

	1	10	20	30					
Pa.EZA1	..	QQRVLLGKSDVA	GWGAFLKNP	VN.KHEYLGEYT					
Sm.CLF	..	..	RVLLGRSDVA	GWGAFLKTPVN.KHDYLG EYT					
Pa.EZA2	..	..	VLLGRSDVS	GWGAFLKNP	VN.KNDYLG EYT				
Os.CLF	..	..	RVLLGRSDVS	GWGAFLKNSVG.KHEYLGEYT					
Nm.CLF	..	..	RVLLAKSDVQ	GWGAFLQNSVG.RHDYLG EYT					
Mp.CLF	..	..	RVLLSRSDVA	GWGAFLKSTVN.KHDYLG EYT					
Pp.CLF	..	..	RVLLGRSDVA	GWGAFLKKTVA.KHEYLGEYT					
Os.SWN	..	..	RILLGKSDVA	GWGAFIKNP	VN.RNDYLG EYT				
At.CLF	..	..	..	GWGAFLKNSVS.KHEYLGEYT					
Mp.EZA	..	..	KAVLLARSDVS	GWGLFMKEAAI.THDYLG EYT					
At.SWN	..	..	..	GWGAFLKNSVS.KNEYLGEYT					
Mpu.CLF	..	..	ICLGVSATA	GWGAFLKDGA	KNELLEGT				
Mr.CLF	..	..	..	SGVE	GWGCFLKNGAR.KNELLEGT				
Kf.EZA	..	..	..	KKILLGPSEVA	GWGAFCGGAQ.AGELLGEYT				
Ot.CLF	..	..	..	EHVCLGKSGVA	GWGAHVLHGAR.KDDFTIGEYV				
Ol.CLF	..	..	..	EHICLGRSGVA	GWGAFLVKGAR.KGEFTIGEYV				
Cv.CLF	..	..	..	KRVLMGLSGIQ	GWGAFLQDAQ.KDDFTIGEYV				
At.MEA	..	..	..	..	GWGAFTWDSLK.KNEYLGEYV				
Mp.MEA	..	..	..	DSSTISASGRKQSKCQNMRI	LNQKKSVLLARSDVI	GWGLFLKSDAK.KDDYLG EYT			
Pp.Atx6a	..	..	..	TKLGVYKSGIHAL	GLYTTDFIA.EGEVVVEYV				
Pp.Atx6b	..	..	..	KKLAVYKSIHAL	GLYTTDFIA.EREVVVEYV				
Pp.Atxd	..	..	..	KRLAVYKSGIHAL	GLYTTDFIA.EGEVVVEYV				
Mp.Atxra	..	..	..	RRLVVYKSHIHAL	GLYTAELIT.KDEMVEYI				
Os.Atx6	..	..	..	KHLVVYKSSIH	GLGLYTSEFIP.RGSMVVEYV				
Pp.Atxr7a	..	..	..	..	SDLLRFNMLKARKKQLKFQ	RSKIHDWGLVAAEPID.AEEFVIEYV			
Pp.Atxr7b	..	..	..	..	KHLKFQRSKIHD	WGLLALESTIE.AEDFVIEYV			
Mp.Atxr7	..	..	..	..	KRLKFQRSKIHE	WGLIAVDPID.PEDFIEYV			
Pa.Atxr7	..	..	..	..	KRLKFQRSKIHD	WGLVLEPIE.AEDFVIEYV			
Os.Atxr7	..	..	..	..	KRLRFQRSKIHE	WGLVALESTID.AEDFVIEYV			
Nm.Atxr7	..	..	..	..	KKLKFQRSKIHD	WGLVLEPIE.AGDLVIEYV			
kf.Atxr7a	..	..	..	..	KKLKFVRSKIHD	WGIVTDEAIE.AEDFVIEYI			
Sm.Atx5b	..	..	..	..	KSLKFQRSKIHS	WGVIALQSTIE.PEDFVIEYI			
Cp.Atxr	..	..	..	..	KRLKFERSTIHE	WGLFALEAIS.RDDMVIEYV			
Sm.Atxr7	..	..	..	..	KKLLKFQRSKIHA	WGVVAMEVIE.PEDFVIEYV			
At.Atxr7	..	..	..	..	..	WGLVLEPIE.AEDFVIEYV			
Pp.Atx2a	..	..	..	..	RLVFGKSAIH	GMGVFTKRVHY.ANDMIEYA			
Pp.Atx2b	..	..	..	..	RLVFGKSAIH	GMGVFTKQVHY.ANDMIEYA			
Pp.Atx2c	..	..	..	..	RLAFGKSAIH	GMGVFTKQVHY.ANDMIEYA			
Mp.Atx2	..	..	..	..	RLTFGKSAIH	GWGVFTKRAHC.AGDMVIEYA			
Nm.Atxa	..	..	..	..	ERLTFGKSAIH	GWGVFTKKFHR.GGDMVIEYG			
Nm.Atxb	..	..	..	..	ERLTFGKSSIH	GWGVFTKKPHR.GGDMVIEYG			
Sm.Atx2b	..	..	..	..	RRLTFGKSAIH	WGLFAKEPHG.AGDMVIEYA			
Sm.Atx1	..	..	..	..	RLTFGKSGIH	GWGVFAKQIHK.AGDMMAEYA			
Sm.Atx2c	..	..	..	..	RLTFGKSGIH	GWGVFAKQIHK.AGDMMAEYA			
kf.Atxa	..	..	..	..	RLAFGKSAIH	GWGVFAKQSHA.QASFVTEYA			
Cv.Atx	..	..	..	..	..	RVTIGKSGIH	GWGAFAKRRHA.EHDMVIEYV		
Cr.Atxr1	..	..	..	..	VRLAAGKSAIH	WGAFAKVPHK.RGDMVIEYA			
Vc.Atx5	..	..	..	..	..	KSAIH	WGAFAKVPHK.RGDMVIEYA		
At.Atx1	..	..	..	..	..	GFIFAKLP	HR.AGDMVIEYT		
At.Atx2	..	..	..	..	..	GFIFAKLP	HR.AGDMVIEYT		
Cr.Atxr	..	..	..	..	..	GLFAVEPIE	.AGEFVIEYC		
Vc.Atxr7	..	..	..	..	..	GLFAVEPIE	.PSEFVIEYC		
Cp.Atx2	..	..	..	..	..	..	K.SGSMVVEYV		
Pp.Atx3	..	..	..	..	..	VCFGKSAIH	WGLFSRRAIR.EGEMVIEYR		
Mp.Atx5	..	..	..	..	..	RVCFGKSGIH	WGLFARRAIR.EGETVIEYR		
Sm.Atx2a	..	..	..	..	..	RVCFGKSGIH	WGLFARRIYIK.EGEMVVEYR		
Sm.Atx5a	..	..	..	..	..	VCFGKSGIH	WGLFARRTIIE.EGEIVVEYR		
Os.Atx5	..	..	..	..	..	VCFGKSGIHR	WGLFARRGIQ.EGEMVIEYR		
Os.Atx4	..	..	..	..	..	KRVSCGRSGIH	WGLFAAKKIIEGQMVIEYR		
At.Atx3	..	..	..	..	..	FRVCFGKSGIH	WGLFARKSIQ.EGEMVIEYR		
At.Atxr3	..	..	..	..	..	..	WGLFARKSIQ.EGEMVIEYR		
At.Atx4	..	..	..	..	..	..	H.WGLFARRNIQ.EGEMVIEYR		
At.Atx5	..	..	..	..	..	..	WGLFARRNIQ.EGEMVIEYR		
Nm.Atx5	..	..	..	..	..	RRLCFGQSAIH	WGLMARRAIR.NGEIVGEYR		
kf.Atxb	..	..	..	..	..	RLSFGKSGIH	WGLIARKTIL.EGDIVVDEYR		
Pa.Atx5	..	..	..	..	..	NRVCFGKSGVHY	GYGLFATKHIR.GGDMVIEYR		
Cr.Atxr7	..	..	..	..	..	ARITFGKSGIH	WGVFARVDIP.QDAVVEFFR		
Vc.Atx2	..	..	..	..	..	RITFGKSGIH	WGI FARTDIP.QDAIVTEFFR		
Ol.Atxr3	..	..	..	..	..	RLTFAKSNIH	WGLVAKVPHK.AGSIVTQFK		
Ot.Atx	..	..	..	..	..	..	KSNIH	WGLLAKTAHK.AGSIVTEFFK	
Mpu.Atx5	..	..	..	..	..	ERFTFGKSNIH	WGLIAKKPVK.AGSMVIEFFR		
Mr.Atx5	..	..	..	..	..	ERLTFGKSNIH	WGLIAKQFLK.AGSMVVEYV		
Pa.Ashh1	..	..	..	..	..	VKTKLFNTDGR	WGLLADQDIK.TGQFIIIEYC		
Os.Ashh1	..	..	..	..	..	..	KTEGR	WGLLADENIM.AGQFVMEYC	
kf.Ashh4b	..	..	..	..	..	..	KTEGR	WGLYAQEDIK.AGQFVVEYC	
At.Ashh1	..	..	..	..	..	..	WGLVLEPIE	.AGQFIMEYC	
Mp.Ashh1	..	..	..	..	..	..	..	RGWGLAASQDLK.AGDFVMEYC	
Os.Ashh2	..	..	..	..	..	..	AKLKGKFKHTGKKY	GLQLKEDVS.EGRFLIEYV	
Pp.Ashh2a	..	..	..	..	..	..	ANVELFRFCGKKGH	GLRALENIP.RGTFFIEYV	
Pp.Ashh2b	..	..	..	..	..	..	ANVELFRFCGKKGH	GLRALENIP.RGTFFIEYV	
Mp.Ashh3a	..	..	..	..	..	..	APVATFRFCGKKGF	GLKVLKYTP.KDSFLIEYV	
Nm.Ashh2a	..	..	..	..	..	..	AKVRVVNCGRKG	GLQVLVDVP.KGGFFIEYV	
Sm.Ashh2c	..	..	..	..	..	..	..	KKGFGLKALENIA.KGSFVIEYV	
kf.Ashh1	..	..	..	..	..	..	LEVARCGSGKGF	GLRACEDIP.KQTFFFIEYT	
Cr.Ashh2	..	..	..	..	..	..	ANLEIRRAGAKGF	GLFALEDIK.AGQFIIIEYI	
Vc.Ashh1	..	..	..	..	..	..	ANLEIRRAGAKGF	GLFALEDIK.AGQFIIIEYI	
Cv.Ashh2	..	..	..	..	..	..	KLDVKRAGAKGF	GLFAAEDMK.AGQFLIEYL	
Ol.Ashh4	..	..	..	..	..	..	VRRTGKKGH	GLFAAERVG.AGEFVLEYC	
Ot.Ashh2	..	..	..	..	..	..	KEVNVKRTGKKGH	GLFAAQDVR.AGEFVMEYC	
Mr.Ashh2b	..	..	..	..	..	..	AKLDIORTGRKH	GLFTKQALK.KGQFIIIEYI	
Mp.Ashh2a	..	..	..	..	..	..	..	KKGYGLRIMENAR.KDTFLIEYV	
At.Ashh2	..	..	..	..	..	..	..	GYGLRLLLEDVR.EGQFLIEYV	
Os.Ashh3c	..	..	..	..	..	..	..	RKTKLIKTEKCGNVVAEEDIK.KGEFVIEYV	
Nm.Ashh2b	..	..	..	..	..	..	..	RKIRPVKTERCGWVEALEDIK.AGDFIIIEYV	
Sm.Ashr3	..	..	..	..	..	..	..	RRLRLKETENCGWLFADENIE.RGDFLIEYI	
Pp.Ashr3a	..	..	..	..	..	..	..	KTERCGWGLVADEDIK.AGSFLVIEYV	
Mp.Ashh3b	..	..	..	..	..	..	..	KTDHCGWGLKADAIK.AGDFLVIEYV	
Os.Ashh3b	..	..	..	..	..	..	..	KKIKAVKTKRCGWGAISLEPLE.KGDFIIIEYV	
Mp.Ashr3a	..	..	..	..	..	..	..	RLKIVKTLQCGWGAESAELIR.KGEFIIIEYI	
Pp.Ashr3b	..	..	..	..	..	..	..	KRLKVSKTAHCWGAFTSVAIK.KDEFVIEYT	
Nm.Ashr3	..	..	..	..	..	..	..	KKMSIVKTRYCGWVEAGEDVK.EGEFIIIEYA	
Os.Ashh3a	..	..	..	..	..	..	..	..	CWGSRALEAIE.KDDFVIEFV
At.Ashr3	..	..	..	..	..	..	..	..	GWGVEAAESIN.KEDFVIEYI

Contd...

Contd...

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Pp.Atxr5      . . . . .
Nm.Atxr5      . . . . .
Pa.Atxr6a     . . . . .
Pa.Atxr6b     . . . . .
At.Atxr6      . . . . .
Os.Atxr6      . . . . .
At.Atxr5      . . . . .
Os.Atxr5      . . . . .
Cv.Ashr3b     . . . . . WGVFATRPLP.AGTLLELC
Sm.Ashh1      . . . . .
At.Atxr1      . . . . .
Cr.Suvc       . . . . . RVRLSWVPGK GWAFAAEPLP.AGAFVCRYE
Mpu.Suvh10    . . . . . RMEVFRTEGK GWGVRSWDP I K.AGEFVCEFT
At.Ashr2      . . . . . TSF
Sm.Ashr2      . . . . . M
Nm.Ashr2      . . . . . RRERRVRAYGIYVVASL
Cv.Ashr2b     . . . . . ASL
Vc.Ashr2      . . . . . ASL
Mr.Ashr2      . . . . . SR
Mpu.Ashr2     . . . . . SR
Ol.Atxr4      . . . . . YVSL
At.Ashr1      . . . . . SI
Mr.Ashr1b     . . . . .
Os.Atxr1      . . . . . F
Cr.Ashr1      . . . . . NCHTV.CDEELRPLGTALYPSGAL
Cv.Ashr1      . . . . . FGCNSHTI..SDDELQPLAVGIFPLGAM
Cr.Ashr2      . . . . . TLMVPYADL
Ot.Atxr4a     . . . . . GVVLLGSASN
Sm.Atxr4      . . . . . SM
At.Atxr4      . . . . . SF
Os.Atxr4      . . . . . ARIRINAFRIELVASSYENLLSSAVA..SVSCDAAVGNNAVYMLPSF
Cv.Ashr2a     . . . . .
Mpu.Ashr1     . . . . .
Ot.Atxr4b     . . . . .
Mr.Ashh1      . . . . . MIKFAGQVIDSYAEERTLDPTLALAEWRW.AMRVHS.RTFRVEDERGVRPTRRALIAAAA
Sm.Suvh2      . . . . . KNLRFSRALKKNLRFSGLRAKARRRSHSQRFMRQICGEVLEDKGSPTKYK
Cv.Atxr       . . . . . GVLVRASVAEARERRYRQQGRDCYLFNLDQHVLDATRAGATSKF
Pa.Atx1       . . . . . LFKISEEVVVDATEKGNVARL
Pa.Atx4       . . . . . ARL
Mp.Atxr2      . . . . .
Nm.Atxr2      . . . . .
Os.Atxr2      . . . . . FIHIDDLPDDEKEEAKEVTRPFLDALGEDYAAPCEGTAF FPLQSC
Sm.atxr2      . . . . .
Ol.Atxrb      . . . . .
At.Atxr2      . . . . .
consensus>50 . . . . . gwg...e.i...g.fv.ey.

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	40	50	60
Pa.EZA1	GELISHKEADKR	GKIYDRE.....DSSFL.....	FNLNDQ.....
Sm.CLF	GELISHREADKR	GKIYDRE.....NSSFL.....	FNLNDQ.....
Pa.EZA2	GELISHREADKR	GKIYDRE.....DSSFL.....	FNLNDQ.....
Os.CLF	GELISHKEADKR	GKIYDRE.....NSSFL.....	FNLNNE.....
Nm.CLF	GELISHTEADKR	GKIYDRV.....NSSFL.....	FNLNDQ.....
Mp.CLF	GELISHREADKR	GKIYDRE.....NSSFL.....	FNLNDQ.....
Pp.CLF	GELISHREADKR	GKIYDRE.....NSSFL.....	FNLNDQ.....
Os.SWN	GELISHREADKR	GKIYDRA.....NSSFL.....	FDLNEQ.....
At.CLF	GELISHKEADKR	GKIYDRE.....NCSFL.....	FNLNDQ.....
Mp.EZA	GELVTQQEADKR	GKIYDLV.....NLSFL.....	FDLNET.....
At.SWN	GELISHHEADKR	GKIYDRA.....NSSFL.....	FDLNDQ.....
Mpu.CLF	GELITQVEADRR	GKIYDRV.....NCSFL.....	FNLNDQ.....
Mr.CLF	GELISQTEADRR	GKIYDKL.....NSSFL.....	FNLNDQ.....
Kf.EZA	GELVTDQEAER	GRVYDAN.....NKSFL.....	FQLNDQ.....
Ot.CLF	GELVTQDEADRR	GMVYDRN.....NCSYL.....	FDLNSE.....
Ol.CLF	GELVTQDEAERR	GTVDYDN.....NCSYL.....	FNLNSE.....
Cv.CLF	GELINHEEADRR	GTVDYDR.....DNSYL.....	LE.....
At.MEA	GELITHDEANER	GRIEDRI.....GSSYL.....	FTLNDQ.....
Mp.MEA	GELISQREADKR	GKIYDIV.....NLSFL.....	FDLNDK.....
Pp.Atx6a	GEIVGSRVADKR	EAEYHSG..KRL.QYQGACYL.....	FRIDTEQII..
Pp.Atx6b	GEIVGHRVADKR	EVEYHSR..KRL.QYQGACYL.....	FRIDTEQII..
Pp.Atxd	GEIVGSRVADKR	EAEYHSG..KRL.QYQGACYL.....	FRIDTEQII..
Mp.Atxra	GEIVGLRVADKR	EADYHSG..KLLISHQGACYL.....	FRIDKERII..
Os.Atx6	GEIVGQCVADKR	EIEYQSG..KRQ.QYKSACYF.....	FKIGKEHII..
Pp.Atxr7a	GEVIRNRVTDIR	EKRYEA.....IGIGSSYM.....	FRVDDHTLNT
Pp.Atxr7b	GEIIRRVQSNFR	ERQYEI.....MGIGSSYL.....	FRVDDDELVV..
Mp.Atxr7	GELIRTKISDLR	EHLYES.....RGIGSSYL.....	FRIDDEFV..
Pa.Atxr7	GELIRPKISDIR	ERQYEK.....MGIGSSYL.....	FRVDHEYV..
Os.Atxr7	GELIRRVQSDIR	EDQYEK.....SGIGSSYL.....	FRLDDDYV..
Nm.Atxr7	GELIRRKVSDIR	EKKYEA.....MGIGSSYL.....	FRIDDDYV..
kf.Atxr7a	GQVIRRPVSELR	EQRYEK.....LGIGSSYL.....	FRIDDDNVI..
Sm.Atx5b	GELVRSKVADLR	ERRYEK.....MGIDSSYL.....	FRVDAENVV..
Cp.Atxr	GEVIRQKVADER	EKAYEK.....VGIGSSYL.....	FRIDEDSIV..
Sm.Atxr7	GEVLRPKVADVR	EVRYLR.....QGLGSSYF.....	FRVGDGFVI..
At.Atxr7	GELIRSSISEIR	ERQYEK.....MGIGSSYL.....	FRLDDGYVL..
Pp.Atx2a	GEVVRPVVADSR	ERRHYDS.....LVGAGTYM.....	FRIDDERVV..
Pp.Atx2b	GEVVRPVIADIR	ERRFYDS.....LVGAGTYM.....	FRIDDERVV..
Pp.Atx2c	GEVVRPVIADIR	ERRCYDS.....LVGAGTYM.....	FRIDDERVV..
Mp.Atx2	GEIVRPIIADIR	ERRSYDS.....LVGAGTYM.....	FRIDDERVV..
Nm.Atxa	GELVRPVVADMR	EKRCYDS.....LVGAGTYM.....	FRVDEERVV..
Nm.Atxb	GELVRPVVADMR	EKRCYDL.....LVGAGTYM.....	FRVDEERVV..
Sm.Atx2b	GEIIRPTVADVR	EKRCYNS.....LVGAGTYM.....	FCIDNERVV..
Sm.Atx1	GEIVRSNIADIR	ERRHYDS.....LVGAGTYM.....	FRIDDERVV..
Sm.Atx2c	GEIVRSNIADIR	ERRHYDS.....LVGAGTYM.....	FRIDDERVV..
kf.Atxa	GEVVRQAVADAR	EKNLYNS.....LVGAGTYM.....	FRIDQQRVV..
Cv.Atx	GELVRPVSVDLR	EARCYDD.....MVGAGTYV.....	FRLNKALCV..
Cr.Atxr1	GELIRPVVSDVR	EKRMVND.....LVGCGTYI.....	FSLNGQQHI..
Vc.Atx5	GELIRPVSVDVR	EKRMYNK.....LVGCGTYI.....	FTLNDDQHI..
At.Atx1	GELVRPSIADKR	EQLIYNS.....MVGAGTYM.....	FRIDDERVI..
At.Atx2	GELVRPPIADKR	EHLIYNS.....MVGAGTYM.....	FRIDNERVI..
Cr.Atxr	GVRLRKPLDVR	QRQYDA.....AGYMDYM.....	FAVDGAWVV..
Vc.Atxr7	GVLIRKPLDVR	QRQYDA.....AGYADYM.....	FAVDNNWVV..
Cp.Atx2	GEVIQPPVADLR	EPKYRK.....ERLGDYF.....	FRISETBII..
Pp.Atx3	GERVRGSVADLR	EIRYHKEGK.....DC.YL.....	FKINEE..I..
Mp.Atx5	GERVRRRIADQR	EKRYTKEGK.....DC.YL.....	FKVSDDDDL..
Sm.Atx2a	GERIRRSVADLR	EKRYCLEGK.....HC.YL.....	FKISEE..V..
Sm.Atx5a	GEQVRRSVADLR	EKRYRDQGK.....DC.YL.....	FKISEE..I..
Os.Atx5	GEQVRRSVADLR	EEQYRVQGK.....DC.YL.....	FKISEE..V..
Os.Atx4	GDQVRRSVADLR	EARYHREKK.....DC.YL.....	FKISED..V..
At.Atx3	GVKVRRSVADLR	EANYRSQGK.....DC.YL.....	FKISEE..I..
At.Atxr3	GVKVRRSVADLR	EANYRSQGK.....DC.YL.....	FKISEE..I..
At.Atx4	GEQVRGSIADLR	EARYRRVGK.....DC.YL.....	FKISEE..V..
At.Atx5	GEQVRGIADLR	EARYRREGK.....DC.YL.....	FKISEE..V..
Nm.Atx5	GVLVGGVVANMR	EERYQQQGK.....HC.YL.....	FKIDEE..H..
kf.Atxb	GTLVRPVSANLR	EKYYRRIGK.....DC.YL.....	FKVDDQ..H..
Pa.Atx5	GDIIIRDSVADVR	EKRRHSHFK.....HSTYF.....	FTIDKE..T..
Cr.Atxr7	GEVVRPVLAEVR	ERRYRAAGRAWACAGKDC.YL.....	FHVSRE..L..
Vc.Atx2	GEAVRPVADLR	ERRYKAQGR.....DC.FL.....	FHMNGE..V..
Ol.Atxr3	GETCRSTVADLR	ETFYEDNGV.....DC.YL.....	LKQDDD..T..
Ot.Atx	GETCRSTVADMR	ETAYEEEGV.....DC.YL.....	LKQDDD..T..
Mpu.Atx5	GEIVKPHVADLR	EKAYDDANI.....DC.YL.....	LKADEK..T..
Mr.Atx5	GERLRPSVADLR	EKVYERTGH.....DV.YL.....	LAADDK..T..
Pa.Ashh1	GEVISREEARRR	SQAYEAA.....GLKDAFI.....	ISLNKSELI..
Os.Ashh1	GEVISWKEAKRR	SQAYENQ.....GLTDAYI.....	IYLNADESI..
kf.Ashh4b	GEIINDREAVKR	SEDYRRR.....GLRDHYM.....	LILSGSEVI..
At.Ashh1	GEVISWKEAKRR	AQTYETH.....GVKDAYI.....	ISLNASEAI..
Mp.Ashh1	GEVVPVKEALQR	AKAYETS.....GTTNWFY.....	LNLNGGEYI..
Os.Ashh2	GEVLDITAYESR	QRYYASK.....GQKHFFYF.....	MALNGGEVI..
Pp.Ashh2a	GEVLDMPSEFAR	QKEYSMN.....SQKHFFYF.....	MTLSANEII..
Pp.Ashh2b	GEVLDMPSEFAR	QKEYSMN.....SQKHFFYF.....	MTLSANEII..
Mp.Ashh3a	GEVLDVGAFER	QQDYARN.....GQKHFFYF.....	MTLSSTEVI..
Nm.Ashh2a	GEVLDDETFEAR	QWEYRFE.....DQRHLYF.....	MTLNATEVI..
Sm.Ashh2c	GEVLDSEFELR	QKEYARQ.....RQKHFFYF.....	MTLNSSEVI..
kf.Ashh1	GEVLDEATFEGR	LRQYARE.....GQRHMYF.....	MTIGNGEYI..
Cr.Ashh2	GEVLEEDERYQR	KEYYMSV.....GQRHYFF.....	MNIGNGEVI..
Vc.Ashh1	GEVLEEDERYQR	KEYYMSV.....GQRHYFF.....	MNIGNGEVI..
Cv.Ashh2	GEVLEEEYHRRQGA	AWKEYFIET.....GQRHYFF.....	MNVGNGEVI..
Ol.Ashh4	GEVLHEEAYKER	KRRYQDE.....GRSHYYF.....	MTLSSSETI..
Ot.Ashh2	GEVLHEDAYAE	KQRYHDE.....GRSHYYF.....	MTLSSSETI..
Mr.Ashh2b	GEVLHEDEYRSR	KARYDDE.....GRRHYFF.....	MTLSSSETI..
Mp.Ashh2a	GEVLDKRVRAAR	EQDYIRO.....GREHLYF.....	MSLSRTQTI..
At.Ashh2	GEVLDMSYETR	QKEYAFK.....GQKHFFYF.....	MTLNGNEVI..
Os.Ashh3c	GEVIDDRICEQL	WKMKRQ.....GDTNFYL.....	CEVSSNMVI..
Nm.Ashh2b	GEVIDDEICEKRL	WAMKAM.....GETNFYL.....	CELNKDMVV..
Sm.Ashr3	GEVIDDKTEERL	WDLKER.....GENNFYL.....	CEVGHDKVI..
Pp.Ashr3a	GEVIDDQTEERL	WAMKKQ.....GEMNFYM.....	CEISREMMVI..
Mp.Ashh3b	GEVIDDETEKRL	WAMKEQ.....GESNFYM.....	CEISREMMVI..
Os.Ashh3b	GEVINDATCEQL	WDMKRR.....GDKNFYM.....	CEISKDFTI..
Mp.Ashr3a	GEVINDAMCENRL	WAMKKG.....GSKFYF.....	CEIMKDFII..
Pp.Ashr3b	GEVIDDAMCEKRL	WEMKGR.....SICNFYM.....	CEIAKDFII..
Nm.Ashr3	GEVIDDALCEKRL	WDLRAR.....GAENFYF.....	CEISKNLVI..
Os.Ashh3a	GEVIDDETEERL	EDMRRR.....GDKNFYM.....	CKVKDFVI..
At.Ashr3	GEVISDAQCEQL	WDMKHK.....GMKDFYM.....	CEIQKDFTI..

Contd...

At.Ashh4 GEVIDDKICEERL...WKLNHK...VETNFYL...CQINWNMVI..
At.Ashh3 GEVIDDKICEERL...WKMKHR...GETNFYL...CEITRDMVI..
kf.Ashh4a GEVLDSALCHQRI...SALER...GAHNRHL...CQLDDSFVL..
Ol.Ashh2 GEILDEHECAERL...WYDKQS...GEENFYL...MEISANYVI..
Ot.Ashh1 GEILNEADVANRL...WLDKQE...GEENFYL...MEISTNYVI..
Mr.Ashh2a GEILDEHTTEKRL...WEDKKR...GEDNFYL...MEVMPNQCI..
Cv.Ashh4 GEVIDDKECSSRA...EDAKAR...NEPHFYM...MEMAPGLII..
Cv.Ashh1 GEYIS...NAEAQRRLKEYD...TSGGGH...ALLVIREWLPSGTAA..
Pp.Suvr3a GELLT...TVQSRERQSLYD...AGNTSCGS...ALLVVREYMPSGEAC..
Sm.Suvr3 GELLT...TKEARKRHQTYD...QSPRA...T...SLLVVREHLPKGDAC..
Kf.Suvr3 GELLT...NAEANRRHLIYDCPE...YHSSGRPPP...ALLVVREHLPKSTAS..
Os.Suvr3 GELLT...TEEARRRQGLYD...E...LASVGKLS...ALIVIREHLPKSGKAC..
At.Suvr3 GELLT...TDEARRRQNIYD...K...LRSTQSFAS...ALLVVREHLPKSGQAC..
Mpu.Suvr3 GEVID...AAAAAKRLRIVDENKSSNYVLVSRMGTAGGGDG...GGGDDDDDEGEAAANE..
Pp.Suvr3b GEMLT...QDQAQRYGSYY...DALKRSY...LYDLDYPESKKT..
Mp.Suvr5a GDVLT...QAEADERGEKY...DQNQLSY...LFNLDHPGVEHS..
Mp.Suvr5c GDVLT...QAEADERGEKY...DQNQLSY...LFNLDHPGVEHS..
Nm.Suvr5b GELLT...QAEAEERAHEY...DASRVSC...LFNIDPEPLADP..
Pa.Suvr3 GEMLT...EGEVSKRGLVY...PEYNSSY...LFNVDPHPAVPQE..
Pp.Suvr5a GEVVN...DREANQRGVRY...DQDGCSY...LYDIDAHLDMPSISRAGA..
Nm.Suvr5a GEVVD...DREANRRGERY...DQVGCSY...LYDIDVHDPAPFRNRV..
Mp.Suvr5b GEVLH...DQEANKRGERY...DQVGCSY...LYDIDAHLDISGTGRRS..
Sm.Suvr5 GEVLN...DQEANRRGERY...DQVGCSY...LYDIDVHDLNTGGRSRRGP..
Pa.Suvr5b GEVLS...DQEANKRGERY...DKGGCSY...LYDIDPHIATNDFMEET..
Pa.Suvr5a GEVLN...DQEANKRGERY...DNEGCSY...LYDIDAHIDTDLTDGV..
Pp.Suvr5b GEVLN...DSEANKRGRKRAL.VLDDLFVSLRELTKRTSWNY...LYNIDAHLDDVVGKSSIS..
Pp.Suvr5c GEVLN...DKEANERKGREPHEYTDTFVCSRY...DQVGCSY...LYNIDAHLDIVGSKSVS..
Os.Suvr5 GEVLKMKDDGAIRHVERE...AKSGSSY...LFEITSQIDRERVQTTGT..
At.Suvr5 GEVLD...QQEANKRNRQY...GNGDCSY...ILDIDANINDIGRLMEEE..
Pp.Suvr4b GEILT...NTEMWFRNN...E...SHRSAKH...HFSNLNDAWCE..
Pp.Suvr4a GEILT...NTEMWERNNEII...RNGEGRH...TYPVALDGDWGE..
Mp.Suvr4 GEIMT...NIELDKRNHAQK...GESVGAH...TYPILLDGDWGE..
Os.Suvr4a GEILT...NIELYDRT...IQ...KTGKAKH...TYPLLLDADWGE..
Os.Suvr4b GEVLT...STELHERT...LQ...NMNNGRH...TYPVLLDADWGE..
Sm.Suvr1 GEILT...NTELDERNE.ER...FLKQSRH...FYPIYLDSDVCTE..
At.Suvr4 GEILT...NTELYDRN...V...RSSSERH...TYPVTLADWGE..
Kf.Suvr4 GEILT...TDELDTRN...R...ALGNEKK...HFPTENACPVTE..
At.Suvr1 GEILT...IPELYQRS...FEDKP...TLPVILDAHGWGE..
At.Suvr2 GEILT...IPELFR...ISDRP...TSPVILDAYWGSE..
Nm.Suvr4 GEIVT...NLEQOMERNK...N...FEMDDVE...GFPVQLDAHYEIEHNFDD..
Sm.Suvh5 GEVLD...FSSSARH...DYQFQMPGDARFPA..
Sm.Suvh10 GEVLE...DKGSPS...TYKFAIGPE..
At.Suvh5 GELLE...DKQAESL...TGKDEYLFDLGDED..
Mpu.Atxr1 GEIVRRPIADREAAEAAAIARRAKDAADSAAARRGDPPPPPPSE...ADLAAASTYM..
Os.Atx1 GELVRPPISDIRERRIYNSLVPEGYMWKTLVKLIGLFMEFNLKALMGVITITFLGAGTYM..
kf.Atxr3 GELIRPKISDLHEKQYRAQKMGISDMREKQYRAQKMGCYF...FGFPP..
Pp.Suvh4a GTLR.RNDENLESMLDNSYIFELDLLQTM...QMGEGRO...KRGDVMPELSDDED..
Sm.Suvh4 GKVI.KSDS.LD.VKSDVYLFDLDCIQTM...RGVDGRQF...LDYQNGKVSCESDAED..
Os.Suvh4 GVL.RTEE.VDGLLQNNYIFDIDCLQTM...KGLDGRE...KRAGSDMHLPSLHAEN..
At.Suvh4 GVVR.RTAD.VDTISDNEYIFEIDCQOTM...QGLGGRQ...RRLRDVAVPMNNGVVSQS..
Pa.Suvh4 GILM.RTDE.LDSVLENNFIFEIDCVQTM...KGIDGRQ...RRLGDVSKH..
Kf.Suvh4b GEQL.RDSE...VGNRDDMYLFLNLD TAKTS...LEV...RHDRAKKNLNVDET..
Pp.Suvh4b GELL.TATA.AADRENDEYLFNLD FHKNA...RGR...GKPSKSKRQA..
kf.Suvh4a GQIL.TDAQ.AHECDDDSYLFNID.PTT...DGF...VGEFFGAEAS..
Mp.Suvr3 GEVV.HTSEAEQRTVSDDYLFDLNVPQ...SQSKRFGDV...SG...LVEDVSDSGDESE..
Sm.Suvh6 GELL.SNEEAERVRVQDEYIFDIDCIK...GSRSRGVDI...SS...FFEE.KDGGEICE..
Nm.Suvh4 GRVL.KDTDGE.KVDCDEYLFDLDIRIMKYSAKSRWGDV...SD...IDTDEHYASKLS..
Pa.Suvh5b GELL.SDMEAEQRTGNDEYLFDIGSG...SN...DQSLWDGL...AGLVNELPSSHIS..
Pa.Suvh5a GKLL.SDTEAEQCVGNDEYLFDIGRNCSTK...EQSLWTRL...STLMPEIADAD..
Os.Suvh5c GILL.TDKEADKRT.NDEYLFDISHNCDD...DCSK.GRP...TSSISSLNSSGGC..
Os.Suvh5d GEVL.EDEEAQKRT.TDEYLF AIGHN...YY...DEALWEG...SRISPSLQKGP..
Os.Suvh5a GEVL.EDEEAQKRS.TDEYLF AIGHN...YY...DEALWEG...SRISPSLQKGP..
At.Suvh5b GEVL.QE.NGDEHVETDEYLFDIGHHYHDEVWEDPKFEG...LGLESSTKTTEDTEGS..
At.Suvh6 GELL.EDSEAEARRIGNDEYLFDIGNRY...DNSLAQGM...SELMLGTQAGRSM..
Pa.Suvh7b GEVL.SDSDEQEDEDNDYLLRANH IQESRTDLDSISDVL...SEQNQGTYTTP..
Pa.Suvh7c GEIL.LDEEIDQFEENQYVLNANKS QENLTDWGNVSDML...PEKKQDGASPT..
Pa.Suvh7a GQVVPVAAQAAIACHSDGEYVLNLRHAQK.RTEWGSVSDIL...CEEEOQQOAGS..
Os.Suvh7 GEVV.DDTKVNL.DGEDDYLFRTVCPGEKTLKWNYPGELI...GEHSINTSADT..
Os.Suvh8 GEVI.DELKVNL.DDSEDDYIFQTVCPGEKTLKFNFGPELI...GEESTYVSAD....
Os.Suvh11 GEVI.DETKMDIDVEEDKYTFRASC PGNKALSWNLGELL...EEKSTAVITKN..
Os.Suvh1 GEVI.DRNSI...IGEDDYIFETPS.SEQNLRWNYAPELL...GEPSLSDSSET..
Cv.Suvh4 GVLL...AHKEAESRRNDAYLFDL EHFFLMHRDP SMKGQRR...QRLPPLPADVRGP..
At.Suvh8 GVSK.TKEEVE...EDDDYLFDTSGRIYHSFRWNYEPE...LLCEDACEQVS..
At.Suvh7 GLRK.TKEEVE...EDDDYLFDTSGRIYQFRWNYEPE...LLLEDSEQVS..
At.Suvh3 GEVK.DNGNLRGNQEEDAYVFDTSRVFNSFKWNYEPE...LVDED PSTEVP..
At.Suvh1 GEAK.DKSKVQQTMAANDDYTFDTN VNYNPFKWNYPG...LADEDACEEMS..
Pa.Suvh2c GNLC...L...SRNTSMHKFIFFISSIPMEGNWGD LRG...VVDDDELVLASP..
Pa.Suvh2b GDLI...VDPSPSNSMKNKFIFFISSISMEGNWGD LRG...LVDDDVVSVP..
Pa.Suvh2a GDLI...VDRSPNNSNKNKFIFFITSSSMQG...YGASS..
Os.Suvh2 GIVLTHQQSEIMAA...NGDCIVRPSRFPP.RWLDWG...DVSDVYPEVAPN..
Os.Suvh9 GDVLSLDSHSGDAPLPPMEDGSSIIDPTKFPE.RWREWG...DASVVYPDRV.PH..
At.Suvh2 GVVVTRLQAEILSM...NGDVMVYPGRFTD.QWRNWG...DLSQVYPDFVRPN..
At.Suvh9 GVALTREQANILTM...NGDTLVYPARFSSARWEDWG...DLSQVLADFPERPS..
Cv.Suvh2 GEVYDAEEHELVRTVEEQDAEYTFDM...APR...PDTNWDGTEKV..
Mpu.Suvh4 GEIITQKEAAKERNYSQQLFYLHDVHTNYRSK...RKSPIDRSNKI..
Mpu.Suvr5 GEVLTESEAAARCVNSGDDDYIFSL...DHFDVAYQ..
Cr.CLF GD LITQDEANRRGSVYDH.MNNRGNKLRCAHNSSEPVAKAKVLLVDGESRIAFADKP..
Pa.Suvh10a GELLTTVEAREQRHYDDAIVNKHNSCSALLVIREHLPSGSIL...ARLCFFASRD..
Pa.Ashr2a GEICDADEFRFRAIDYQK...QADVHFYFMLETGDEKIDASRK...SAEGRFANHS..
Cp.Ashr2b GEIIDEEMEARRAESE...GAA...YFMRNLNGPYIIDAPR...ATYARFLNHS..
Pa.Ashh2b GEVIDDETCEKRLWAMKE...QGESNFYMCEISREMVIDATFK...GNLSRFINHS..
Mpu.Suvr4 GEILTNTELYNNNE.RM...GNEKHTYPLLDADWCSEGVLK...DEDALCLDAT..
Cr.Ashh1 RKGN TARLINSSCEP...NCETQKWHDAATGE...VRVGIFALRD..
Cr.Suva GQLITDAMAEVRKGVHDY...LFDLDFFAHIYA...GEESQOQQOAGS..
Os.Suvh10 GELLTTEEARRQGLYD...GEESQOQQOAGS..
Pa.Suvh10b GEVLSDSDESEQENED...GEESQOQQOAGS..
Pa.Atx6 ..
Cr.Suvb Y..
Vr.Suv Y..
At.Suvh10 ..
Ot.Ashh4 ..EFYAVHRKGFVVCKE..
Os.Atxr3 ..YVAYRKGLGVVCKN..
Mpu.Atxr5 ..GHGLVVCVRADGIPKGA

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Pp.Atxr5      . . . . .
Nm.Atxr5      . . . . .APLLVRHDE
Pa.Atxr6a     . . . . .PPLSVVFD
Pa.Atxr6b     . . . . .P
At.Atxr6      . . . . .
Os.Atxr6      . . . . .
At.Atxr5      . . . . .
Os.Atxr5      . . . . .
Cv.Ashr3b     G.MVCTGEEVDDAVAAEPRGVGGLRADQIKALWMTAGGEEGGRQPPRNGWARELVIDGSE
Sm.Ashh1      . . . . .GRGLFATKALKAGDLIFATRPLAME . . . . .DYFNDLSLKQDILNKASD
At.Atxr1      . . . . .GRGLFATKNIVAGTLVLVTKAVAIERGILGNGECEGKAQLIMWKNFVEEVTSVRK
Cr.Suvc       GELLRSGEAEERRLRHVYDCSSSSRYGSSSSGSSSRSSSGSGSTGAGFYKE.EGEEVER.KE
Mpu.Suvh10    GEMLTHSEAEERKGEHEHEDAYEGAGEYDEYLFGLNPSHPFLAALLKGEYDDEDVKKFKA
At.Ashr2      FNHDCLPNACRFDYVDSASDG . . . . .NTDIIIRMIHDVPEGREVCLSY . . . . .
Sm.Ashr2      LNHDCLPNACRFEYLDKPGAS . . . . .NTDIYIRLLHDVPPQGSEICVSYFPPVNW . .
Nm.Ashr2      INHDCLPNVARFDYVDQSN . . . . .GHNKDIILRAMHDIPKGTETMSYFPPINW . .
Cv.Ashr2b     INHECLPNVARFDRFDASSAPASSAPHPGANTAVEFRALHDIPAGEELTQSY . . . . .
Vc.Ashr2      INHECLPNVARFDDFSDLPD . . . . .RTHVTFRALHDLPPGTELAQSY . . . . .
Mr.Ashr2      FNHSCAPN.CTWSFVHESESKEPG . . . . .GGAVSVNVRAIKPVKSGDELITISY . .
Mpu.Ashr2     FNHSCAPN.CTWHFAPPGSAD . . . . .SPVSVTVKAIKPIKKGDEATVCI . . . . .
Ol.Atxr4      LNHSCAPN.CHTHWENGDS . . . . .SLTIRALREIAPGEEITISY . . . . .
At.Ashr1      INHSCSPNAVLFVE . . . . .EQ . . . . .MAVVRAMDNISKDSEITISY . . . . .
Mr.Ashr1b     FNHSCVPSEFCNV . . . . .GT . . . . .SLTVRSLRRVQAGEEITVSY . . . . .
Os.Atxr1      INHSCHPNARRTHV . . . . .GD . . . . .HAIVHASRDIKAGEEITFAY . . . . .
Cr.Ashr1      ANHSCRPSSTVQVFR . . . . .GR . . . . .TLQLRALRPLAPGQEVTLCY . . . . .
Cv.Ashr1      ANHDCRPNTLHAFR . . . . .GG . . . . .RMVFRAVRAIQPGEEVTTISY . . . . .
Cr.Ashr2      ANHSFRPNATFCMARD . . . . .NK . . . . .RFELRLLGPLAPGEEAAISYGETKPNP .
Ot.Atxr4a     INHSCEPSEVAFIH . . . . .DA . . . . .RAHVIATRDITKGEETISY . . . . .
Sm.Atxr4      FNHSCDANVNIYWRE . . . . .NA . . . . .FAQLKALQPIEPGKELCITY . . . . .
At.Atxr4      YNHDCDPNAHIIWLH . . . . .NA . . . . .DARLNTLRDVEEGEELRICYIDASMG .
Os.Atxr4      YNHDCDPNTHIVWLA . . . . .SA . . . . .DARLKALRNIEEGEELRICYIDASMD .
Cv.Ashr2a     .NHAADPSCDFRLNAG . . . . .EG . . . . .CVELVAVKDLQPGQEATISY . . . . .
Mpu.Ashr1     INHACAPNAAV.AVAG . . . . .ED . . . . .VATAYALRAIEPGEEITVSY . . . . .
Ot.Atxr4b     CNHSCDPNAEVSAISD . . . . .QG . . . . .EVTLYSLRPIAAGEEITICYG . . . . .
Mr.Ashh1      DLLNHTSVSDEVNCEWVADDT . . . . .YFVVSATRDVPKNGELLFKYG . . . . .
Sm.Suvh2      FAIGPELVIDAEKYGNVARLR . . . . .HITMFAAKDIAAGEELTFDYS . . . . .
Cv.Atxr       TNHSCSPSMYSKILNIDGRQ . . . . . . . . . .RLVFFARHDIEVGQELTYNY . . . . .
Pa.Atx1       INHSCMPNCYARIMSIDGEES . . . . .RIVLIAKKDVAAGEELTYDYQFD . . . . .
Pa.Atx4       INHSCAPNCYARIMVVDGVES . . . . .RIALIAKKDVAAGEELTYDY . . . . .
Mp.Atxr2      .NHSCRPNAKAFKREED.RDG . . . . .AAVLLAIRPIRKGEETISY . . . . .
Nm.Atxr2      MNHSCAPNAKAFKREED.KDG . . . . .SAVLLTARAIAKAGEEVRISY . . . . .
Os.Atxr2      MNHSCCPNAKAYKREED.TDG . . . . .NAVIIALEPIKKDDEITISYIDED . . . . .
Sm.atxr2      INHSCEPNAKAFKREED.ING . . . . .NAVIIATRKIMKGEQIFTSY . . . . .
Ol.Atxrb      FNHDCDPNCEPMKGEED.IDG . . . . .ACVIIARRDIAAGEELTIS . . . . .
At.Atxr2      . . . . .AFKREED.RDG . . . . .QAVIIALRRISKNEEVTISY . . . . .
consensus>50 ge . . . . .d.r . . . . .

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Contd...

	70	80	
Pa.EZA1	FVLDA	YRKGD	KLKFANHSPN
Sm.CLF	YVLDA	CRKGD	KLKFANHSPN
Pa.EZA2	YVLDA	YRKGD	KLKFANHSPN
Os.CLF	YVLDA	YRKGD	KLKFANHSPN
Nm.CLF	FVLDA	YRKGD	KLKFANHSPN
Mp.CLF	YVLDA	CRKGD	KLKFANHSPN
Pp.CLF	ASLYVLDA	CRKGD	KLKFANHSPN
Os.SWN	YVLDA	YRKGD	KLKFANHSPN
At.CLF	FVLDA	YRKGD	KLKFANHSPN
Mp.EZA	YVIDA	YRKGS	KLFVNHSK
At.SWN	YVLDA	QRKGD	KLKFANHSK
Mpu.CLF	WCLDA	HLKGN	KLKFANHSAT
Mr.CLF	WVLDA	AVRGN	KLKFANHSAT
Kf.EZA	FILDA	CHKGD	KLKFANHSPA
Ot.CLF	FCIDA	QNRGN	KLKFANHSPVH
Ol.CLF	WCVDA	QYRGN	KLKFANHSPN
Cv.CLF	WVIDA	RQKGN	TLRFANHSTT
At.MEA	LEIDA	RRKGN	EFKFLNHSAR
Mp.MEA	FVIDA	YRLGS	KLFVNHSST
Pp.Atx6a	DATRKG	GIA	RFVNHS
Pp.Atx6b	DATRNG	GIA	RFVNHS
Pp.Atxd	DATRKG	GIA	RFVNHS
Mp.Atxra	DATRKG	GIA	RFVNHS
Os.Atx6	DATRKG	GIA	RFVNHS
Pp.Atxr7a	FIVLDH	VPSQL	DATRKG
Pp.Atxr7b	DATIQK	GGLA	RFVNHS
Mp.Atxr7	DATMRG	GGLA	RFVNHS
Pa.Atxr7	DATKR	GGLA	RFVNHS
Os.Atxr7	DATKR	GGLA	RFVNHS
Nm.Atxr7	DATRH	GGLA	RFVNHS
kf.Atxr7a	DATKM	GGA	RFVNHS
Sm.Atx5b	DATKH	GGLA	RFVNHS
Cp.Atxr	DATTK	GNTA	RFVNHS
Sm.Atxr7	DATQR	GGLG	RFVNHS
At.Atxr7	DATKR	GGLA	RFVNHS
Pp.Atx2a	DATTT	GSI	IAHLNHS
Pp.Atx2b	DATRA	GSI	IAHLNHS
Pp.Atx2c	DATHA	GSI	IAHLNHS
Mp.Atx2	DATHA	GSI	IAHLNHS
Nm.Atxa	DATGA	GSI	IAHLNHS
Nm.Atxb	DATGA	GSI	IAHLNHS
Sm.Atx2b	DATRA	GSI	IAHLNHS
Sm.Atx1	DATHV	GSM	IAHLNHS
Sm.Atx2c	DATHV	GSM	IAHLNHS
kf.Atxa	DATKA	GSL	IAHLNHS
Cv.Atx	DATRA	GSL	IAHLNHS
Cr.Atxr1	DATKA	GSM	IAHLNHS
Vc.Atx5	DATRA	GSM	IAHLNHS
At.Atx1	DATRT	GSI	IAHLNHS
At.Atx2	DATRT	GSI	IAHLNHS
Cr.Atxr	DATLA	GNA	RFVNHS
Vc.Atxr7	DATLA	GNA	RFVNHS
Cp.Atx2	DATTK	ANKA	RFVNHS
Pp.Atx3	VIDA	TDKGN	IAHLNHS
Mp.Atx5	VIDA	TEKGN	IAHLNHS
Sm.Atx2a	VIDA	TENGN	IAHLNHS
Sm.Atx5a	VIDA	TEKGN	IAHLNHS
Os.Atx5	VVDA	TDKGN	IAHLNHS
Os.Atx4	VVDA	TEKGN	IAHLNHS
At.Atx3	VIDA	TDKGN	IAHLNHS
At.Atxr3	VIDA	TDKGN	IAHLNHS
At.Atx4	VVDA	TDKGN	IAHLNHS
At.Atx5	VVDA	TEKGN	IAHLNHS
Nm.Atx5	VIDA	TEKGN	IAHLNHS
kf.Atxb	VVDA	TETGN	IAHLNHS
Pa.Atx5	VIDA	TMKGN	IAHLNHS
Cr.Atxr7	VLDST	HLGHY	GFANHSC
Vc.Atx2	VLDST	HLGHY	GFANHSC
Ol.Atxr3	VVDC	TFQGN	FAFVNHSC
Ot.Atx	VVDC	TFQGN	FAFVNHSC
Mpu.Atx5	VIDT	TMRGN	IAHLNHS
Mr.Atx5	VIDT	TVKGS	IAHLNHS
Pa.Ashh1	DATRKG	GIA	RFVNHS
Os.Ashh1	DATKK	GSL	IAHLNHS
kf.Ashh4b	DATKK	GSL	IAHLNHS
At.Ashh1	DATKK	GSL	IAHLNHS
Mp.Ashh1	DATTH	GSL	IAHLNHS
Os.Ashh2	DATCK	GSL	IAHLNHS
Pp.Ashh2a	DATCK	GSL	IAHLNHS
Pp.Ashh2b	DATCK	GSL	IAHLNHS
Mp.Ashh3a	DATCK	GSL	IAHLNHS
Nm.Ashh2a	DATCK	GSL	IAHLNHS
Sm.Ashh2c	DATCK	GSL	IAHLNHS
kf.Ashh1	DATCK	GSL	IAHLNHS
Cr.Ashh2	DATCK	GSL	IAHLNHS
Vc.Ashh1	DATCK	GSL	IAHLNHS
Cv.Ashh2	DATCK	GSL	IAHLNHS
Ol.Ashh4	DATIR	GNE	GFANHSC
Ot.Ashh2	DATIR	GNE	GFANHSC
Mr.Ashh2b	DATIR	GNE	GFANHSC
Mp.Ashh2a	DATIR	GNE	GFANHSC
At.Ashh2	DATIR	GNE	GFANHSC
Os.Ashh3c	DATIR	GNE	GFANHSC
Nm.Ashh2b	DATIR	GNE	GFANHSC
Sm.Ashr3	DATIR	GNE	GFANHSC
Pp.Ashr3a	DATIR	GNE	GFANHSC
Mp.Ashr3b	DATIR	GNE	GFANHSC
Os.Ashr3b	DATIR	GNE	GFANHSC
Mp.Ashr3a	DATIR	GNE	GFANHSC
Pp.Ashr3b	DATIR	GNE	GFANHSC
Nm.Ashr3	DATIR	GNE	GFANHSC
Os.Ashr3a	DATIR	GNE	GFANHSC
At.Ashr3	DATIR	GNE	GFANHSC

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Pp.Atxr5      RQGFVVEADEDIKDMTFIAEYTGVDYMCRRHY.....D.SGNSIM
Nm.Atxr5      KQGFVVEAADHIPDLTIIAEYTGVDVFMCNREN.....D.PGDSIM
Pa.Atxr6a     REGFTVEADNNIKDLTIIIEYTGVDYLRKREK.....D.DGDCMM
Pa.Atxr6b     REGFTVEADNNIKDFTIIIEYTGVDYLRKREN.....D.DGDCMM
At.Atxr6      ..GFTVEADRFIKDWTIIIEYVGDVDYLSNRED.....DYDGD SMM
Os.Atxr6      ..GFTVEADRFIKDLTIIIEYVGDVDYLTRREH.....D.DGDSMM
At.Atxr5      ..GYTVEADGPIKDLTFIAEYTGVDYLRKREK.....D.DGDCSIM
Os.Atxr5      .....QADADIKDMTFIAEYTGVDVDFLENRAN.....D.DGDSIM
Cv.Ashr3b     SSCRLRFMNAYDGLRAEANVVCVEAEDVGERTP.....HAFLVTA
Sm.Ashh1      LSRVAELLHYLD.GASRSSAPPPNRLLVPSGDM.....EDYMGDLS
At.Atxr1      CGRTRRVVSALSTGQGEDSLEIPEIALFRPDEA.....FETCGDWK
Cr.Suvc       VGRATDACVRGQGGDRGGGAGRQRPRIGGDGGT.....REG.GDSA
Mpu.Suvh10    SGRTTPTPTQVQKLLDLAAGLSAADAETQFELDG.....KRA.GSFA
At.Ashr2      .....
Sm.Ashr2      .....
Nm.Ashr2      .....
Cv.Ashr2b     .....
Vc.Ashr2      .....
Mr.Ashr2      .....
Mpu.Ashr2     .....
Ol.Atxr4      .....
At.Ashr1      .....
Mr.Ashr1b     .....
Os.Atxr1      .....
Cr.Ashr1      .....
Cv.Ashr1      .....
Cr.Ashr2      .....
Ot.Atxr4a     .....
Sm.Atxr4      .....
At.Atxr4      .....
Os.Atxr4      .....
Cv.Ashr2a     .....
Mpu.Ashr1     .....
Ot.Atxr4b     .....
Mr.Ashh1      .....
Sm.Suvh2      .....
Cv.Atxr       .....
Pa.Atx1       .....
Pa.Atx4       .....
Mp.Atxr2      .....
Nm.Atxr2      .....
Os.Atxr2      .....
Sm.atxr2      .....
Ol.Atxrb      .....
At.Atxr2      .....
consensus>50 .....da...gn...rfinhsc.....pn...

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Contd...

	90	100	110
Pa.EZA1	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.CLF	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pa.EZA2	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.CLF	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.CLF	KVMM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.CLF	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.CLF	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.SWN	KVML.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.CLF	KVIM.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.EZA	KIVK.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.SWN	KVMF.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mpu.CLF	KVLM.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mr.CLF	KVLM.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Kf.EZA	KVVS.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ot.CLF	AVMA.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ol.CLF	RVLA.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cv.CLF	EILM.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.MEA	KLMI.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.MEA	KVVL.....VAG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx6a	KVIC.....VEN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx6b	KVIC.....VEN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atxd	KVIC.....VEN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Atxra	KVIC.....VKS.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Atx6	KIIS.....VRN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atxr7a	KIIT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atxr7b	KIIT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Atxr7	KIIT.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pa.Atxr7	KIIN.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Atxr7	KVIT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Atxr7	KIIN.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
kf.Atxr7a	KVIW.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx5b	KILT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cp.Atxr	KIIT.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atxr7	KIIT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atxr7	KIIS.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx2a	RTVT.....ASG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx2b	RTVT.....ASG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx2c	RTVT.....ASG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Atx2	RVVA.....ASG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Atxa	KMVQ.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Atxb	KMVQ.....MKG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx2b	RVVT.....TNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx1	RITIT.....VDA.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx2c	RITIT.....VDA.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
kf.Atxa	RVVR.....ADG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cv.Atx	RTIR.....V.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cr.Atxr1	RAIT.....LTD.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Vc.Atx5	RTIT.....LTD.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atx1	RVIT.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atx2	RVIS.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cr.Atxr	RIVE.....VGG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Vc.Atxr7	RIVE.....VGG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cp.Atx2	TITIT.....IRN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Atx3	KILD.....FQRDDGEGDS.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Atx5	KIWE.....ASRDGEGKSGTHHIMLIAR.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx2a	RIVS.....VEGEGS.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Atx5a	RILC.....VDGE.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Atx5	RIMS.....VGHD.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Atx4	RIMS.....VGDE.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atx3	RIVS.....MGDGEDN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atxr3	RIVS.....MGDGEDN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atx4	RIMS.....VGDEES.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Atx5	RIMS.....VGDDDES.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Atx5	KILE.....VEGQN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
kf.Atxb	QITR.....VDGIT.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pa.Atx5	RILA.....FNGVDS.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cr.Atxr7	KVLE.....FEGGR.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Vc.Atx2	KVLE.....FEGGR.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ol.Atxr3	KIVK.....VDDAN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ot.Atx	KIVK.....VDGEN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mpu.Atx5	KIVS.....VDGSN.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mr.Atx5	KLVA.....LDGDS.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pa.Ashh1	RKWT.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Ashh1	RKWN.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
kf.Ashh4b	RKWN.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Ashh1	RKWN.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Ashh1	AKWT.....VLG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Ashh2	EKWM.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Ashh2a	EKWM.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Ashh2b	EKWM.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Ashh3a	EKWM.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Ashh2a	QKWI.....VKG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Ashh2c	EKWC.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
kf.Ashh1	QKWL.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cr.Ashh2	QKWL.....VHG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Vc.Ashh1	QKWL.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Cv.Ashh2	QKWW.....VHG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ol.Ashh4	QKWM.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Ot.Ashh2	QKWM.....VRG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mr.Ashh2b	QKWM.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Ashh2a	EKWM.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Ashh2	EKWM.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Ashh3c	QKWT.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Ashh2b	QKWE.....MEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Sm.Ashr3	RKWO.....CDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Ashr3a	QKWD.....IDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Ashr3b	QKWO.....IDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Ashr3b	EKWO.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Mp.Ashr3a	EKWR.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Pp.Ashr3b	EKWR.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Nm.Ashr3	QKWO.....VDG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
Os.Ashh3a	QKWO.....VNG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE
At.Ashr3	EKWO.....VEG.....DHRVGI	FAK.....ERIASG.....	EELFYDYRYE

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At.Ashh4	QKWI.....IDG.....ETRI	GI	FAT.....RF	INKG.....EQL	TYDY...
At.Ashh3	QKWI.....IDG.....ETRI	GI	FAT.....RG	IKKG.....EHL	TYDY...
kf.Ashh4a	QRWR.....VDG.....ELRV	VGL	FAT.....EP	IRKG.....DAI	AYDYK..
Ol.Ashh2	QRWV.....DASTN.....ETRV	GI	FAT.....ED	IASG.....TEL	TYDYNFA
Ot.Ashh1	QRWV.....DASTN.....ETRV	GI	FAT.....ED	IPAG.....TEL	TYDY...
Mr.Ashh2a	QKQW.....DSATG.....ETRV	GI	FAT.....QD	IEPG.....TEL	TYDYN..
Cv.Ashh4	QKWH.....DAGNS.....EVRV	GI	FSL.....RD	VLPG.....EEL	TYDYQF.
Cv.Ashh1	.LLLA.....RHTGCLLP..	RV	VFTS.....RAV	QQG.....EEL	TC.....
Pp.Suvr3a	.PCLV.....RASGSVIP..	RLAL	FAR.....QD	IHDG.....EEL	RYSG..
Sm.Suvr3	.SCLV.....RSAGCCVP..	RLAF	FTR.....KE	IQSG.....QEL	TFSG..
Kf.Suvr3	.RVLV.....RQTGWPLP..	HVAL	FAN.....RE	ILAG.....EEL	ITMSYGEV
Os.Suvr3	.PVLV.....RSSGSLLP..	RLCF	FAA.....RD	IEEG.....EEL	TFSGD.
At.Suvr3	.TVLL.....RSSGALLP..	RLCF	FAA.....KD	IIAE.....EEL	TFSG..
Mpu.Suvr3	.PMTL.....GPAPA.....RIAF	FAS.....ED	IERG.....EEL	RWKYGE	P
Pp.Suvr3b	YRVYV.....ETTYKWL..	HIGM	YAM.....RD	IEPG.....EEL	SYDY...
Mp.Suvr5a	FRVFS.....ETTDLRYF..	RIGM	YAI.....QD	IEVG.....DEL	SYDYNYA
Mp.Suvr5c	FRVFS.....ETTDLRYF..	RIGM	YAI.....QD	IEVG.....DEL	SYDYNYA
Nm.Suvr5b	YRVYV.....DMIDRRLA..	HLGM	YAV.....KD	IEVG.....DEL	AYDYN..
Pa.Suvr3	YRVYT.....ETLDRKIF..	RIGL	YAG.....RD	IEIG.....EEL	TYDYKY.
Pp.Suvr5a	YEVVLV.....ESMDCQLA..	HIGF	FAN.....RD	ISAG.....EEL	AYDYRY.
Nm.Suvr5a	YQVLV.....ESMDVRLA..	HVGL	YAN.....SD	IKAG.....DEL	AYDYRY.
Mp.Suvr5b	YQVLV.....ESMDAQLA..	HIGL	FAS.....RD	IEIG.....EEL	AYDYRYR
Sm.Suvr5	YQVLV.....ESMDYQLA..	HIGL	FAS.....RD	ILCG.....EEL	SYDYRY.
Pa.Suvr5b	YQVLI.....ESMDCQLA..	HIGL	YAS.....RD	ITAG.....EEL	AYDY...
Pa.Suvr5a	YQVLV.....ESMDCQLA..	HIGL	YAS.....RD	IAAG.....EEL	AYDYRY.
Pp.Suvr5b	YEVVLV.....ESLDCQLA..	HIGF	FAK.....RD	IAPG.....EEL	AYDFRY.
Pp.Suvr5c	YEVVLV.....ESMDCQLA..	HIGF	FAN.....RD	IAIG.....EEL	AYDYRY.
Os.Suvr5	RLVSV.....ESKDCQLA..	HIGL	FAN.....QD	ILMG.....EEL	AYDYG..
At.Suvr5	HQVIV.....ESMESPLA..	HIGL	YAS.....MD	IAAG.....EEL	ITRDYG..
Pp.Suvr4b	VPVEI.....ESPDHHYY..	HLAF	FTS.....KD	VAAAN.....EEL	IWDYGLD
Pp.Suvr4a	MPVEI.....ESPDHHYY..	HVAF	FTN.....RH	VKAK.....EEL	TWDYGID
Mp.Suvr4	MPVTI.....ESPDHHYY..	HVAF	FTS.....RAV	RAN.....EEL	TWDYKID
Os.Suvr4a	IPVEI.....ETPDHHYY..	HLAF	FTT.....RI	IEPF.....EEL	TWDYGID
Os.Suvr4b	IPVEV.....ETPDHHYY..	HLAF	FTT.....KK	VEAF.....EEL	TWDYGID
Sm.Suvr1	IPVEI.....ECPDRHYY..	HASF	SIS.....FRAM	EEL	TWDYQLD
At.Suvr4	IPIEI.....ETPDHHYY..	HLAF	FTT.....RD	VKAM.....DEL	TWDY...
Kf.Suvr4	VPVEI.....EGPKHNY..	HLAF	FTN.....CF	VEAG.....TEL	TWDYGID
At.Suvr1	IPVQV.....ETPDQHY..	HLAF	FTT.....RD	IEAM.....EEL	AWDYG..
At.Suvr2	IPVHA.....ETTDSHYY..	HLAF	FTT.....RE	IDAM.....EEL	TWDYG..
Nm.Suvr4	RPVSI.....ETRDTHYY..	HVAF	FTG.....RD	VEPM.....EEL	TWDYGIQ
Sm.Suvh5	EHVPY.....EGLDDDERPMFH	IMM	FAS.....RD	IKVG.....EEL	CFDY...
At.Suvh10	ECVSY.....GHHDGRLR..	HITM	FAA.....KD	IAAS.....EEL	TFDY...
At.Suvh5	QDVLY.....DHEEIRIP..	HIMF	FAL.....DN	IPPL.....QEL	SYDYN..
Mpu.Atxr1	KSVMH.....EGARRVVL	FTT.....RD	VAAAG.....EEL	FYDYQ..	
Os.Atx1	RVISV.....LGDEHIII	FAK.....RD	INPW.....EEL	TYDYRFV	
kf.Atxr3	KAVVI.....NGVRHLIV	FAI.....RT	IMP.....EEL	ITINYG..	
Pp.Suvh4a	QCCLS.....H.HNDVTMPR	IVMFAA.....DN	IHPLELIDCVPWNP	QEL	CYDYG..
Sm.Suvh4	QCCLS.....T.HHDMRIPR	IVLFAA.....DN	IAPL.....QEL	SYDYG..	
Os.Suvh4	QCCLS.....S.HNDVKLAK	VTLFAA.....DT	ILPL.....QEL	SYDYG..	
At.Suvh4	QCCLS.....S.HQDIRLAR	VVLFAA.....DN	ISPM.....QEL	TYDYG..	
Pa.Suvh4	QCCLS.....S.HHDPKLAR	VMLCAA.....DN	IPPL.....QEL	TYDYG..	
Kf.Suvh4b	QSVFV.....E.HHDVREPR	ILFLVAM.....QN	IKPL.....EEL	SYDYG..	
Pp.Suvh4b	QGVLF.....D.HGDLNRGH	IMLFAG.....ED	IAAG.....TEL	AYDYG..	
kf.Suvh4a	QSVLF.....D.HHNPSLSH	IALFAY.....DN	IPPG.....RE	ITDYN..	
Mp.Suvr3	QCVFY.....E.HHDMRFPH	IMLFAM.....EK	ISPF.....KEL	TYDYG..	
Sm.Suvh6	QCVFN.....D.HNDMAYPH	VMMFAM.....KN	IRPF.....EEL	SYDYG..	
Nm.Suvh4	QCVLH.....D.HHDLPLH	ICLFAG.....EH	IPAL.....QEL	TYDYG..	
Pa.Suvh5b	QNVLY.....D.HDDKTVP	HIMLFAA.....EN	IPPL.....QEL	SYHNY..	
Pa.Suvh5a	QNVLY.....D.HDDRKLPH	IMLFAA.....EN	IPPM.....REL	FYHNY..	
Os.Suvh5c	QNVLW.....D.HDDQVRPH	IMFFAA.....EN	IPPL.....QEL	TYDYN..	
Os.Suv5d	QNVLY.....D.HDDKSVP	HIMFAC.....ED	IPPR.....QEL	SYHNY..	
Os.Suvh5a	QNVLY.....D.HDDKSVP	HIMFAC.....ED	IPPR.....QEL	SYHNY..	
Os.Suvh5b	QNVLW.....D.HDDMKKPH	IMFAT.....EN	IPPL.....QEL	TYDYN..	
At.Suvh6	QNVLY.....D.HEDSRIPH	VIMFQAQ.....DN	IPPL.....QEL	CYDYN..	
Pa.Suvh7b	QSILY.....D.HHDTQFP	HIMFAL.....EN	IPPL.....TEL	TYDYG..	
Pa.Suvh7c	QSVVY.....D.HQDTRFP	HIMLFSI.....EH	IPPL.....TEL	TDYG..	
Pa.Suvh7a	QFVLH.....D.HLDVRFPH	VMLFAR.....EN	IPPL.....TEL	TFDYG..	
Os.Suvh7	QPVQH.....D.HGEDGYPH	IMFAL.....KH	IPPM.....TEL	TYDYG..	
Os.Suvh8	QPVQH.....D.HGDDSHPH	IMFAL.....KH	IPPM.....TEL	TFDYG..	
Os.Suvh11	QAVQY.....D.HGDDSYPH	IMFAM.....EH	IPPM.....TEL	TYDYG..	
Os.Suvh1	QPVLY.....D.HGDEGYPH	IAFAI.....KH	IPPM.....TEL	TYDYG..	
Cv.Suvh4	NPVLR.....P.GDSGMR	YCAIFAG.....RD	IPRG.....TEL	CYDYG..	
AtSuvh8	QPIEY.....DDNNGHIYVR	IGLFAM.....KH	IPPM.....TEL	TYDYG..	
At.Suvh7	QPIEY.....E.NRGDVYLL	IGLFAM.....KH	IPPM.....TEL	TYDYG..	
At.Suvh3	QPVIR.....E.GNGESVIH	IAFFAM.....RH	IPPM.....AEL	TYDYG..	
At.Suvh1	QPVSY.....E.NNSQLFVH	VAFFAI.....SH	IPPM.....TEL	TYDYG..	
Pa.Suvh2c	QYVLH.....D.HHEKDIPH	VMLFAL.....EN	IAPO.....LEL	SIS....	
Pa.Suvh2b	QYVLH.....D.HHDKRIPH	VMLFAL.....EN	ISPR.....LEL	SIN....	
Pa.Suvh2a	QYVLH.....D.HRNINIPH	VMLFAL.....QN	IPPE.....LEL	FIS....	
Os.Suvh2	QYVLF.....D.HYNAAYPH	LMIFAM.....EN	IPPL.....REL	SIDYG..	
Os.Suvh9	QYVIR.....G.NEDESYPH	MMVFAM.....ET	IPPM.....RDL	SIDYG..	
AtSuvh2	QFVLH.....D.HNHLMFPR	VMLFAL.....EN	ISPL.....AEL	SIDYG..	
At.Suvh9	QFVLH.....D.HNSLMFPR	VMLFAA.....EN	IPPM.....TEL	SIDYG..	
Cv.Suvh2	QFVL.....D.DTHHRRCP	KICIFAS.....EN	IAPM.....TEL	TDYG..	
Mpu.Suvh4	LEVAVVRDPALSGDAARV	PKLPVGFAT.....RD	IEAN.....EEL	CIDYSP.	
Mpu.Suvr5	QSVFT.....PGAEGCRANN	QRLYRICL	FAG.....RD	IGAM.....EEL	TYDYG..
Cr.CLF	.....	.....	.....	.....	.....
Pa.Suvh10a	.....	.....	.....	.....	.....
Cp.Ashr2a	.....	.....	.....	.....	.....
Cp.Ashr2b	.....	.....	.....	.....	.....
Mp.Ashh2b	.....	.....	.....	.....	.....
Pa.Suvr4	.....	.....	.....	.....	.....
Cr.Ashh1	.....	.....	.....	.....	.....
Cr.Suva	.....	.....	.....	.....	.....
Os.Suvh10	.....	.....	.....	.....	.....
Pa.Suvh10b	.....	.....	.....	.....	.....
Pa.Atx6	.....	.....	.....	.....	.....
Cr.Suvb	.....	.....	.....	.....	.....
Vr.Suv	.....	.....	.....	.....	.....
At.Suvh10	.....	.....	.....	.....	.....
Ot.Ashh4	GLRDKGPPEFYNMQTERP	GGDEE	GYSVL	FCDAMHENNYA	GRLSHTCDPNV
Os.Ashh4					
Os.Atxr3					
Mpu.Atxr5					

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Pp.Atxr5      GLLFSDDPikelVICP...DKRSNIARFLSGINNHTTEGRK...KQNVRCVRYSINGE
Nm.Atxr5      GLLFTGDPNTELVICP...DKRGVVARFLSGINNHNKDGRK...KINVRCVRFDLDGE
Pa.Atxr6a     TLLFTGDSSKDLVICP...DKRGNIARFINGINNHTAKGKK...KQNLKCVRYNV DGE
Pa.Atxr6b     TLLSTGISKDLVICP...DKCGNIARFINGINNHTAKGKK...KENLKCVRYNV DGE
At.Atxr6      TLLHASDPSQCLVICP...DRRSNIARFISGINNHSPEGRK...KQNLKCVRFN INGE
Os.Atxr6      TLLSAATPSRSLVICP...DKRSNIARFINGINNHTPDGRK...KQNLKCVRFV GGE
At.Atxr5      TLLLEDPSKTLVICP...DKFGNISRFINGINNHNVPVAKK...KQCKKCVRY SINGE
Os.Atxr5      TLLLTEDPSKRLVICP...DKRGNISRFINGINNHTLDGKK...KKNIKCVRYD IDGE
Cv.Ashr3b     EVSAGEELLLDYG.....LWPLLT LINHCCVPTITLRVVGFF
Sm.Ashh1      TAMDPLEESRVEAVVRAYTERGHPSLSPRNV.....QSLDTEKLLSILDVNSLVEDAVSGKVMGKNKEYYGVLWTLASF INHSCIPNARRLHVGD
At.Atxr1      DGAGAGEGHALLVVRVLP SGLALRLNIDATRLGNVAREFNHSCDGGC LLPVVVRRRGSL
Cr.Suvc       RFINSSDQPNLFQAQAVVTGHLDPQCRI CLFACFDIPAMTELSYDYGSEY.....
Mpu.Suvh10    .....
At.Ashr2      .....
Sm.Ashr2      .....
Nm.Ashr2      .....
Cv.Ashr2b     .....
Vc.Ashr2      .....
Mr.Ashr2      .....
Mpu.Ashr2     .....
Ol.Atxr4      .....
At.Ashr1      .....
Mr.Ashr1b     .....
Os.Atxr1      .....
Cr.Ashr1      .....
Cv.Ashr1      .....
Cr.Ashr2      .....
Ot.Atxr4a     .....
Sm.Atxr4      .....
At.Atxr4      .....
Os.Atxr4      .....
Cv.Ashr2a     .....
Mpu.Ashr1     .....
Ot.Atxr4b     .....
Mr.Ashh1      .....
Sm.Suvh2      .....
Cv.Atxr       .....
Pa.Atx1       .....
Pa.Atx4       .....
Mp.Atxr2      .....
Nm.Atxr2      .....
Os.Atxr2      .....
Sm.atxr2      .....
Ol.Atxrb      .....
At.Atxr2      .....
consensus>50 . . v . . . . . i . fa . . . . di . g . . . . eel . ydy . .

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Contd...

Pa.EZA1	.
Sm.CLF	.
Pa.EZA2	P.
Os.CLF	.
Nm.CLF	.
Mp.CLF	.
Pp.CLF	.
Os.SWN	.
At.CLF	.
Mp.EZA	K.
At.SWN	.
Mpu.CLF	RDKA.
Mr.CLF	.
Kf.EZA	.
Ot.CLF	.
Ol.CLF	.
Cv.CLF	K.
At.MEA	.
Mp.MEA	.
Pp.Atx6a	CDE.
Pp.Atx6b	YDE.
Pp.Atxd	CDEH.
Mp.Atxra	FEQEGDK.
Os.Atx6	REDE.
Pp.Atxr7a	LEEVKIPCFCGAAK.
Pp.Atxr7b	LEDK.
Mp.Atxr7	LEEK.
Pa.Atxr7	LEEK.
Os.Atxr7	LEEK.
Nm.Atxr7	LEEK.
kf.Atxr7a	FEN.
Sm.Atx5b	FEE.
Cp.Atxr	IE.
Sm.Atxr7	HED.
At.Atxr7	.
Pp.Atx2a	.
Pp.Atx2b	.
Pp.Atx2c	.
Mp.Atx2	SKDE.
Nm.Atxa	SKDE.
Nm.Atxb	AKDE.
Sm.Atx2b	.
Sm.Atx1	SKGA.
Sm.Atx2c	SKGA.
kf.Atxa	SKDE.
Cv.Atx	.
Cr.Atxr1	SA.
Vc.Atx5	SSEE.
At.Atx1	.
At.Atx2	.
Cr.Atxr	C.
Vc.Atxr7	.
Cp.Atx2	REE.
Pp.Atx3	.
Mp.Atx5	PEDQKLLCLCGAPTCSQYINV.
Sm.Atx2a	KEDK.
Sm.Atx5a	.
Os.Atx5	.
Os.Atx4	.
At.Atx3	.
At.Atxr3	.
At.Atx4	.
At.Atx5	.
Nm.Atx5	.
kf.Atxb	QEED.
Pa.Atx5	KGD.
Cr.Atxr7	.
Vc.Atx2	.
Ol.Atxr3	SED.
Ot.Atx	SE.
Mpu.Atx5	.
Mr.Atx5	.
Pa.Ashh1	WYG.
Os.Ashh1	WFG.
kf.Ashh4b	WYG.
At.Ashh1	.
Mp.Ashh1	WFG.
Os.Ashh2	R.
Pp.Ashh2a	R.
Pp.Ashh2b	R.
Mp.Ashh3a	R.
Nm.Ashh2a	RHG.
Sm.Ashh2c	R.
kf.Ashh1	KSRK.
Cr.Ashh2	RYGD.
Vc.Ashh1	RYGD.
Cv.Ashh2	RYGD.
Ol.Ashh4	RFGE.
Ot.Ashh2	RFGE.
Mr.Ashh2b	RYGD.
Mp.Ashh2a	FA.
At.Ashh2	.
Os.Ashh3c	QFGA.
Nm.Ashh2b	QFG.
Sm.Ashr3	QFGT.
Pp.Ashr3a	QFG.
Mp.Ashh3b	QFGT.
Os.Ashh3b	S.
Mp.Ashr3a	.
Pp.Ashr3b	.
Nm.Ashr3	GYE.
Os.Ashh3a	QH.
At.Ashr3	.

Contd...

At.Ashh4	.....
At.Ashh3	.....
kf.Ashh4a	.....
Ol.Ashh2	HFGD.....
Ot.Ashh1	.....
Mr.Ashh2a	.....
Cv.Ashh4	.....
Cv.Ashh1	.....
Pp.Suvr3a	.....
Sm.Suvr3	.....
Kf.Suvr3	KADE.....
Os.Suvr3	.....
At.Suvr3	.....
Mpu.Suvr3	KKFA.....
Pp.Suvr3b	.....
Mp.Suvr5a	SSKD.....
Mp.Suvr5c	SSKD.....
Nm.Suvr5b	.....
Pa.Suvr3	.....
Pp.Suvr5a	.....
Nm.Suvr5a	.....
Mp.Suvr5b	L.....
Sm.Suvr5	.....
Pa.Suvr5b	.....
Pa.Suvr5a	.....
Pp.Suvr5b	.....
Pp.Suvr5c	.....
Os.Suvr5	.....
At.Suvr5	.....
Pp.Suvr4b	FNDK.....
Pp.Suvr4a	FGDE.....
Mp.Suvr4	FDDN.....
Os.Suvr4a	FDD.....
Os.Suvr4b	FGD.....
Sm.Suvr1	FADE.....
At.Suvr4	.....
Kf.Suvr4	FEDE.....
At.Suvr1	.....
At.Suvr2	.....
Nm.Suvr4	FDGE.....
Sm.Suvh5	.....
Sm.Suvh10	.....
At.Suvh5	.....
Mpu.Atxr1	.....
Os.Atxl	SSDQRLPCYCGFPKCRGVNDVEA.....
kf.Atxr3	.....
Pp.Suvh4a	.....
Sm.Suvh4	LNS.....
Os.Suvh4	LDS.....
At.Suvh4	.....
Pa.Suvh4	LDS.....
Kf.Suvh4b	.....
Pp.Suvh4b	LNS.....
kf.Suvh4a	.....
Mp.Suvr3	.....
Sm.Suvh6	IDS.....
Nm.Suvh4	.....
Pa.Suvh5b	.....
Pa.Suvh5a	.....
Os.Suvh5c	IGEVRLDNGRVKVKD.....
Os.Suv5d	.....
Os.Suvh5a	.....
Os.Suvh5b	.....
At.Suvh6	.....
Pa.Suvh7b	.....
Pa.Suvh7c	.....
Pa.Suvh7a	.....
Os.Suvh7	.....
Os.Suvh8	.....
Os.Suvh11	.....
Os.Suvh1	.....
Cv.Suvh4	.....
AtSuvh8	.....
At.Suvh7	.....
At.Suvh3	.....
At.Suvh1	.....
Pa.Suvh2c	.....
Pa.Suvh2b	.....
Pa.Suvh2a	.....
Os.Suvh2	.....
Os.Suvh9	.....
AtSuvh2	.....
At.Suvh9	.....
Cv.Suvh2	Y.....
Mpu.Suvh4	.....
Mpu.Suvr5	.....
Cr.CLF	.....
Pa.Suvh10a	.....
Cp.Ashr2a	.....
Cp.Ashr2b	.....
Mp.Ashh2b	.....
Pa.Suvr4	.....
Cr.Ashh1	.....
Cr.Suva	.....
Os.Suvh10	.....
Pa.Suvh10b	.....
Pa.Atx6	.....
Cr.Suvb	.....
Vr.Suv	.....
At.Suvh10	.....
Ot.Ashh4	YE.IHFIITNRDIEPGEELAYNY...
Os.Atxr3	YQ.IGIYTVRPIAEGEEITFDYNSV
Mpu.Atxr5	YA.VEMVSTCHIARGEVVCWDYN..

Contd...

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Pp.Atxr5      AR.VILIAMRDILKGERLYYDYN..
Nm.Atxr5      AL.ALLIAIRDIRKGDFLYYDYN..
Pa.Atxr6a     SR.VLLVAIKDIAKGERLYYDYN..
Pa.Atxr6b     SR.VLLVAIKDIARGERLYYDYN..
At.Atxr6      AR.VLLVANRDISKGERLYYDYN..
Os.Atxr6      CR.VLLVANRDISKGERLYYDYN..
At.Atxr5      CR.VLLVATRDISKGERLYYDYN..
Os.Atxr5      SH.VLLVACRDIACGEKLYYDYN..
Cv.Ashr3b     .....
Sm.Ashh1      T..LFCRAARDLKPGEELLSSYG..
At.Atxr1      Y..VIVHASRDIKTGEEISFAY...
Cr.Suvc       VPGVGGLFARRDISVGEELTFPY...
Mpu.Suvh10    .....
At.Ashr2      .....
Sm.Ashr2      .....
Nm.Ashr2      .....
Cv.Ashr2b     .....
Vc.Ashr2      .....
Mr.Ashr2      .....
Mpu.Ashr2     .....
Ol.Atxr4      .....
At.Ashr1      .....
Mr.Ashr1b     .....
Os.Atxr1      .....
Cr.Ashr1      .....
Cv.Ashr1      .....
Cr.Ashr2      .....
Ot.Atxr4a     .....
Sm.Atxr4      .....
At.Atxr4      .....
Os.Atxr4      .....
Cv.Ashr2a     .....
Mpu.Ashr1     .....
Ot.Atxr4b     .....
Mr.Ashh1      .....
Sm.Suvh2      .....
Cv.Atxr       .....
Pa.Atx1       .....
Pa.Atx4       .....
Mp.Atxr2      .....
Nm.Atxr2      .....
Os.Atxr2      .....
Sm.atxr2      .....
Ol.Atxrb      .....
At.Atxr2      .....
consensus>50 .....

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Additional file 3: Fig S1. Multiple sequence alignment of the 251 SET domain protein sequences from E(z), Ash, Trx and Su(var) of 16 Archeplastida species.