

logo

NTDB id 457 SSUD9 RS00080 WP 002936602.1	MEFEK	32
NTDB id 461 GPW51 RS00080 WP 011921639.1	MEFEK	32
NTDB id 454 SSU RS00080 WP 011921639.1	MEFEK	32
NTDB id 424 SGO RS10430 WP 012130755.1	MKFED	32
NTDB id 423 SGO RS08370 WP 012130755.1	MKFED	32
NTDB id 141 SP RS10155 WP 000588925.1	MIKELY	31
NTDB id 140 SP RS00070 WP 000588925.1	MIKELY	31
NTDB id 252 KZH43 RS09050 WP 000588897.1	MIKELY	31
NTDB id 251 KZH43 RS09050 WP 000588897.1	MIKELY	31
NTDB id 211 SPD RS09675 WP 000588897.1	MIKELY	31
NTDB id 210 SPD RS00065 WP 000588897.1	MIKELY	31
NTDB id 177 SPR RS09210 WP 000588897.1	MIKELY	31
NTDB id 176 SPR RS00065 WP 000588897.1	MIKELY	31
NTDB id 489 SM12261 RS01070 WP 000471940.1	MFKELY	31
NTDB id 517 SMSK321 RS10700 WP 000471945.1	MFKELY	31
NTDB id 516 SMSK321 RS09125 WP 000471944.1	MFKELY	31
NTDB id 582 DLJ51 RS00505 WP 002962720.1	MDKEKLKEIFNKHSA	80
NTDB id 554 STRINF RS00370 WP 115283725.1	MDFERY	32
NTDB id 44 SMU RS09085 WP 002263585.1	MEEDFEI	34
NTDB id 315486 D5R92 RS03020 WP 003101723.1	MEKVES	33
NTDB id 450 SPYM18 RS08475 WP 011018214.1	MSCCFV	56
NTDB id 449 SPYM18 RS01395 WP 011018214.1	MSCCFV	56
NTDB id 442 SPYM3 RS08515 WP 011106595.1	MSCCFV	56
NTDB id 441 SPYM3 RS01385 WP 011106595.1	MSCCFV	56
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1	MSCCFV	56
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1	MSCCFV	56
consensus	* * * ! * * * * * * * ! * ! !	

logo

NTDB id 457	SSUD9	RS00080	WP 002936602.1	QEGMNTLFEEL	EAQPWL	VDE	QVQL	LYCYFKVKFRNR	IKDRIRK	QESQKRKF	DRMPHEDI	HELSHAI	QSPGL	INDELLMLR	111		
NTDB id 461	GPW51	RS00080	WP 011921639.1	QEGMNTLFEEL	EAQPWL	VDE	QVQL	LYCYFKVKFRNR	IKDRIRK	QESQKRKF	DRMPHEDI	YELSHAI	QSPGL	INDELLMLR	111		
NTDB id 454	SSU	RS00080	WP 011921639.1	QEGMNTLFEEL	EAQPWL	VDE	QVQL	LYCYFKVKFRNR	IKDRIRK	QESQKRKF	DRMPHEDI	YELSHAI	QSPGL	INDELLMLR	111		
NTDB id 424	SGO	RS10430	WP 012130755.1	QEGMLVLYELL	KSHPNL	LED	QPRLY	RYFKTKFRNR	IHD	LIR	QESQKRKL	DRQPYEEV	SEIGHRI	RMKEL	YLDDELVAFR		
NTDB id 423	SGO	RS08370	WP 012130755.1	QEGMLVLYELL	KSHPNL	LED	QPRLY	RYFKTKFRNR	IHD	LIR	QESQKRKL	DRQPYEEV	SEIGHRI	RMKEL	YLDDELVAFR		
NTDB id 141	SP	RS10155	WP 000588925.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 140	SP	RS00070	WP 000588925.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 252	KZH43	RS09050	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 251	KZH43	RS09050	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 211	SPD	RS09675	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 210	SPD	RS00065	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 177	SPR	RS09210	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 176	SPR	RS00065	WP 000588897.1	QEGMCLHCLHCL	ISREEG	VDD	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDDYYLFH	110		
NTDB id 489	SM12261	RS01070	WP 000471940.1	QEGMICLHCLHCL	ISREEEL	VED	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEPYEEV	GEISHRI	ISEGGL	WLDEYYLFH	110		
NTDB id 517	SMSK321	RS10700	WP 000471945.1	QEGMICLHCLHCL	ISREEEL	VED	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KEAYEEV	GEISHRI	IGEGGL	WLDDYYLFH	110		
NTDB id 516	SMSK321	RS09125	WP 000471944.1	QEGMICLHCLHCL	ISKEEEL	AED	IPRLRK	YFKTKFRNR	ILDYIRK	QESQKRKYD	KESYEEV	GEISHRI	IGEGGL	WLDEYYLFH	110		
NTDB id 582	DLJ51	RS00505	WP 002962720.1	QEARIILYQLLER	FFPD	LANDEE	KLR	YFKTKFRSY	VLDNIRK	QESQKRAF	DRMIYEE	ISELGHM	IPSQQM	DTADY	CALK		
NTDB id 554	STRINF	RS00370	WP 115283725.1	QEGRIVFFQLLEE	HPDL	LNNEGK	CYSYFKTKFS	NHVKD	IRHQES	FKRKFNR	MPYEE	SDISHC	VPQVFF	FVE	VDYVAYQ		
NTDB id 44	SMU	RS09085	WP 002263585.1	QEGMILHQLLREH	PELEED	DTKLYI	YFKTRFS	NYIKD	VLRRQES	QKRFRNR	MSYEE	GEIEHCL	SSGGM	QLDEY	ILFR		
NTDB id 315486	D5R92	RS03020	WP 003101723.1	QEGRVVLHALLTE	FPDL	TENDKRL	YTYFKTKFSSY	IKDVL	RHQESY	KRKFNR	KMPYEE	GEVSHK	VASKGL	VLDDY	IAYQ		
NTDB id 450	SPYM18	RS08475	WP 011018214.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
NTDB id 449	SPYM18	RS01395	WP 011018214.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
NTDB id 442	SPYM3	RS08515	WP 011106595.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
NTDB id 441	SPYM3	RS01385	WP 011106595.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
NTDB id 448	SpyM6JRS4	RS07800	WP 010921894.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
NTDB id 447	SpyM6JRS4	RS01370	WP 010921894.1	QEGHIIILLQLLER	YPELIEE	EBRLRY	YFKTKFSSYL	KDLLRR	QESQKRQ	FHKLAYEE	IGEV	AHAIPSRGL	WLDDY	VAYQ	135		
consensus				!!* ** *	! * *	! ***	* *	*!!!!*!*	* *	! *	*!!!!*!*	*****	*!*****	! *	**	*****	*

logo

NTDB	id	457	SSUD9	RS00080	WP	002936602.1
NTDB	id	461	GPW51	RS00080	WP	011921639.1
NTDB	id	454	SSU	RS00080	WP	011921639.1
NTDB	id	424	SGO	RS10430	WP	012130755.1
NTDB	id	423	SGO	RS08370	WP	012130755.1
NTDB	id	141	SP	RS10155	WP	000588925.1
NTDB	id	140	SP	RS00070	WP	000588925.1
NTDB	id	252	KZH43	RS09050	WP	000588897.1
NTDB	id	251	KZH43	RS09050	WP	000588897.1
NTDB	id	211	SPD	RS09675	WP	000588897.1
NTDB	id	210	SPD	RS00065	WP	000588897.1
NTDB	id	177	SPR	RS09210	WP	000588897.1
NTDB	id	176	SPR	RS00065	WP	000588897.1
NTDB	id	489	SM12261	RS01070	WP	000471940.1
NTDB	id	517	SMSK321	RS10700	WP	000471945.1
NTDB	id	516	SMSK321	RS09125	WP	000471944.1
NTDB	id	582	DLJ51	RS00505	WP	002962720.1
NTDB	id	554	STRINF	RS00370	WP	115283725.1
NTDB	id	44	SMU	RS09085	WP	002263585.1
NTDB	id	315486	D5R92	RS03020	WP	003101723.1
NTDB	id	450	SPYM18	RS08475	WP	011018214.1
NTDB	id	449	SPYM18	RS01395	WP	011018214.1
NTDB	id	442	SPYM3	RS08515	WP	011106595.1
NTDB	id	441	SPYM3	RS01385	WP	011106595.1
NTDB	id	448	SpyM6JRS4	RS07800	WP	010921894.1
NTDB	id	447	SpyM6JRS4	RS01370	WP	010921894.1
consensus						

E	L	R	D	Y	R	N	K	L	S	K	E	K	E	E	L	R	L	R	G	E	R	F	R	P	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H					
EXTALESSQNSDERQYSAVISN																																															
GALR	DYR	KNLS	ND	Q	L	D	K	Y	E	K	L	I	S	G	C	F	N	G	R	R	E	M	I	R	D	L	Q	I	H	L	K	D	F	R	.	.	.	.	156								
GALR	DYR	KNLS	ND	Q	L	D	K	Y	E	K	L	I	S	G	C	F	N	G	R	R	E	M	I	R	D	L	Q	I	H	L	K	D	F	R	.	.	.	.	156								
GALR	DYR	KNLS	ND	Q	L	D	K	Y	E	K	L	I	S	G	C	F	N	G	R	R	E	M	I	R	D	L	Q	I	H	L	K	D	F	R	.	.	.	.	156								
SAM	S	E	Y	R	S	R	L	S	P	E	E	A	K	Q	Y	E	R	L	M	A	D	E	R	F	K	G	R	K	A	M	L	K	D	L	S	Y	H	L	R	D	F	N	P	R	L	D	160
SAM	S	E	Y	R	S	R	L	S	P	E	E	A	K	Q	Y	E	R	L	M	A	D	E	R	F	K	G	R	K	A	M	L	K	D	L	S	Y	H	L	R	D	F	N	P	R	L	D	160
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E	L	E	R	V	L	S	N	E	R	F	R	G	R	Q	R	V	L	R	D	L	R	I	V	F	K	E	F	T	I	R	T	H	159			
ETLR	DYR	N	K	Q	S	K	E	K	Q	E	E																																				