

SlJAZ7/SlTIFY7	1	-----MDSRMEIDFMDLNSK-----	P-----	K-LSEMEKQH-----	K
AtJAZ11/AtTIFY3a	1	MAEVNGDFPVPSFADGTGSVSAGLDLLVERSIHEARST-EPDAST-----	Q-----	LTIIFFGGSCRV-FNGVPAQK-----	VQ
AtJAZ12/AtTIFY3b	1	-----MTKVKD-EP-----	-----	RASVEGGCGV-ADGDGG-----	-----
AtJAZ5/AtTIFY11a	1	-----MSSSNE-NAKAQA-----	P-----	EKSDFTRRCSL-LSRYLKEK-----	G
AtJAZ6/AtTIFY11b	1	-----MSTGQA-----	P-----	EKSNTFSQRCSL-LSRYLKEK-----	G
SlJAZ3/SlTIFY11a	1	-----MSNLCDARRRN-GNGKA-----	P-----	ERSSEFVQTCNL-LSQFLTKGK-----	A
SlJAZ4/SlTIFY11b	1	-----MSNRQ-LCSLD-----	S-----	EKSHLMNTCNL-LTQFFNGK-----	A
SlJAZ13/SlTIFY3	1	-----	-----	-----	-----
AtJAZ1/AtTIFY10a	1	-----MSSSMCESEFVGSRRFT-----	G-----	KKPSFSQTCNR-LSQYLKEN-----	G
AtJAZ2/AtTIFY10b	1	-----MSSFSAE-----CWDFS-----	G-----	RKPSFSQTCNR-LSRYLKEK-----	G
SlJAZ1/SlTIFY10a	1	-----MASSEIVDSGRFA-----	G-----	QKSHFSHTCNL-LSQYLKEK-----	KG
SlJAZ2/SlTIFY10b	1	-----MGSENMDSGKVT-----	G-----	QKSQFSQTCNL-LSQFLKKK-----	G
AtJAZ10/AtTIFY9	1	-----MSKATIELDPLGLEKKQTNNAPK-----	-----	PKFQKFLD-----	RRR
SlJAZ11/SlTIFY5c	1	-----	-----	-----M-----	RRN
SlJAZ10/SlTIFY5b	1	-----	-----	-----M-----	RRK
SlJAZ9/SlTIFY5a	1	-----	-----	-----M-----	RRN
AtJAZ7/AtTIFY5b	1	-----MIII--IKNC DKPL-----	-----	LNKEMEM-----	QTK
AtJAZ8/AtTIFY5a	1	-----	-----	-----MKL-----	QQN
AtJAZ9/AtTIFY7	1	-----MERDFLGLSDKQYLSNNVKHEVNDDAVEERGLSTKAAREWGKSKVFAT--SSFM-----	-----	-----P-----	-----
AtJAZ3/AtTIFY6b	1	-----MERDFLGLGSKNSPITVK-EETSESSRD--SAPNRG-MNWSFSNKVSASSQFTSFRPTQEDRHRKSGNYHLPHSGSFMPPSSVADVYDSTRKA	-----	-----	-----
AtJAZ4/AtTIFY6a	1	-----MERDFLGLGSKLSPI TVK-EETNED--SAPSRGMMDWSFSKVGSGPOFTSFGTSQQETRVNTVNDHLLSSA-----	-----	-----	AMDQNQRT
SlJAZ6/SlTIFY6c	1	-----MERDFMGLNIKDSL LVVK-DEPVESSKD--SG--FRWPMSSKVGVP--PHFMSLNSAQDE-----	-----	-----NT-----	-----
SlJAZ8/SlTIFY6b	1	-----MHWSYSNKA--HPOVHLSLKDQENIIINNNNNKPKIG-----	-----	-----	-----
SlJAZ5/SlTIFY6a	1	-----MERDFMGLTVKQEVLEEP-IDPA-PLRS--SA--MQWSFTNNVTA-HPOYL-----	-----	-----SFKSAPEDKPKIG-----	-----
consensus	1	m	ft	y1	

SlJAZ7/SlTIFY7	27	KVSGMKWPFSLADLAT--HH-EHTFFQNYK-----	STPIVSINSN--	SSLNNYKSTID-----	PQYFRGTFPLLAK--TS-----	TYDSRKNYDNLSPNESTL		
AtJAZ11/AtTIFY3a	67	EI--IRIA--FAGKQT-----	KNVTGINPALNKA--	LSF--STVA-----	DLPIARRRSLQRFLEK-----	RRDRSTKPDGSMILPSQL		
AtJAZ12/AtTIFY3b	25	-----	-----	-----	AAEIGGTGSVEKSINE--	VRSTEIQTAEP TVPPNQL		
AtJAZ5/AtTIFY11a	34	SFGNIDLG--LYRKPDSSLA-LPGKFDPPGKQ-----	N-----	AMHK-----	AGHS-----	KGEPS-----	TSSGGKV--KDVA--DLSESQPGSSQL	
AtJAZ6/AtTIFY11b	28	SFGNINMG--LARKSD--LE--LAGKFDLKGQQ-----	N-----	VIKK-----	VETS-----	ETRPFKLIQKFSIGEASTSTEDKA-IYIDLSEPAKVAPESGNSQL		
SlJAZ3/SlTIFY11a	38	TIRDNLG--IAGQP--E--AAG--KTE-----	TATMDLLTVMEKP--	SID-----	LTKE-----	EHKSVDLVTTESREKEA-----	VNEPSTSKEA-PKEPKAAQL	
SlJAZ4/SlTIFY11b	32	NINDNLTL--ISNNG--E--AKA-----	SATKDLLTNMEEL--	STK-----	TTEQ-----	DQKLIDHVPK-----	SA-----	INKASGSKEIPHKEQKLAQL
SlJAZ13/SlTIFY3	1	-----	-----	-----	-----	MRIPRHDD-----	TKDPVSQRV TSESEQL	
AtJAZ1/AtTIFY10a	39	SFGDSLGL--MACKP--D--VNGTLGNSRQP-----	TTTMSLFPCEASN--	MDS--MV--Q-----	DVKPTNLFPRQPSFSSSSSSLPKEDVLKMTQTTRSVPKPSQTAPL	-----	-----	
AtJAZ2/AtTIFY10b	34	SFGDSLGL--MTCKP--D--VNGGS--R-Q-----	PTMMNLFPCASG--	MDS--SAGQE-----	DIKPKTMFPRQSSFSSSSSSGTKEDVQMIKETT KSVKPSQSAPL	-----	-----	
SlJAZ1/SlTIFY10a	36	SLGDSLGLD--MHRN--FD--SAG-----	STTMDLLPMIEKS--	GELV-----	QKSMNLFPOGGM-----	-----	KAESEPEKAQM	
SlJAZ2/SlTIFY10b	35	SVGDLNNL--GIYKTT--FE--STGSQQTATTT-----	TTTNNLLPMIEKS--	SDSSSSSSSVETN-----	PQKPMNLFPOEFDFSKEQSTKKT-----	-----	ESWKPDQPEKAQM	
AtJAZ10/AtTIFY9	35	SFRDLQGAISKI--D--PEI IKSLLAST-----	GNNSDSSA--	KRSVPSTPREDQP-----	QIPIS-----	-----	PVHASLARSTELVSGTVPM	
SlJAZ11/SlTIFY5c	5	C-----N--LE--FRLMP-P-----	SLSTF-SP-----	NICSNNNTS-----	S-----	-----	YFSMEEDKESTELEQKSEPL	
SlJAZ10/SlTIFY5b	5	C-----N--LE--LTLSP-S-----	N-----	LL-----	-----	-----	MEDK--RLENEQSQQL	
SlJAZ9/SlTIFY5a	5	C-----N--LE--LTLMP-P-----	SISDNFSS-----	KNCT-----	-----	-----	TEDQ--QLENKQSQQL	
AtJAZ7/AtTIFY5b	24	C-----D--LE--LRLLT-S-----	SYDSDFHS-----	SLDESS-----	-----	-----	SEISQPKQESQIL	
AtJAZ8/AtTIFY5a	7	C-----D--LE--LRLFP-T-----	SYDSDSDD-----	TTSVVESTS-----	-----	-----	SGNPQPNEESQRI	
AtJAZ9/AtTIFY7	54	--SSDFQE-----	AKAFPGAYQWGSVSAANV-----	FRRCQFGGAFQ--	NATPLLLGGSV-----	PLP THPS-----	LV-----	PRVASSGSSPOL
AtJAZ3/AtTIFY6b	90	PYSSVQG-----	VRMFPNSNQHEETN-AVSMSPGFQSHHYA--	PGGRSFMNNNNNQPLVGVPIAPPISILPPPGS-----	-----	-----	IVGTTDIRSSSKPIGSPAQL	
AtJAZ4/AtTIFY6a	78	YFSSLQE-----	DRVFPGSSQDQTITVSMSEP-----	NYINSFINHQHLLGGSPIMAPPVSVFPAPT-----	-----	I-----	RSSSKP--LPPQL	
SlJAZ6/SlTIFY6c	55	--FKALSA-----	TD-----	GVDAGLKR-QPGEL-----	QMKQ-VLGGIP-VTAPHSM LPSRGS-----	-----	VAGTTEPWFNSKGSAAQAQL	
SlJAZ8/SlTIFY6b	37	--FESLAS-----	AGLV-----	TITTTTELFDTIHPP-YTTQF-----	-----	GAHHVPTNRNG-----	VVGTTLELRGTPRPSGPAQL	
SlJAZ5/SlTIFY6a	58	--FDSLAS-----	TGLV-----	TITTE-AVDSSHT-YSDVTQNLITTVNQLPGAGAL-VVSPISAVPSSSI-----	-----	-----	VVGTTDLRGAPKTPPGPAQL	
consensus	121	m	e	k	p		q1	

SLJAZ7/SLTIFY7 109 TIFYMGEVHIIPGISPEKAEIIDLVSKESTTLHMDEILEKVMN---KEY--E-----
 AtJAZ11/AtTIFY3a 133 TIFFGGSFVSVDGIPAEKVQETILHIAAAKATETINLTS-I-----NPALKRAISFSN-----
 AtJAZ12/AtTIFY3b 59 TIFFGGSVTIVDDGLPSEKVQETILRIAAKAMET--KNSTS-ISP-----VS-----SPALNRAPSFSSST-----
 AtJAZ5/AtTIFY11a 100 TIFFGGKVLVYNEFPVDKAKEIMEVAKOAKPVTEINIQTPIINDENNNKSSMVL-----PDLN-EPTDN-----
 AtJAZ6/AtTIFY11b 108 TIFFGGKVMVNEFPEDKAKEIMEVAKAEANHVAVDSKN--SQSHMNLDKSNVVI-----PDLN-EPTSS-----
 SLJAZ3/SLTIFY11a 116 TMFYDGKVIVEDDFPADKARAVMLLASKGCPQSSFGTFQAINI---DKINTCSPAPASLTNSRNTDSVAPQQOHLQIKPDCSCAAPQQHKHNSPPLH-VCSSTKTDQLKLGS---VSS-
 SLJAZ4/SLTIFY11b 101 SIFYGGKVVVVEDDFPAEKARAVMLLASKGISNNSCAIFQTPTT---T-----
 SLJAZ13/SLTIFY3 25 TIFYAGIVHVDNISVQKAESIMNLASENCNAKE-----IKP---TQK-----SQ-VP-----
 AtJAZ1/AtTIFY10a 128 TIFYAGOVIVENDFSAEKAKEVINLASKGTANSLAKNQTDIRS-----NIATIANQ-VPHP-----
 AtJAZ2/AtTIFY10b 121 TIFYGGRVMVEDDFSAEKAKEVIDLANKGSAKSFTCTAEVNN---NHSAYSQ-----KEIASSPNP-VCSP-----
 SLJAZ1/SLTIFY10a 93 TIFYGGOVIVENDFPADKAKEIMLMASSTSGNNP-AKP-----LES-----AADLV-VPISFG-----
 SLJAZ2/SLTIFY10b 124 TIFYGGOVIVEDDFPADKANEIMKLANKONPTNNFTYPM--IK---NQK-----TADQS-GVSFG-----
 AtJAZ10/AtTIFY9 106 TIFYNGSVSVFQ-VSRNKAGEIMKVANEAAASKKDESSME-----TDLSV-----ILPT-----
 SLJAZ11/SLTIFY5c 52 TIFYNGKLVV-SHVTDLQAKAIYILASRETEEKTNKSLS-----P-ISE-----P-----
 SLJAZ10/SLTIFY5b 32 TIFYNGKFVA-SHVTQLQAKAIYILASREMEETNK-----LSE-----P-----
 SLJAZ9/SLTIFY5a 41 TIFYHGKFVV-SDATELQAKAIYILASRGMEKMTNK-----MSE-----P-----
 AtJAZ7/AtTIFY5b 62 TIFYNGHMCVSSDLTHLEANILSLASRDVEEKSLSLRS-----SDGSD-----P-----
 AtJAZ8/AtTIFY5a 47 TIFYNGKMCFSDDVTHLQARSILISIASREMTKS---S-----SNGSD-----P-----
 AtJAZ9/AtTIFY7 121 TIFYGGTISVFNDISPDKAQAIMLCAAGNLKGETGDSKPVREAERMYGKQIHNTAATSSSSA-----THTDNFSRCRDTTPVAAT-----
 AtJAZ3/AtTIFY6b 180 TIFYAGSVCVYDDISPEKAKAIMLLAGNGSSMPQVSPPOTHQQVVH---HTRASVDSSA--MPPSFMPPTISY--LSPEAGSS-----TNGLGATKATRGLTST-----
 AtJAZ4/AtTIFY6a 149 TIFYAGSVLVYODIAPEKAQAIMLLAGNGPHAKPVSQP--KPQKLHV---HSLPTDPT--MPPSFLPSISY--IVSETRSS-----GS-NGVTGLGPTKTKASLAST-----
 SLJAZ6/SLTIFY6c 119 TIFYGGMVNVFEDISPEKAQAIMFLAGHGCGAP-PNVVQPRFQLQASA---SKPAAADGVCVNQTPNMLPASGL---SSPMSVSS---HPI---GQSDGSSGNKDDMKMSKTANISVT-----
 SLJAZ8/SLTIFY6b 97 TMFYAGSVCVYDNISPEKAQAIMLLAGNTPISTTIRNSPSLDHHHH-----HH---H-N---NNNNNNNNSTNETTIIRSIGVLKS-----
 SLJAZ5/SLTIFY6a 136 TIFYGGSVCVYDNVSPPEKAQAIMLLAGNAPVTPNATSTLSPVQAPI----PKSSAIDSFVVNQCRNTTP--TL--ASPISTIT---HGG---AQAARVSTTTNGVTIISIGVLPS-----
 consensus 241 tifygg vlvf dis ekakaim la ka

SLJAZ7/SLTIFY7 157 -----ENKSD-PSN--ASTNYAKGA-AMARRATLARFLEKRKRHR-IKARPYLYGENLSKFPFDIOQ-----QEEETASSSVHWEN-----
 AtJAZ11/AtTIFY3a 185 -----AS-TVACVSTADVP-IAARRSLORFLEKRKRHRFVHTKPY-SATTSEADKNETSPI--VT-----TNGLGATKATRGLTST-----
 AtJAZ12/AtTIFY3b 114 -SNVAS---PAAQPF-PIQP-ISFCRSTADLP-IAARRSLORFLEKRKRDRLVNKNPYPTSDFKKTDVPTGNV--SIKEEFPTA-----
 AtJAZ5/AtTIFY11a 163 NHLTKE---QQ-----QQQEQNQIVERIARRASLHRFFAKRKDRARAPYQVQNAGHHRYPPKPEIVTGQPLEAGQSSQRPDPNAIGQTMAHIKSDGDKDDIMKIEEGQSSKDLDLRL-----
 AtJAZ6/AtTIFY11b 169 GNN--E--DQ-----ETGOHQVVERIARRASLHRFFAKRKDRARAPYQVQNQHGS--LPPKPEMVAPS-IKSGQSSQHIATPPKPKAHNHM-----PMEVDKKEGQSSKNLELKL-----
 SLJAZ3/SLTIFY11a 226 APLVEQ---EQHKQI-QSQ---AAEISSSSELP-IAARRSLHRFLEKRKRDRATVRAPYQVVRNNPLLPSSNT-----NGESSKDSQDLDLNFKL-----
 SLJAZ4/SLTIFY11b 145 -----QTNGSNNFDP-IAARRSSLYRFLEKRKRDRDTARAPYQMHN--PLQ-----SSSRTRGDHFDLNF-----
 SLJAZ13/SLTIFY3 69 -----HHVYKQAE-LP-IAARRKSLKRFFLEKRKRHSRTSKQPYASPECDDHQS-----ENWNTKKINITH-----AQE-----
 AtJAZ1/AtTIFY10a 183 ---R---KTTTQE-PIQ--SSPTPL-TEL-IAARRASLHRFLEKRKRDRVTSKAPYQLCDPAKASSNPQTT-----GN-----MSWGLLAAEI-----
 AtJAZ2/AtTIFY10a 184 ---A---KTAAQE-PIQ--PNPASLACE-LP-IAARRASLHRFLEKRKRDRITSKAPYQIDGSAEASSKPTN-----PAWLSSR-----
 SLJAZ1/SLTIFY10a 143 ---K---TSIQEN-Q---MPNQPIVSDLP-IAARRASLHRFLEKRKRDRITAKVPYHREEAAAPKK--EE-----HK-----APWLGLGGQFAVK-----TEQY-----
 SLJAZ2/SLTIFY10b 178 ---N---KLIQEL-PKL--SMPQPSVADLP-IAARRNSLHRFLEKRKRDRVTSIAPYQISNNKS-K--NE-----DN-----KAWLGLGAQFVK-----EQYF-----
 AtJAZ10/AtTIFY9 153 -----TLRPKLFGQNLGDP-IAARRKSLORFLEKRKRERLVSTSPYYPTSA-----
 SLJAZ11/SLTIFY5c 95 -----SSPLLOPQTVKKSLORFLOKRKRSTOTTSPIYHH-----
 SLJAZ10/SLTIFY5b 71 -----SSPLLOPQTVKKSLORFLOKRKRNRITQITSPYHH-----
 SLJAZ9/SLTIFY5a 80 -----SSPLLOPQTVKKSLOQFLOKRKRQVQATSPYHK-----
 AtJAZ7/AtTIFY5b 107 -----PTIPNN--STRFHYQKASMRSLHSFLOKRSLRIQATSPYHRYR-----
 AtJAZ8/AtTIFY5a 88 -----PNKSTSFHHQLPNPKASMKSLQSFLOKRKRIRIQATSPYHSRR-----
 AtJAZ9/AtTIFY7 200 -----NAMSMIESFNAAP--RNMIPSVQARKASLARFLEKRKRERMSAMPYKKM---LLDLSTGESSGMNYS-----STSP-----
 AtJAZ3/AtTIFY6b 272 YHNNQANGSNINCPV-PVSCSTNVMAPTVALPARKASLARFLEKRKRERVTSVSPYCLDKSSTDCRRSMSECISSS-----LSSAT-----
 AtJAZ4/AtTIFY6a 243 RNN-----QTAASFMAPTVGLPQTRKASLARFLEKRKRERINVSPYVDNKSSIDCRTLMSECVSCP-----PAHHLH-----
 SLJAZ6/SLTIFY6c 223 PH-VKLDTSKIVTSLGPVGATTIMTAGMASVPQARKASLARFLEKRKRERMNLAHYGLSKK-SPECSTPESNGVGSF-----ATS-----TPLLAGKET-----
 SLJAZ8/SLTIFY6b 171 HE-LSKI---VTSQESRQPP---NHNLSAVPQARKASLARFLEKRKRERVSASPYGNGKQSSQHMNFT-----INSSGSSTSLPAAN-----
 SLJAZ5/SLTIFY6a 239 PS-LKAEPSKVTSVGSFPA---SLVPSAVPQARKASLARFLEKRKRERVSASPYPLNSKQSPECSTPELGSRSLS-----MNSSGSCPHIISLVK-----
 consensus 361 lpiarrasL rFlekRkdrL PY