPASVAEA HHAHALEQL LAEQR----- ----LDLFQ HAGVQDIRYP AVAKPPKNEH QLLQIALSRC KW---IQASD SLGVCAGMMD SAPNRVCLKI SSEAVARSIK DMKVVEQACS
737951 ---AKTIKV- ----RVSG QEGPSVRNTRK RESRSRVGKK
545584
102765
203555
302829
701651
972433
931864
813292
78187
406308
118382 FVWKSFPVPLW RLLAQNVHAA IVSHCTGTPK DQSRSLPAEA RTAIKKVRAT QRMRR----- ----NCGFA FSPTESAGKQ DQAKIIRAYD TSKSNARPSG Y
100328
1411022
741167
1338511
756718
302653
1311110
722894
288507
757539
184184
917307
6355211
249241
216822
805839
355172

Table with columns for sequence identifiers (e.g., 53464, 105414, 291876), alignment markers (e.g., QLTGQ, QLSGQ), and sequence names (e.g., PVAVKKIMKP, FSTPVLKSKRT, YREL-KLLKH). The table contains multiple rows of sequence alignment data.

Table with 10 columns: Accession, Alignment, Accession, Alignment, Accession, Alignment, Accession, Alignment, Accession, Alignment. Rows include sequences like 591714, 107905, 99046, etc.

OsMPK20-2 Consensus

601

Main alignment table with 10 columns: Accession, Alignment, Accession, Alignment, Accession, Alignment, Accession, Alignment, Accession, Alignment. Rows include sequences like 127228, 287090, 186494, etc.

603877		MAEF	VRAQIFGTTF	EITSRYAGPG	AGGVVSDLQP	-VGMGAPGLV	---	CSAKDN	L	---	---	TGQVAVK	KIMKPFSTP	
140829		MAEF	VRAQIFGTTF	EITSRY	----	SDLPQ	-VGMGAPGLV	WRVSSSARDQ	L	---	---	TGQVAVK	KIMKPFSTP	
327107		MAEF	VRAQIFGTTF	EITSRY	----	TELPQ	-VGMGAPGLV	----	CSAKDQ	L	---	TAQPVAIK	KIMKPFSTP	
329694		MAEF	VRAQIFGTTF	EITSRY	----	TELPQ	-VGMGAPGLV	----	CSAKDQ	L	---	TAQPVAIK	KIMKPFSTP	
393439		MAEF	VRAQIFGTTF	EITSRY	----	TELPQ	-VGMGAPGLV	----	CSAKDQ	L	---	TAQPVAIK	KIMKPFSTP	
38942		MAEF	VRAQIFGTTF	EITTRY	----	TDLPQ	-VGMGAPGLV	----	CSARDT	L	---	TGQVAVK	KIMKPFSTP	
87588		MAEF	IRAQIFGTCF	EITSRY	----	VDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TNQPVAIK	KIMKPFSTP	
443298		MAEF	VRAQIFGTTF	EITSRY	----	SDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TSQVAVK	KIMKPFSTP	
53587		MAEF	VRAQIFGTTF	EITSRY	----	TDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TGQVAVK	KIMKPFSTP	
70072		MDFE	VKLSIFGTVF	EVTRY	----	VDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TGQVAVK	KIMKPFSTP	
13822		MAEF	VRAQIFGTTF	EITSRY	----	TDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TGQVAVK	KIMKPFSTP	
25364		MADF	IKLSIFGTVF	EVTRY	----	VDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TGQVAVK	KIMKPFSTP	
116576				MVGL	TILDRY	----	TDLPQ	-VGMGAPGLV	----	CSARDQ	L	---	TSQPVAIK	KIMKPFSTP
103311		MSAGEP	TRTQIFGTVF	EITSRY	----	TDLNP	-VGMGAPGLV	----	CSAMDK	L	---	TNQNVAIK	KIMKPFSTP	
26173		MSSDGEF	TRTQIFGTVF	EITNRY	----	TDLNP	-VGMGAPGLV	----	CSAVDK	L	---	TGQVAVK	KIMKPFSTP	
55352		MSSDGEF	TRTQIFGTVF	EITNRY	----	TDLNP	-VGMGAPGLV	----	CSAVDK	L	---	TGQVAVK	KIMKPFSTP	
125207		MTNNEEF	IRTQIFGTVF	EITNRY	----	NDLNP	-VGMGAPGLV	----	CSATDT	L	---	TSQPVAIK	KIMKPFSTP	
67307		MTNNEEF	IRTQIFGTVF	EITNRY	----	NDLNP	-VGMGAPGLV	----	CSATDT	L	---	TSQPVAIK	KIMKPFSTP	
185764		MSQEEF	TRTQIFGTVF	EITNRY	----	GDLPN	-VGMGAPGLV	----	CSAKDK	L	---	TNQNVAIK	KIMKPFSTP	
99366		MSQEEF	IRTQIFGTVF	EITNRY	----	TDLNP	-VGMGAPGLV	----	CSAKDK	L	---	TNQNVAIK	KIMKPFSTP	
50111		MADF	VNTSIFGTLF	QITSRY	----	DSLEP	-VGMDS	----	SARDQ	L	---	TNNSVAIK	KIMKPFSTP	
87970		MADF	AKLSIFGTVF	EVTRY	----	SDLPQ	-VGMGAPGLV	----	CSASDQ	L	---	TATNVAIK	KIMKPFSTP	
107532				MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	
604754				MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	
633130				MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	
181927				MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	
69161				MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	
35549														
230139														
193325														
430049														
479652														
986652														
295607														
114099														
265170														
41804														
500846														
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338804														
527701														
81317														
831329														
676624														
826941														
77377														
59915														
160641														

Table with multiple columns containing sequence identifiers (e.g., 108839, 1536187, 281708), sequence names (e.g., SYRSRFTPPF, RCTQISISLVY, LVIHLSLTSY), and alignment characters (e.g., ---VVAKRR, RS-----, -GE--GCAIK, KIIINNTK--). The table represents a multiple sequence alignment of various protein sequences.

Table with 10 columns: Accession, Species, Position, Consensus, and Alignment. It displays a multiple sequence alignment of various protein sequences, including entries like OsmPK21-1, OsmPK17-2, and OsmPK20-2. The alignment shows conserved regions across different species, with gaps indicated by dashes.

1588194	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
98485	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
1443964	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
864221	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
903905	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	RPASL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
1147795	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
622735	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDIV	KPPSL	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
166786	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSL	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
2641010	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
28678	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
101027	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
564549	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	RPASL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
227465	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
18095	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDIV	KPPSL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
338545	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
134728	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
275037	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSI	-EQF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
503339	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSL	-DAP	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
40745	-----	--MFLCRTLRL	EKILKK	---	YFQEQNVSE	NI	---	ISIVDII	RPPSI	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
43876	-----	--MFLCRTLRL	EKILKR	---	FFAEHQVSE	NL	---	ITVIDLI	KPLSY	-DSF	QEV	YL	---	IQELME	TDLYRVIRTQ	P	---	LSDD	HVQYFVQ	---	
14716	-----	--MFLCRTLRL	EKILKR	---	FFAEHQVSE	NL	---	ITVIDLI	KPLSY	-DSF	QEV	YL	---	IQELME	TDLYRVIRTQ	P	---	LSDD	HVQYFVQ	---	
15138	-----	--MFLCRTLRL	EKILKR	---	YFAEQVSE	NI	---	ISIVDII	KPFSY	-DSF	KEV	YL	---	IQELME	TDLYRVIRTQ	T	---	LSDD	HVQYFVQ	---	
67488	-----	--MFLCRTLRL	EKILKK	---	YFQEQNVSE	NI	---	ISVLDII	KPFSY	-PNF	KEV	YL	---	IQELME	TDLHRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
28680	-----	--MFLCRTLRL	EKILKK	---	FLSEAGVSE	NI	---	ISILDII	KPPSL	-EAF	KEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---	
177514	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISVLDII	KPDSL	-ESF	KEI	YF	---	IQELMQ	TDLHRVIRTQ	H	---	LTDD	HCQYFVQ	---	
53880	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDII	KPPTI	-DSF	KEI	YF	---	IQELMQ	TDLHRVIRTQ	H	---	LTDD	HCQYFVQ	---	
778168	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDII	KPPTI	-DSF	KEI	YF	---	IQELMQ	TDLHRVIRTQ	H	---	LTDD	HCQYFVQ	---	
388025	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDIV	KPDSL	-EDF	KEV	YF	---	IQELMQ	TDLHRVIRTQ	S	---	LSDD	HAQYFIVQ	---	
581713	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDIV	KPDSL	-DHF	KEV	YF	---	IQELMQ	TDLHRVIRTQ	P	---	LSDD	HAQYFIVQ	---	
229317	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDIV	KPDSL	-DHF	KEV	YF	---	IQELMQ	TDLHRVIRTQ	P	---	LSDD	HAQYFIVQ	---	
829657	-----	--MFLCRTLRL	EKILKR	---	FFSETCVNE	NI	---	ISILDIT	RPSSL	-EEF	KEV	YF	---	IQEPMQ	TDLHRVIRTQ	Q	---	LTDD	HCQYFVQ	---	
70959	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ITVIDLI	KPSSL	-EEF	KEI	YF	---	IQELMQ	TDLHRVIRTQ	Q	---	LTDD	HCQYFVQ	---	
32857	-----	--MFLCRTLRL	EKILKK	---	FFSETCVNE	NI	---	ISILDII	KPPTI	-EEF	TEI	YF	---	IQELMQ	TDLHRVIRTQ	Q	---	LTDD	HCQYFVQ	---	
561172	-----	--MFLCRTLRL	EKILKK	---	FFSDSCVNE	NI	---	ISILDIV	KPSSL	-DEP	TEI	YF	---	VQELMQ	TDLHRVIRTQ	T	---	LTDD	HCQYFVQ	---	
573944	-----	--MFLCRTLRL	EKILKK	---	FFSDSCVNE	NI	---	ISILDII	KPSSL	-DDF	KEI	YF	---	IQELMQ	TDLHRVIRTQ	Q	---	LTDD	HCQYFVQ	---	
740770	-----	--MFLCRTLRL	EKILKR	---	FFSDTCVNE	NI	---	ISILSIV	KPTEL	-DSE	KEI	YF	---	IQEPMQ	TDLHRVIRTQ	K	---	LTDD	HCQYFVQ	---	
16071	-----	--MFLCRTLRL	EKILKR	---	FFSEVCVNE	NI	---	VSILDII	KPPSY	-DDF	TEI	YF	---	VQELMQ	TDLHRVIRTQ	I	---	LTDD	HCQYFVQ	---	
1126092	-----	--MFLCRTLRL	EKILKR	---	FFSEVCVNE	NI	---	VSILDII	KPPSY	-DDF	TEI	YF	---	VQELMQ	TDLHRVIRTQ	I	---	LTDD	HCQYFVQ	---	
478842	-----	--MFLCRTLRL	EKILKK	---	FFAESVNE	NI	---	VAILDII	KPSSM	-DSF	KEI	YF	---	VQELME	TDLHRVIRTQ	H	---	LSDD	HAQYFIVQ	---	
46649	-----	--MFLCRTLRL	EKILKR	---	LFAETCLNE	NI	---	VSILSII	KPSSL	-DDF	KEI	YF	---	VQELME	TDLHRVIRTQ	L	---	LSDD	HAQYFIVQ	---	
601377	-----	--MFLCRTLRL	EKILKK	---	FFSQVVNE	NI	---	IAILDII	KPPSF	-DEF	KEI	YF	---	VQELMQ	TDLHMRVIRTQ	H	---	LSDD	HAQYFIVQ	---	
866574	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPPSI	-NQF	NEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
521401	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPPSI	-NQF	NEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
850251	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPPSI	-NQF	NEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
832111	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSF	-EMF	KEV	YL	---	VQELME	TDLHRVIRTQ	N	---	LSDD	HAQYFIVQ	---	
832110	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSF	-EMF	KEV	YL	---	VQELME	TDLHRVIRTQ	N	---	LSDD	HAQYFIVQ	---	
676666	-----	--MFLCRTLRL	EKILKR	---	HFCH	---	E NI	ISILDII	QPLSF	-ETP	KEV	YL	---	VQELME	TDLHRVIRTQ	K	---	LSDD	HAQYFIVQ	---	
1143376	-----	--MFLCRTLRL	EKILKR	---	HFCH	---	E NI	ISILDII	QPPSF	-ELP	KEV	YL	---	VQELME	TDLHRVIRTQ	K	---	LSDD	HAQYFIVQ	---	
457401	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	CPSSY	-DDF	REV	YL	---	VQELME	TDLHRVIRTQ	Q	---	LSDD	HAQYFIVQ	---	
834255	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	QPPSF	-DDF	REV	YL	---	VQELME	TDLHRVIRTQ	Q	---	LSDD	HAQYFIVQ	---	
133042	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-EDF	KEV	YL	---	VQELME	TDLHRVIRTQ	Q	---	LSDD	HAQYFIVQ	---	
30507	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-DEF	KEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
646041	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-QDF	KEV	YL	---	VQELME	TDLHRVIRTQ	H	---	LSDD	HAQYFIVQ	---	
570964	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-ADP	KEV	YL	---	VQELME	TDLHRVIRTQ	Q	---	LSDD	HAQYFIVQ	---	
301734	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	QPASV	-EEF	KEV	YL	---	VQELME	TDLHRVIRTQ	T	---	LSDD	HAQYFIVQ	---	
154378	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-ADP	TEV	YL	---	VQELME	TDLHRVIRTQ	T	---	LSDD	HAQYFIVQ	---	
90189	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPSSL	-ADP	TEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
448371	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPDSL	-EEF	REV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
476779	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPDSL	-EEF	REV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
68819	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPSSY	-ADP	KEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
2671102	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPSSL	-QDF	TEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
940143	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-NEP	REV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
585786	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	IAILDII	RPSSL	-AEP	REV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
349085	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-NEP	REV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
1539717	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSM	-ESP	KEV	YL	---	IQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
24638	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	KPSSF	-EAF	KEV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
75000	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	KPSSF	-EAF	KEV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
1245527	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPSSL	-DDF	KEV	YL	---	VQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
103018	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPASI	-DAP	NEI	YL	---	IQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
43883	-----	--MFLCRTLRL	EKILKR	---	WFAH	---	E NI	ISILDII	KPSTY	-EGF	SEV	YL	---	IQELME	TDLHRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
58913	CILLNLSISD	LI	VFLCRTLRL	EKILKR	---	WFSH	---	E NI	ISILDIV	KPPSI	-EEF	SEV	YL	---	IQELME	TDLHMRVIRTQ	D	---	LSDD	HAQYFIVQ	---
18326	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPPNL	-ESP	TQV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
301059	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPPNL	-ESP	TQV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
12410	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPPNL	-ESP	TQV	YL	---	VQ	---	---	---	---	---	---	
18327	-----	--MFLCRTLRL	EKILKR	---	HFPH	---	E NI	ISILDII	RPPNL	-ESP	TQV	YL	---	VQELME	TDLHMRVIRTQ	E	---	LSDD	HAQYFIVQ	---	
184754	-----	--MFLCRTLRL	EKILKR	---	YFKH	---	E NI	ITVFDIQ	RPLDF	-ENF	NEV	YL	---	IQELMQ	TDLHKVIRTQ	A	---	LTDD	HCQYFVQ	---	
99455	-----	--MFLCRTLRL	EKILKR	---	YFKH	---	E NI	ISIFDIQ	KPGSF	-EDF	KEV	YL	---	IQELMQ	TDLHRAIISQ	R	---	LTDD	HVQYFVQ	---	
706256	-----	--MFLCRTLRL	EKILKR	---	YFKH	---	E NI	ITIFNIQ	KPDSF	-ENF	NEV	YL	---	IQELMQ	TDLHRVIRTQ	M	---	LTDD	HCQYFVQ	---	

OsmPK6	---IDAKRTL	EKILRL	---	HMD-HE	NIV	---	AIRDII	PPPPQ	---R	NDV-YI	---	AYELMD	DLHQIIRSN	QA	---	LSEB	HCQYFLQ	---		
AtMPK3	---MDAKRTL	EKILRL	---	HLD-HE	NII	---	AIRDV	PPPLR	---RQF	SDV-YI	---	STELMD	DLHQIIRSN	QS	---	LSEB	HCQYFLQ	---		
OsmPK3	---MDAKRTL	EKILRL	---	HLD-HE	NII	---	GIRDVI	PPPII	---QAF	NDV-YI	---	AATEMD	DLHIIIRSN	QE	---	LSEB	HCQYFLQ	---		
206269	---VLAKRTY	EKILKL	---	ALRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	Q	SR	---	PLEKQ	FIQYFLQIL
154265	---VLAKRTY	EKILKL	---	ALRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	Q	SR	---	PLEKQ	FIQYFLQIL
168032	---VLAKRTY	EKILKL	---	ALRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	Q	SR	---	PLEKQ	FIQYFLQIL
307550	---VLAKRTY	EKILKL	---	ALRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	Q	SR	---	PLEKQ	FIQYFLQIL
320251	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
356517	---VLAKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
113434	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
28887	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
16635	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
6923	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
807502	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
129058	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
359241	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
53282	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLNDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	S	SR	---	PLEKQ	FIQYFLQIL
117789	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
170586	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
162119	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
560244	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
499279	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
898207	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	IAP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
500359	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
390416	---VLSKRTY	EKILKL	---	HITH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
61586	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
74488	---VLSKRTY	EKILKL	---	HITH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
155373	---VLSKRTY	EKILKL	---	HLKH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
56185	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
14909	---VLAKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
176707	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
176721	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
240717	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDVF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
56428	---VLSKRTY	EKILKL	---	HLRH	E	N	---VISSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
87915	---VLSKRTY	EKILKL	---	HLRH	E	N	---VISSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
707387	---VLSKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
504013	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
37843	---VLSKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
507853	---VLSKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
338747	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
49060	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
147551	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
286873	---VLSKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDM-VV	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
193904	---VLAKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
189288	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
198339	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
2140409	---VLAKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
642177	---VLAKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
498471	---VLAKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
784216	---VLAKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
128268	---VLAKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
246689	---VLAKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
1081594	---VLAKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
603877	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
140829	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
327101	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
329694	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
393439	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
38942	---VLAKRTY	EKILKL	---	HLRH	E	N	---VIISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
87588	---VLSKRTY	EKILKL	---	HIQH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
443298	---VLAKRTY	EKILKL	---	HLRH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIM
53587	---VLSKRTY	EKILKL	---	HLKH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
70072	---VLAKRTY	EKILKL	---	HIRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
13822	---VLSKRTY	EKILKL	---	HIQH	E	N	---VILSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
25364	---VIISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL	---					
116576	---VLSKRTY	EKILKL	---	HLRH	E	N	---IISLSDIF	ISP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
103311	---LITLDDIF	LSP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL	---					
26173	---VLAKRTY	EKILKL	---	HLKH	E	N	---LITLDDIF	LSP	---	L	EDI-YF	---	VNELQG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
55352	---VLAKRTY	EKILKL	---	HLKH	E	N	---LITLDDIF	LSP	---	L	EDI-YF	---	VNELQG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
125207	---VLAKRTY	EKILKL	---	HLRH	E	N	---LITLDDIF	LSP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR	---	PLEKQ	FIQYFLQIL
67307	---LITLDDIF	LSP	---	L	EDI-YF	---	VTELLG	DLHRL	---	T	SR									

Main alignment table with columns for sequence identifiers, alignment characters (dash, numbers, letters), and sequence names. Includes various protein sequences like 139503, 2468658, etc.

Summary table for alignment statistics, including columns for sequence identifiers, alignment characters, and sequence names. Includes various protein sequences like 127228, 287090, etc.

35549		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
230139		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
193325		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
430049		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
479652		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
986652		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
295607		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
114099		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
265170		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
41804		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
500846		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
341622		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
1545705		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
15276		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
391543		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-V	QEHNM	TRYRAPEM	LWTRKYNR		
346451		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-V	QEHNM	TRYRAPEM	LWTRKYNR		
449365		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-V	QELQMT	TRYRAPEM	LWTRRYNE		
54661		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
275309		-RGMKYVHSA	GLIHRDL		-KP-E	QDAQMT	TRYRAPEM	LWQKYTY				-E	QDPQMTGV	TRYRAPEM	LWQKYTY		
389883		-RGLKYVHSA	GVHRDL		-KP-S	NLLINDNCDL	K		-ICDFGLA	R		-E	QDYQMT	TRYRAPEM	LWQKYTH		
61624		-RGLKYVHSA	GVHRDL		-KP-S	NLLINRNCV	K		-ICDFGLA	R		-I	QDFBMT	TRYRAPEM	LWGNVGP		
173235		-RGLKYVHSA	GVHRDL		-KP-S	NLLINRNCV	K		-ICDFGLA	R		-I	QDFBMT	TRYRAPEM	LWGNVGP		
35612		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
35597		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
391476		-RGLKYVHSA	GVHRDL		-KP-S	NVLVNCNDI	K		-LCDFGLA	R		-T	VDTTMT	MRHYRAPET	LWQKYTV		
335269		-RGLKYVHSA	GVHRDL		-KP-S	NVLVNCNDI	K		-LCDFGLA	R		-T	VDTTMT	MRHYRAPET	LWQKYTV		
377162		-RGLKYVHSA	GVHRDL		-KP-S	NVLVNCNDI	K		-LCDFGLA	R		-T	VDTTMT	MRHYRAPET	LWQKYTV		
271149		-RGLKYVHSA	GVHRDL		-KP-S	NLLVNCNDL	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
89784		-RGLKYVHSA	GVHRDL		-KP-S	NLLINENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
114108		--SAHLP	EAHVPTL		-S-L	PDPLNENC	K		-ICDFGLA	R		-I	QDPQMTGV	TRYRAPEM	LWQKYVDV		
173207		-M	LSGLQYTHAA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	REYR		-A	QDGR	QSAFLTEV	TRYRAPEM	ISPNNYSK
127887		-L	FSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	REYR		-S	QSSQL	EAMNTHV	TRYRAPEM	LSPTYDKA
29226		-I	LSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	REYR		-E	QSSQL	ETPSMTHV	TRYRAPEM	MSRNYDKA
167765		-I	FSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGFA		-R	RSNAQI	ESQYMHV	TRYRAPEM	LSBKTYDKP
150384		-I	FSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGFA		-R	RSNAQI	ESQYMHV	TRYRAPEM	LSBKTYDKP
57923		-L	FSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGIA		-R	KPSAKV	ELQNMTHV	TRYRAPEM	LSRNSYDKA
57928		-L	FSGLKYVHSA	NVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGIA		-R	KPSAKV	ELQNMTHV	TRYRAPEM	LSRNSYDKA
230955		-I	LTGLKYVHSA	DVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGHI		-R	DDQNY	ESWNLQV	TRYRAPEM	LSRNSYDKA
172033		-I	LTGLKYVHSA	DVHRDL		-KP-A	NLLVNCNDI	R		-ICDFGMA	RGHI		-R	DDQNY	ESWNLQV	TRYRAPEM	LSRNSYDKA
40306		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
693957		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
508525		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
471145		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
480536		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
471745		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
687176		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
34863		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
57153		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
147961		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
287354		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
281614		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
29684		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
144400		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
136175		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
126818		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
213868		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
48096		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
179022		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
778216		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
665500		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
190738		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
1107049		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
504269		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
432134		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
59068		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
336185		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
343155		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
326648		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
425863		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
436998		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
257317		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
998070		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
49449		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
498377		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
184715		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
51223		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
66669		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
649898		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
253828		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
618068		-I	LCGLKYVHSA	NVHRDL		-KP-G	NLLVNCNDI	R		-ICDFGLA	RGFS		-R	ADPAE	NAGFTEV	TRYRAPEM	LSFSQYTKA
108847		-I	LCGLKYVHSA	DVHRDL		-KP-G	NLLVNCNDI										

53954	-----T	LCGLKYTHSA	HVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFD	----	QAATDQQNN	QQGFMEYVA	TRWYRAPEIM	LSFANYTTA			
1446322	-----T	RSQPL	----	SDA	----	HF-Q	SFLYQTLCLG	K	----	ICDFGLA	RGYAPGPGG	TASANQKAA	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA			
351754	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYQPG-GNG	----	KASGG	----AP	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA		
65873	-----T	LCGLKYTHSA	DVIHRDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFE	----	SDPLRAGLAG	SAGPMEYVA	TRWYRAPEIM	LSFANYSTS			
52469	-----T	LCGLKYTHSA	DVIHRDL	----	KP-G	NLL	----	----	ICDFGLA	RGFE	----	SDPLRAGLAG	SAGPMEYVA	TRWYRAPEIM	LSFANYSTS			
30002	-----T	LCGLKYTHSA	DVIHRDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFE	----	SDPLRAGLAG	SAGPMEYVA	TRWYRAPEIM	LSFANYSTS			
154156	-----A	CCGLKYTHSA	NVLRHDL	----	KP-C	NLLVNTKCEL	K	----	ICDFGLA	RGYV	----	DAKGGQEG	DVGFMEYVA	TRWYRAPEIM	LSFRSYTKA			
166841	-----A	CCGLKYTHSA	NVLRHDL	----	KP-C	NLLVNTKCEL	K	----	ICDFGLA	RGYV	----	DAKGGQEG	DVGFMEYVA	TRWYRAPEIM	LSFR			
238118	-----A	CCGLKYTHSA	NVLRHDL	----	KP-S	NLLVNTKCEL	K	----	ICDFGLA	RGYI	----	DFSSGGT	DAGPMEYVA	TRWYRAPEIM	LGFSYTKA			
143069	-----A	CCGLKYTHSA	NVLRHDL	----	KP-S	NLLVNTKCEL	K	----	ICDFGLA	RGYI	----	DFSSGGT	DAGPMEYVA	TRWYRAPEIM	LGFSYTKA			
456095	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFTP	----	GS	GA	----	SKSAG	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA
175880	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYTP	----	AG	GTAPPKAA	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA		
28309	-----I	LCALKYTHSA	NVLRHDL	----	KP-K	NLLVNSDQCL	K	----	ICNFGLS	CSYS	----	----	ENHKV	NDGPIKGYIT	SIWYKAPILL	LYNQCCTKA		
767958	-----I	LCALKYTHSA	NVLRHDL	----	KP-K	NLLVNSDQCL	K	----	ICNFGLS	CSYS	----	----	ENHKV	NDGPIKGYIT	SIWYKAPILL	LYNQCCTKA		
126152	-----I	LCALKYTHSA	NVLRHDL	----	KP-K	NLLVNSDQCL	K	----	ICNFGLS	CSYS	----	----	ENHKV	NDGPIKGYIT	SIWYKAPILL	LYNQCCTKA		
613191	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	VDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
198058	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	VDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
123006	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	IDPEE	NAGYMEYVA	TRWYRAPEIM	LSFQNYTKA		
178993	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	VDPEE	NAGYMEYVA	TRWYRAPEIM	LSFQNYTKA		
122967	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	IDPEE	NAGYMEYVA	TRWYRAPEIM	LSFQNYTKA		
120501	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	VDPEE	NAGYMEYVA	TRWYRAPEIM	LSFQNYTKA		
99018	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	MDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
213678	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	MDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
460523	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	MDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
625621	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	VDPEE	NAGYMEYVA	TRWYRAPEIM	LSFLSYTKA		
265871	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	IDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
53464	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	IDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
105414	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	LDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
291876	-----I	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFS	----	----	LDPEE	NAGYMEYVA	TRWYRAPEIM	LSFSQYTKA		
50744	-----I	LCGLKYTHSA	DVLRHDL	----	KP-G	NLLVNVCEL	K	----	ICDFGLA	RGFSED	----	----	VEQ	NSGFMEYVA	TRWYRAPEIM	LSFSNYTKA		
863837	-----I	CRGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGFSD	----	----	AES	NVGFMEYVA	TRWYRAPEIM	LSFSQYTKA		
81355	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYTPGGG	----	----	AS	RAAG	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA	
152896	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYTPGGG	----	----	NNNTRGA	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA		
1196002	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYAPGPGG	----	----	TASANQKAA	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA		
1195972	-----T	LCGLKYTHSA	NVLRHDL	----	KP-G	NLLVNADEL	K	----	ICDFGLA	RGYAPGPGG	----	----	TASANQKAA	NOGFMEYVA	TRWYRAPEIM	LSFANYTTA		
49917	-----I	LCVARYTHSA	NVLRHDL	----	KP-G	NILVNSIGEL	K	----	ICDFGLA	RSYRDS-STR	----	----	PRSSLTGGSD	EFPKITHYVA	TRWYRAPEIM	MYENYSKA		


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2435698
1222436
1172380 RATTTPVDPVV TYARRSSIMQ PSRQPS-----AVN SPMMNSQQLP TIDG-----LPTMG NSSGIAF
1151825
410058
57461
311323 RPISLLNVAG ISS--FCVEY IALAAS---- SPISPPPT-I PAPCFIPPT FAGMQTYTNP FTPT-----NTSTSP ALVLSKST-- ---WLLLL TAPAPAPAR-
143102 ESLRLSSNQI GVV--LAIAP FVQSVACPVW TILADKKPSW HGPLMAILIA IGGTSVMTLM FLPN-----WLMRD TCANNPSCDP AVTKTDES-- ---STGLIF AAVLALIFA-
2750129 LLARLNAAAA GET--YAPAT GVAAG---- GFVKPTEGE NANAABVKEN AGEAKEKTKK ELKR-----EKKEK KRRKKEQEGE DVEKSKK-- ---KKDQS EGNTPFVA-
2702932 LLARLNAAAA GET--YAPAT GVAAG---- RFTSPFAVSY MRKSLAADKE CQTSLVNFKK NQTA-----FINLV TVIPIGCGQ GLPHEHEVUV YHVGFQVDLN EQNALLDLKL
108010 LTVDESEVUV GRNCRFLQAP NGAATKGEQR RFTSPFAVSY MRKSLAADKE CQTSLVNFKK NQTA-----FINLV TVIPIGCGQ GLPHEHEVUV YHVGFQVDLN EQNALLDLKL
1754091 SWLVSQGVYQ ARGPSI-SP SGRBAVER-- -VLLFLKFK C---VANLGP GPGC-----HYVKM VHGHEQGMQ GIVNETWELI YKC-LHIDL- DTISPPYKKN
564944 RMVEDDDASC YITPANFHEH NETRGRFRK LTARVFDAM YRTADLGLL C---VANLGP GPGC-----HLAEN VRRPYTFAQ --MQSLQVLV ADVUMAVRWM STLISPRVPR-
AtMPK18 RVPSGRGPR VVSSVSYEN ---GRNLKE AYFRSAVSSP HCYFRNTMT NPNENRIEAS SFPP-----KQPNP VHQFSPTEPP AATTNQADVE TMMHNPVYFQ POLKPTID--
AtMPK19 RVP-SGKPCR VVSSVSYEN ---DRNLKE SSYDARTSYV RSTVLPQTV SPNCPYLPNT MNQE-----KRSGT EAASOPKPOF VPTQNSAKA AELNPNFYVQ SQ-----
AtMPK20 RNLSAAKPST FMGPVAPFDN ---GRISRD AYDRPSFI-- RSTNLPFSQO SAATVAMGQK QERR-----TTMEP EKQARQISQY NRYAPDVAIN I-DNNPFIMA RTGMNKA--
OsmPK20-1 QRVPARTGR VVGVPVLYEN ---GA-TKD SYDARLLA-- MNSGYVPOQ IQQAYGYQYI PGKS-----ACSEL SQAERYTLHQ QAYTCANSAT V-TDVALDMR APFPHLSGG-
OsmPK20-4 QRIP-GRTPR GACPVIPFEN ---LS-AMG PYNQRVV-- RNPVLPATT NLSAYAYHRK SDSS-----ERELQ QELEKDRMYQ QPSEHFMDAK VVSHMSHDLR ASSYVYSKA-
OsmPK20-5 QRIPARTGR TVGPVLPFEN ---PG-AAD PHSARRVV-- RNPVLPATAA NKSQSVLNLK SDYS-----DRQHQ QELEKDRVQY RPAQHMDAK VAPDTPADIR ASSYVYTRSA
OsmPK20-3 HANIAGEPST IVRPAVSSER ---SLAPT L QWQNMTHFL NHALCYQNTV FSGSLLDATG PAQA-----IPRRT PYVDYRSGNL RLYQHVSRRE ---DVQSDTA TAQAAHAASHG
AtMPK16 QGAAVARPCK VVGSVLYRNN CGAATGVEAL EQQRMRMVRN PAAA----- -SQYPKRTQ PCKS-----NRGDE DCATAAEGPS RLYKNTQYIP QKVSAAQDTA MSRWY
OsmPK16-1 QGAA-ARPK AVGSVLYRNN C--STSAAEQ QYEQRRVVRN PAIAPNSSVP LGSSYPRRNG TCKS-----ETGDV ERIDS----S QTGPPKPYVA NKLPATVDGR SGHW
AtMPK17 SACLMRSDSI CASRCVGVSS AVS
AtMPK8 ARNLMSASI SSKCIGVQS KTDK-EDTIA EEDNETVAE LTKDVASLHN S
AtMPK15 ARNLMSSSI SSKCIGVQS KTN1-EDSIV EQQD-ETVAV ---KVASLHN S
OsmPK17-1 ARSLYKASI SASKCAVAD NKEP-EDDYI SEEMEGSDVD LSEQVSRMHS
AtMPK9 ARSLKASI SASKCIGMP RNKS-E---Y GESNNDTVA LSEQVAALHT
OsmPK21-1 ARSLKSESI SASKCIGEP KQDRDQEDSL TESMDETADE VSEKVAQLKT
OsmPK21-2 ARNFLSESI GASQCVVIKE KREKDEE-SM SEYMNEAADG VPHKIAQLKT
OsmPK17-2 PKIYLKASI SASSTCIIRGN KGPK--ENGI SEDMEVVVYE LSDNVTRMLS
30260
130090
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56051
139809
1060
184799
68008
645859
599559
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196817
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176895
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229298
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27538
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263236
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67562
226444
1137209
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459393
69938
591714
107905
99046
863830
287494
662188
492594
176887
618168
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125995
122928
154756
68423
OsmPK20-2
Consensus .id.wsvgc i.ae.1.gkp lfgg.d ...ql.i. .lg tp...

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1201 1350
127228 -DFY--GIK SRRARDYIRS LFFKKR---- -IPFSRL F-P--NANPM -----AV DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PDAP--PIHE SFFDFDKYKD QLTKEQLK--
287090 -DFY--GIK SRRARDYIRS LFFKKR---- -IPFSRL L-P--NANPL -----AV DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PDAP--PIPD SFFDFDRYKE QLTKEQLK--
186494 -DFY--GIK SRRARDYIRS LFFKKR---- -IPFKAL F-P--HANPM -----GK SLSFVPVIPS LMLTPSHIIV -----AL DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PDAP--PIPE SFFDFDRYKD QLTKEQLK--
260272 -DFY--AIK SRRARDYIRS LFFKKR---- -IPFSRL V-P--NANAM -----AV DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PDAP--PIPE NFFDFDRYKD QLTKEQLK--
119975 -DFY--GIK SRRARDYIRS LFFKKR---- -IPFSRL F-P--TASPM -----AV DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PDAP--PIHE SFFDFDKYKD QLTKEQLK--
21447 -DYY--AVK SARAREYIRS LFFKKR---- -VPPASM FGA--DTNPL -----AL DLLEKLLTFN PAKRITVEEA LKHPYLEPY- ---HDPDDE PTAP--PIPE GFFDFDRYKD QLTKEQLK--
692376 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
698785 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
468116 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--RTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD TLTKEQLK--
274271 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PNAE--PIPE EFFDFDKNKD NLTKEQLK--
255486 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PNAE--PIPE EFFDFDKNKD NLTKEQLK--
285227 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PNAE--PIPE EFFDFDKNKD NLTKEQLK--
18186 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAP--PIPE EFFDFDKNKD NLSKQQLK--
465108 -DYY--GIK SRRAREYIRS LFFKKK---- -IPFKHL F-P--KTNLD -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
1164585 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAP--PIPE EFFDFDKNKD NLSKQQLK--
93851 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PNAE--PIPE EFFDFDKNKD NLTKEQLK--
108267 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWTAM F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
59022 -DYY--GIK SRRAREYIRS LFFKKK---- -IPFKAL F-P--KSNEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
370137 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
532216 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
31240 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAL F-P--KTNQD -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
160345 -DYY--GIK SRRAREYIRS LFFKKK---- -IPFKVM F-P--QTNEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAB--PIPE EFFDFDKNKD NLTKEQLK--
212060 -DYY--GIK SRRAREYIRS LFFKKK---- -IPFKVM F-P--QTNEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAB--PIPE EFFDFDKNKD NLSKEELK--
327005 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAB--PIPE EFFDFDKNKD NLTKEQLK--
48412 -DYY--GIK SRRAREYIRS LFFKKK---- -IPWKAM F-P--KTSDL -----AL DDLERLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKSKD NLSKQQLK--
606069 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPKQM F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAS--PIPE EFFDFDKNKD NLSKQQLK--
123724 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPKFM F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAB--PIPE EFFDFDKNKD NLTKEQLK--
342035 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--KTSDL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
2135321 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
644393 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLTKEQLK--
784446 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
567834 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSDI -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
389770 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSDI -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
63860 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
131603 -DYY--GIK SRRAREYIRS LFFKKK---- -VPPFTL F-P--NTSEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE EFFDFDKNKD NLSKQQLK--
495859 -DYY--GIK SRRAREYIRS LFFKKK---- -IPFKAL F-P--KSNEL -----AL DLLEKLLAFN PVKRITVEEA LKHPYLEPY- ---HDPDDE PTAD--PIPE GFFDFDKNKD ALSKQQLK--

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301484	-DIG--	-FVK	NTKARLFLTK	LAISKP	----	----	KKWHDV	FAG--SGTE-	----	----	NAVSSAI	DLLSKMLFN	PEKRIISVDTA	LHRPYLATF-	----	FDENLD	VVSS--SPD-	----	FPDLPDD	QSKSDALI-	
42366	-TLR--	-RVG	SPR-	----	----	----	----	----	----	----	----	MLCFD	PAKRISCEDA	LKHPYLQVM-	----	HDPADE	PVCE--KK--	----	PDFSEEM	D-SIEGMK-	
476004	-ELY--	-FLT	NARAKRFMNA	EFQKRG	----	----	PNPTKP	LAQ--MTD-	----	----	S--PPDAL	DLLQKMLVD	PNKRISVDEA	LAHPYLASI-	----	RVNDE	TTAT--SS-	----	PDFDFENE	KLTKPVQ--	
558476	-ELY--	-FLT	NARAKRFMNA	EFQKRG	----	----	PNPTKP	LAH--MTD-	----	----	S--PPDAL	DLLQKMLVD	PNKRISVDEA	LAHPYLASI-	----	RVNDE	TTAT--SS-	----	PDFDFENE	KLTKPVQ--	
9954	-DLH--	-FVV	SEARAKRFMN	QMRPFG	----	----	VFPKSL	FPK--A-	----	----	----	TLPEAV	NLLQKMLVD	PVKRISVDEA	LHPYLASL-	----	HNLEDE	PVAD--SF-	----	FPDFPEKE	DLTESRLK-
82136	-DLH--	-FVV	SEARAKRFMN	QMRPFG	----	----	VFPKSL	FPK--A-	----	----	----	TLPEAV	NLLQKMLVD	PVKRISVDEA	LHPYLASL-	----	HNLEDE	PVAD--SF-	----	FPDFPEKE	DLTESRLK-
312415	-DLH--	-FVV	SEARAKRFMN	QMRPFG	----	----	VFPKSL	FPK--A-	----	----	----	TLPEAV	NLLQKMLVD	PVKRISVDEA	LHPYLASL-	----	HNLEDE	PVAD--SF-	----	FPDFPEKE	DLTESRLK-
354114	-SFKENPLAN		KLGRQLLSR	TOAVAG	----	----	ITDSTM	FPN--A-	----	----	----	NPBGL	DLLQKMLVD	VEKRIITVEEA	LHRPYLAMY-	----	YDEERE	NAPV--EK--	----	FP-SFDLD	DLESDRLK-
34134					----	----			----	----	----					----					
20005	EMAF--	-VP	HEAAKRALIQ	HGFYFK	----	----	RPLIEF	F-P--DANPL	----	----	----	DLLSQMLFN	PAERISIVQA	LHPYLALQ-	----	QNADE	PVC--ABFP	----	NPDFERSLD	-LGVEMPK-	
518921	EMSF--	-VP	HEAAKRALIQ	HGFYFK	----	----	RPLIEF	F-P--DANPL	----	----	----	DLLSQMLFN	PAERISIVQA	LHPYLALQ-	----	QNADE	PVC--ABFP	----	NPDFERSLD	-LGVEMPK-	
503206	EMSF--	-VP	HEAAKRALIQ	HGFYFK	----	----	RPLIEF	F-P--DANPL	----	----	----	DLLSQMLFN	PAERISIVQA	LHPYLALQ-	----	QNADE	PVC--ABFP	----	NPDFERSLD	-LGVEMPK-	
10810	EMAF--	-VP	HEAAKRALIQ	HGFYFK	----	----	RPLIEF	F-P--DANPL	----	----	----	DLLSQMLFN	PAERISIVQA	LHPYLALQ-	----	QNADE	PVC--ABFP	----	NPDFERSLD	-LGVEMPK-	
ATMPK1	DLEF--	-ID	NPKARKYIRS	LYPSQG	----	----	MSLSRL	Y-P--GAHVL	----	----	----	DLLQKMLVD	PSKRISVDEA	LQHPYMAPL-	----	YDPNAN	PPA--QVPI	----	D-LVDVDE	-LREEMIR-	
ATMPK2	DLEF--	-ID	NPKARKYIRS	LYPSQG	----	----	MSLSRL	Y-P--GAHVL	----	----	----	DLLQKMLVD	PSKRISVDEA	LQHPYMAPL-	----	YDPNAN	PPA--QVPI	----	D-LVDVDE	-LREEMIR-	
OSMPK7	DIEF--	-ID	NPKARKYIRT	LYPTPG	----	----	IPLTSM	Y-P--QAHL	----	----	----	DLLQKMLVD	PSKRISVTEA	LHPYMSPL-	----	YDPSAN	PPA--QVPI	----	D-LDIDEN	-LGDVMIR-	
OSMPK14	DLEF--	-ID	NPKARKYIRS	LYPTPG	----	----	VPLASM	Y-P--HAHPL	----	----	----	DLLQKMLVD	PTKRISVTEA	LHPYMSPL-	----	YDPSAN	PPA--QVPI	----	D-LDIDEN	-LGDVMIR-	
ATMPK14	DLQF--	-ID	NQKARRFIKS	LPFSKG	----	----	THFSHI	Y-P--HANPL	----	----	----	DLLQKMLVD	PTKRISVSDA	LHPYMEGL-	----	LEPECN	PSE--NVVP	----	SSLEIDEN	-MEGMDIR-	
ATMPK7	DIRF--	-ID	NQKARRFIKS	LPFSKG	----	----	THLSNL	Y-P--QANPL	----	----	----	DLLQKMLVD	PTKRISVSDA	LHPYMAGL-	----	FDPSGN	PPA--HVPI	----	S-LDIDEN	--MEPVIR-	
ATMPK12	SLGF--	-LR	SDNARRYVRQ	LPQYPR	----	----	QQFAAR	F-P--KMPTT	----	----	----	DLLQKMLVD	PNKRISVDEA	LGHAYLSPH-	----	HDVAKE	PVC--STFP	----	S-PDFEQPS	-CTEHIK-	
ATMPK4	SLGF--	-LR	SDNARRYVRQ	LPQYPR	----	----	QQFAAR	F-P--NMSGT	----	----	----	DLLQKMLVD	PNKRISVDEA	LGHAYLSPH-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
OSMPK4-1	SLGF--	-LR	SDNARRYVRQ	LPQYPR	----	----	QQFAAR	F-P--NMSGT	----	----	----	DLLQKMLVD	PNKRISVDEA	LGHAYLSPH-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
OSMPK16-2	SLGF--	-LR	SDNARRYVRQ	LPQYPR	----	----	QQFAAR	F-P--NMSGT	----	----	----	DLLQKMLVD	PNKRISVDEA	LGHAYLSPH-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
ATMPK5	SLGF--	-LR	SDNARRYVRQ	LPQYPR	----	----	QQFAAR	F-P--NMSGT	----	----	----	DLLQKMLVD	PNKRISVDEA	LGHAYLSPH-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
ATMPK10	ELGS--	-L	SEYAKRYIRQ	LPTLPR	----	----	QNSFAK	F-P--SMNST	----	----	----	DLLQKMLVD	PVKRISVTEA	LHPYMSPL-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
ATMPK6	ELGF--	-L	SEYAKRYIRQ	LPTLPR	----	----	QNSFAK	F-P--SMNST	----	----	----	DLLQKMLVD	PVKRISVTEA	LHPYMSPL-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
OSMPK6	DLDF--	-V	SEYAKRYIRQ	LPTLPR	----	----	QNSFAK	F-P--SMNST	----	----	----	DLLQKMLVD	PVKRISVTEA	LHPYMSPL-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
ATMPK3	DLGF--	-TH	NEDAKRYIRQ	LPNFRP	----	----	QPLAKL	F-S--HVNPM	----	----	----	DLLQKMLVD	PNKRISVTEA	LHPYMSPL-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
OSMPK3	ELGF--	-IR	NEDAKRYIRQ	LPNFRP	----	----	QPLAKL	F-S--HVNPM	----	----	----	DLLQKMLVD	PNKRISVTEA	LHPYMSPL-	----	HDINEE	PVC--VRFP	----	N-PDFEQPT-	-LTHENIK-	
206269	VIA--	-TIC	SENTLRFVKN	LKPRDP	----	----	IPFSQR	FAG--QDPE	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
154265	LVA--	-TIC	SENTLRFVKN	LKPRDP	----	----	IPFSQR	FAG--QDPE	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
168032	VIS--	-TIC	SENTLRFVKN	LKPRDP	----	----	IPFSQR	FAG--QDPE	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
307550	VIA--	-TIC	SENTLRFVKN	LKPRDP	----	----	IPFSQR	FAG--QDPE	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
320251	VIQ--	-TIC	SENTLRFVKN	LKPRDP	----	----	IPFSQR	FAG--QDPE	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
356517	VIN--	-TIA	SENTLRFVKS	LKPRER	----	----	QPLKNN	FKN--ADFP	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
113434	VIE--	-TIA	SENTLRFVKS	LKPRER	----	----	QPLKNN	FKN--ADFP	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
28887	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
16635	VIE--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
6923	VIA--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
807502	VIE--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
129058	VIE--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
359241	VIE--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
53282	VIK--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
117789	VIQ--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
170586	VIE--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
162119	VIQ--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
560244	VIQ--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
499279	VIQ--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
898207	VIA--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
500359	VIA--	-TIA	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
390416	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
61586	VIE--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
74488	VIK--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
155373	VIK--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
56185	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
14909	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
176707	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
176721	VIA--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
240717	VIA--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
56428	VIH--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
97915	VIH--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
707387	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
504013	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
37843	VIQ--	-TIC	SENTLRFVKS	LKPRER	----	----	IPFAQK	FRG--ADPL	----	----	----	DLLQKMLVD	PKKRISAMEA	LHPYLSPY-	----	HDPSDE	PAAD--KDFM	----	SFM--EAEPL	VDTKWVM--	
507853	VIQ--	-TIC	SENTLRFVKS	LKPRER	----																

271149	VIH---TIA	SENTLRFVQS	LPKRER----	---QPLKDK	FRN---ADPA	AI	DLLDEMLVFD	PKRRVKATDA	LAHEYLSPY	----	HDPTDE	PSAEE-KFDM	SFM---DADLP	VDTKIMLMY-
89784	VIN---TIC	SENTLRFVQS	LPKRER----	---QPLKDK	FKN---ADPQ	AI	ELLERILMFD	PKRRVKAGEA	LADPYLAPY	----	HDPTDE	PSAEE-KFDM	SFM---DADLP	VDTKIMLMYV
114108	VIQ---TIC	SENTLRFVQS	LPKRER----	---QPLKDK	FKN---ADPQ	AI	ELLERILMFD	PKRRVKAGEA	LADPYLAPY	----	HDPTDE	PSAEE-KFDM	SFM---DADLP	VDTKIMLMYV
173207	SPWD---PME	S---VATHLEQ	LCTYQSQPPP	RHPIDFSTL	FPD---CPDT	GI	DLLQQLQLD	PHQRITVDA	IAHPFLAFP	----	GDPEEE	SME---PGTC	DHF-PEQYAN	VDTRQHVW-
127887	SPWD---KNA	SEFVIEYIKN	LRDGDGLPPP	KEPIDFSSL	FPD---CPME	GI	DLLKLNHLN	PGLRITPDEA	LHPFVEMQ	----	RDPAAE	VDC---PMTF	DFSFYELQ	EDTLRQCI-
29226	SPWD---QNA	SKSVVDYHFN	LRDSDGGLPP	TEPIDFAAH	FPE---CPPE	GI	DLLQRLLHD	PKRRINANE	LEHPYVALV	----	RDPPEE	VEC---NLEF	DFSFPERIQ	EDTLRQCI-
167765	SPWD---SSS	S---VTEYRN	LRDSDGGLPP	EEPIDFSTL	FPN---APPE	AI	HLLENLTLD	PKRRILTANA	LEHPYVAVP	----	RDPAAE	IEC---ATLF	DFSFEMIES	EHVLRQCI-
150384	SPWD---SSS	S---VTEYRN	LRDSDGGLPP	EEPIDFSTL	FPN---APPE	AI	HLLENLTLD	PKRRILTANA	LEHPYVAVP	----	RDPAAE	IEC---ATLF	DFSFEMIES	EHVLRQCI-
57923	TFWD---SSS	S---VTEYRN	LRDSDGGLPP	EEPIDFSSL	FPN---CPPE	GI	DLLQQLMLN	PKRRITASEA	LHPYVAVS	----	RDPAAE	IEC---EKLF	DFSFEMIES	EHVLRQCI-
57924	TFWD---SSS	S---VTEYRN	LRDSDGGLPP	EEPIDFSSL	FPN---CPPE	GI	DLLQQLMLN	PKRRITASEA	LHPYVAVS	----	RDPAAE	IEC---EKLF	DFSFEMIES	EHVLRQCI-
230955	SPFN---TMA	SFVIEYIHN	LRSDGSGPPP	TDVDFQSL	YFQ---CSTN	GI	NILTQMHLD	PAKRITVDA	LHRPYLAFD	----	RDPGEE	YDC---PRSF	AFPEFKVDS	IDELRELI-
172033	SPFN---TMA	SFVIEYIHN	LRSDGSGPPP	TDVDFQSL	YFQ---CSTN	GI	NILTQMHLD	PAKRITVDA	LHRPYLAFD	----	RDPGEE	YDC---PRSF	AFPEFKVDS	IDELRELI-
40306	ETLS---RIG	SQRAQEVYRN	LYPMR-----	---VFPKSL	FPT---ANQ	AI	HLLENLTLD	PKRRILTANA	LEHPYLVN	----	HDPADE	PBC---PTTF	DF-SFEAVD	VDMRREMI-
693957	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VQFASI	FRQ---ANPD	AI	DLLDRMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-QFEVVD	IGEMKMI-
508525	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IAFATL	FRQ---ANPD	AI	DLLDRMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVD	IGEMKMI-
471145	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IAFATL	FRQ---ANPD	AI	DLLDRMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVD	IGEMKMI-
480536	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IAFATL	FRQ---ANPD	AI	DLLDRMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVD	IGEMKMI-
471745	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VSPFSL	FRQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVE	IPEMKMI-
687176	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VSPFSL	FRQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVE	IPEMKMI-
34863	STLA---RIG	SPRAQDYVRN	LYPMQK-----	---IPFHTL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PNC---PTTF	DF-QFEVVE	VPFMQMI-
57153	STLS---RIG	SPRAQDYVRN	LYPMQK-----	---IPFQQL	FPR---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PPC---PTTF	DF-QFEVVE	VPFMQMI-
147961	STLS---RIG	SPRAQDYVRN	LYPMQK-----	---IPFQQL	FPR---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PAC---PTTF	DF-QFEVVE	VPFMQMI-
287354	STLA---RIG	SPRAQDYVRN	LYPMQK-----	---IPFQQL	FPR---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PPC---PTTF	DF-AFETVD	VPFMRLMI-
281614	ATLS---RIG	SPRAQDYVRN	MAYMPR-----	---VFPSSQ	FPR---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---AVPF	NF-AFEVVE	VSDMRQMI-
29684	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VPFMQMI-
144400	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VPFMQMI-
136175	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VPFMQMI-
126818	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VPFMQMI-
2138682	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VNEMKMI-
48096	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VNEMKMI-
179022	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	VNEMKMI-
778216	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	IDEMKMI-
66550	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	IGEMKMI-
190738	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	IGEMKMI-
1107049	ETLR---RIG	SPRAQDYVRN	LYPMQK-----	---KSPFSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	NF-DFEVVD	IGEMKMI-
504269	ETLR---RIG	SPRAQDYVRN	LYPMQK-----	---IAFQRL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-RFEVVD	IHEMKMI-
432134	ETLR---RIG	SPRAQDYVRN	LYPMQK-----	---IAFQRL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-RFEVVD	IHEMKMI-
59068	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IAFQRL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-RFEVVD	IGEMKMI-
336185	ETLA---RIG	SPRAQDYVRN	LYPMQK-----	---VFPKTL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PNC---PTTF	DF-TFEVVD	VDMRMI-
343155	ETLA---RIG	SPRAQDYVRN	LYPMQK-----	---VFPKTL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PNC---PTTF	DF-TFEVVD	VDMRMI-
326648	ETLA---RIG	SPRAQDYVRN	LYPMQK-----	---VFPKTL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PNC---PTTF	DF-TFEVVD	VDMRMI-
425863	ETLA---RIG	SPRAQDYVRN	LYPMQK-----	---VFPKTL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-QFEVVD	VPFMKMI-
436998	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IPFQQL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVD	VPFMKMI-
257317	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---IPFQQL	FPQ---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVD	VPFMKMI-
998070	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VSPFSL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PSC---PTTF	DF-QFEVVE	INEMKMI-
49449	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VSPFSL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PAC---PTTF	DF-QFEVVE	IAEMKMI-
498377	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VSPFSL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PAC---PTTF	DF-QFEVVE	IAEMKMI-
184715	ETLR---RIG	SPRAQDYVRN	LYPMQK-----	---IAFQRL	FRN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PTC---PTTF	DF-RFEVVD	IHEMKMI-
51223	ETLC---RIG	SARAQDYVRN	LYPMQK-----	---APFSSL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LQHRYSIV	----	HDADSE	PDC---PTTF	DF-SFEVNE	VPFMKMI-
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649898	ETLS---RIG	SPRAQDYVRN	LYPMQK-----	---VFPKTL	FPN---ANPD	AI	DLLDLMLAFD	PKRRISVEEA	LEHRYLHN	----	HDADSE	PDC---PTTF	DF-SFEVVD	VPFMKMI-
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108847	SALT---KIG	SPRAQDYVRN	LYPMQK-----	---IHYREI	LFN---ANPL	AI	DLLDLMLAFD	PKRRISVEEA	LHPYLVAVN	----	HDQDPE	PES---KIKF	DKFTFETVD	MESMKQLI-
33629	ATLT---RIG	SPRAQDYVRN	LYPMQK-----	---VSISEL	FPN---ANPL	AI	DLLDLMLAFD	PKRRISVEEA	LHPYLVAVN	----	HDQDPE	PES---KIKF	DKFTFETVD	MESMKQLI-
54711	ATLT---RIG	SPRAQDYVRN	LYPMQK-----	---VSISEL	FPN---ANPL	AI	DLLDLMLAFD	PKRRISVEEA	LHPYLVAVN	----	HDQDPE	PES---KIKF	DKFTFETVD	MESMKQLI-
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255486 --RLIYEEIL R
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370137 --RDYAVNAP EHAVSSYLTS LTDGRVEGFS ASIPHICVDL SRLV
532216 --RDHAVNVP EPNFIMLDS LHGSTWSTIR ARVSIITGIY PGFVIGILASS
31240 --GKKSOCIO AGSDVLLYSQ CSFSRRSCDR FVSCVARSRS YA
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457401 --RLIYAEVI AASPQASLS VSEI
834255 --VLIYKEIT NAQASQPSLL LAKDA
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570964 --VLIYEEVT KPRPPPGTQ

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301734 --LLIYQEIT TPPPNEYSS Q
154378 --VLIYNEVM SAHQYPOQQO IQIPSPGVPT NGGLNLMGSG S
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448371 --LRIYEEVL QTPTYPIDAT AMQM
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2671102 SVPPSARR-- P-SADLRARW LAYKGLLCAE YLLFFQDLGG MSADD
940143 FTVFNPBHARI DRLLPELIIYO EVTRSFATAS
585786 -----ELIYE EVTRPLAPSG S
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58913 --QLIFNEVM N
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301059 --VLIFEEVI RPSNHQQAVM VDTPTPVGP SAATPIAPNP DSAMALS
12410 --VLIFEEVI RPSNHQQAVM VDTPTPVGP SAATPIAPNP DSAMALS
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99455 --KMLYDEIM SR
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653342 --KLIWNEIF S
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348809 --ELLYEIM SYNQPIT
913771 --ELLYEIM SFRPTMGA
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458977 PIEMKADMLY DELMKTMEVR STRNAAS
41459 DGRPVKHDEL SKADIKELLY EVVMREETL VKTTKAHALK QCDQLVKDPA ACESEGRITVS AWACKDKMGV VQDCISQVTP PEAMTKVRAE YLRLRNEKIV QDVAAAGRAS GTGQANTRKH AERKVSANCL REVSNSELG PTSGAAALMY
1397463 -----EL NKEELKQLLY DVMFSNVI
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790328 --VLIYQEVV KPPSQMSAYL ASGYS
765763 --VLIYQEVV KPPSQMSAYL ASGYS
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32998 --ELLYEIM SFRPPMV
2601990 --VLIYEEVT RPQPFQLEE A
262460 --RLIYEEIL R
11717 --DLLCEDIE QFHPPVPSV APIPLNTAAS RFFRMGMTAS AS
532299 --NLLCEDIE QFHPPVPTS I APLPLGAAAS RFFRMGMTAS AS
551831 --NLLCEDIE QFHPPVPTS I TMPLSAAAS RFFRMGMTAS AS
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42366 --KLIYEEVM SFRAEVRAG-----AR AAGQVRKQDS LPIPSRD-EI ISSPVQEHAP RINGATSVTG ARATAPEPIM DDPSSAELEKE LSRQNLGK
476004 --RLIWEEMR HFHFDCEEP QVYSATAG-----EG ENDSFATTQA SNTVPTVTP ATAEQDNTPS S-----ENVM ATTAEEV-- STPATEEARF EDDGEAA--P SVDEKQSTNS DHKIVRTSVG SDNPTDAQTR QEAGEPAREV
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312415 --ELIPEEIL KIHDPAPRSP LKSPAGLTS P-----PAEQV LSPSTTRSHG QD
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320251 ----- YSEILDYHNV DA-TNGEVT NGE
356517 KTGIRKXWSD QARLTSFDYR YSEILDYHNG ED-AGSAKDK PEPEGERERM WFSGEESSE DTWDLTRTK SDEK----- -RYHATRQS GRGKVSDEQE
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16635 ----- YSEILDPHNV DQTVGEGEAS QQLAGPQ
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129058 ----- YSEILDHFQV --GET---- TTSAGIPEG ALAGPEAPSA TPAQAK
359241 ----- YSEILDHFQV --GEA---- ITSAGIPEG ALAGPQTAA AVPTE
53282 ----- YSEILDHFQV --GEQKPNL TTTAGVPEP ALAGPEEAV PEASPAEPK SE
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500359 ----- YSEILDHFQV --QDST--- LLDNNIPEG SLAGP
390416 ----- YSEILDHFQV --DAS---- -VIDEARDP SLVG
61586 ----- YSEILGTS-- --IFC-SRS LCVINYSRP NHRFPSPWRD SNLVGRDTRG CSSGT
74488 ----- YSEILGQKR NHGCSCRSL S LTVFAFPRL VLADFHQIGD AALENADLAG APLGAMETP TAA
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176707 ----- YSEILDHFQV GEGE----- -SEHATVPIT SMPNGEIPKG AVIAAQPVPA Q
176721 ----- YSEILDHFQV GEGE----- -SEHATVPIT SMPNGEIPKG AVIAAQPVPA Q
240717 ----- YSEILDHFQV GEGE----- -SEHATVPIT SMPNGEIPKG AVIAAQPVPA Q
56428 ----- SEILDPHNI D-----G GVVSP
97915 ----- SEILDPHNI D-----G GVVSP
707387 ----- SEILDYHNV D-----A AQATEENSS
504013 ----- SEILDYHNV D-----S QAPAEEN
37843 ----- SEILDYHNV D-----A AGEMENGS
507853 ----- SEILDYHNI D-----S QQTTEVPPAE NGSS
338747 ----- SEILDYHNV D-----A AQQAGE
49060 ----- SEILDYHNV D-----S ANN---GEG QENGA
147551 ----- SEILDYHNV D-----Q GNDPTAAGGL TENGAA
286873 ----- SEILDYHNV D-----S ANGEDPHGE LTGAA
193904 ----- SEILDYHNV E-----A SDVEGAEDN EAVP
189288 ----- SEILDYHNV D-----N QQA
198339 ----- SEILDYHNV D-----G V
2140409 ----- SEILDYHNV E-----A ASVQMEDQQ YLAQ
642177 ----- SEILDYHNV E-----A ASVAA-QDP FLAQ
498471 ----- SEILDYHNA E-----A ANVAQ-HEQ FLGQ
784216 ----- TEILDYHNA E-----A GVAHQLEDE QYGMQ
128268 ----- SEILDYHNV E-----A SQQMPFDEV SISQ
246689 ----- SEILDYHNV D-----T DMSQL--DEQ MNGQ
1081594 ----- SEILDYHNI E-----G GVPNM--DEQ
603877 ----- SEILDYHNV E-----T GGDNHVMEF TNGQ

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Table with multiple columns containing sequence alignment data, including identifiers, alignment characters, and sequence fragments.

AtMPK18
AtMPK19
AtMPK20
OsmPK20-1
OsmPK20-4
OsmPK20-5
OsmPK20-3
AtMPK16
OsmPK16-1
AtMPK17
AtMPK8
AtMPK15
OsmPK17-1
AtMPK9