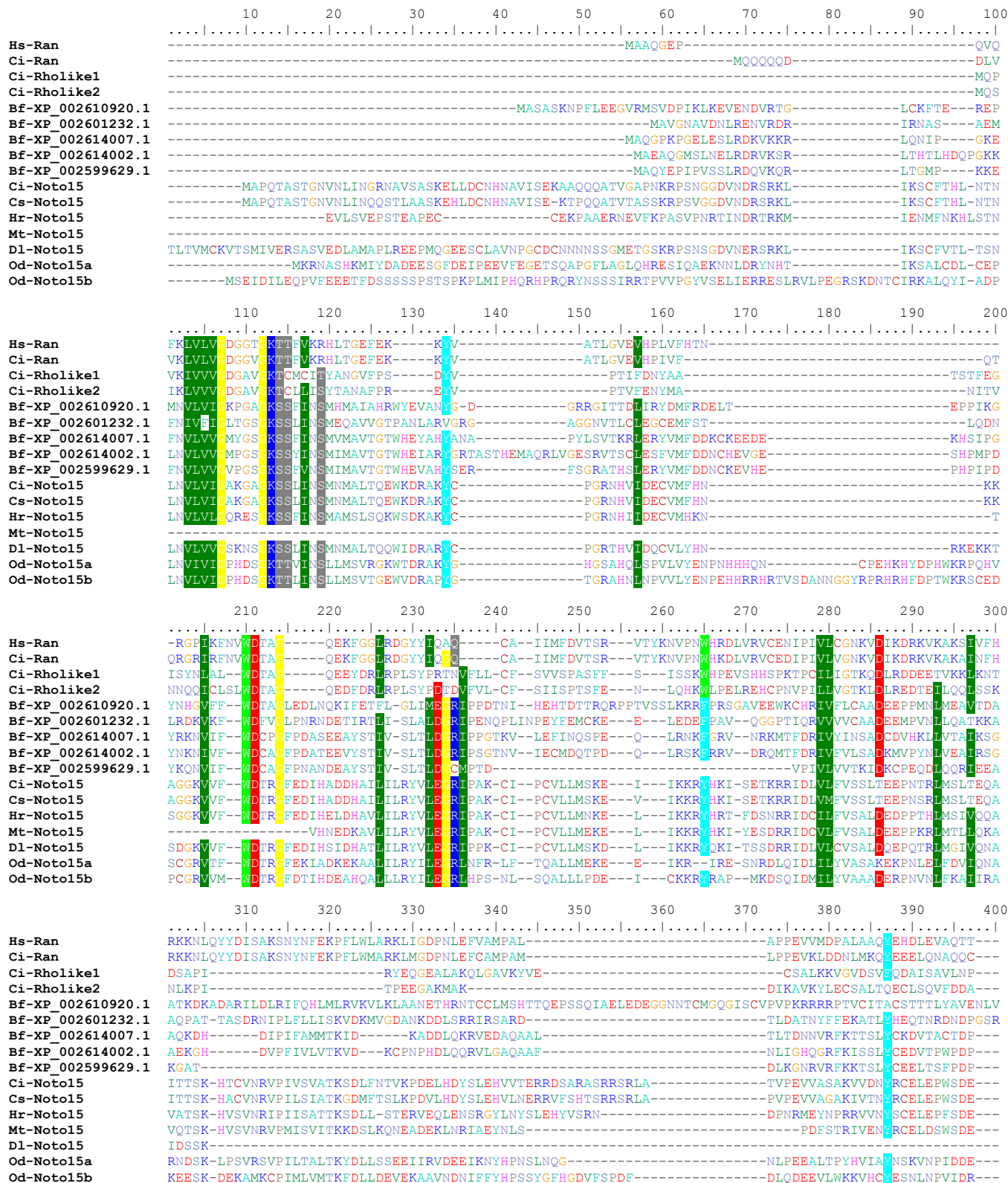


Noto 15 Multiple Alignment



	410	420	430	440	450	460	470	480	490	500
Hs-Ran	.....	.....	ALPDEDDDL	.....	.....	.....	.....	.....	.....	.....
Ci-Ran	.....	.....	SLPDEDDDL	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike1	.....	.....	AKPPKPTKRC	.....	VLL	.....	.....	.....	.....	.....
Ci-Rholike2	.....	.....	VIAVLNPSHFSSNNDNS	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002610920.1	RAALGESINIDIHTVHIQKRESISLLKKYGS	KTYFIC	CANYGHRLLLLSDTP	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002601232.1	SRHTMATQDSFHLKCREAKHSDYN	AVMKMASV	DFRDGFDYLP	AKFHQWVNDPQF	HLVVAE	ADDKV	VAVVYVCC	MADGGTYL	FNKTMRV	ADLQGKKLMMR
Bf-XP_002614007.1	.....	NDYRVMPNP	KIDS	.....	VLLNTWMN	.....	.....	.....	.....	.....
Bf-XP_002614002.1	.....	DDYRVMPNAE	IDR	.....	KLLNIWMN	.....	.....	.....	.....	.....
Bf-XP_002599629.1	.....	NDYRVMPN	EEIDR	.....	NLLNIWMS	.....	.....	.....	.....	.....
Ci-Noto15	.....	SANPSMVKSSP	DRDA	.....	LLLSVWRE	.....	.....	.....	.....	.....
Cs-Noto15	.....	SVNPS	EVKSSPDRDA	.....	NLLGVWRE	.....	.....	.....	.....	.....
Hr-Noto15	.....	SANPSSMT	PSAERDT	.....	PLLAVWRD	.....	.....	.....	.....	.....
Mt-Noto15	.....	SANPSLV	HSSSERDS	.....	PLLAIWRD	.....	.....	.....	.....	.....
Dl-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15a	.....	FIPPT	PKRR	.....	NGAMLKLFME	.....	.....	.....	.....	.....
Od-Noto15b	.....	LEQNQP	DEKKDE	.....	KLLKLFKD	.....	.....	.....	.....	.....

	510	520	530	540	550	560	570	580	590	600
Hs-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002610920.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002601232.1	IGFDLEKALQLRLHP	RLHLERRGI	AKDDMYFQ	GTCEVLS	SLENKDVLP	PSYLSQSSVVPY	QPSDMARL	TRPEFVEQ	ILSDNSIV	VDTIMYQLSASN
Bf-XP_002614007.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002614002.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002599629.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cs-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hr-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dl-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15a	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15b	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

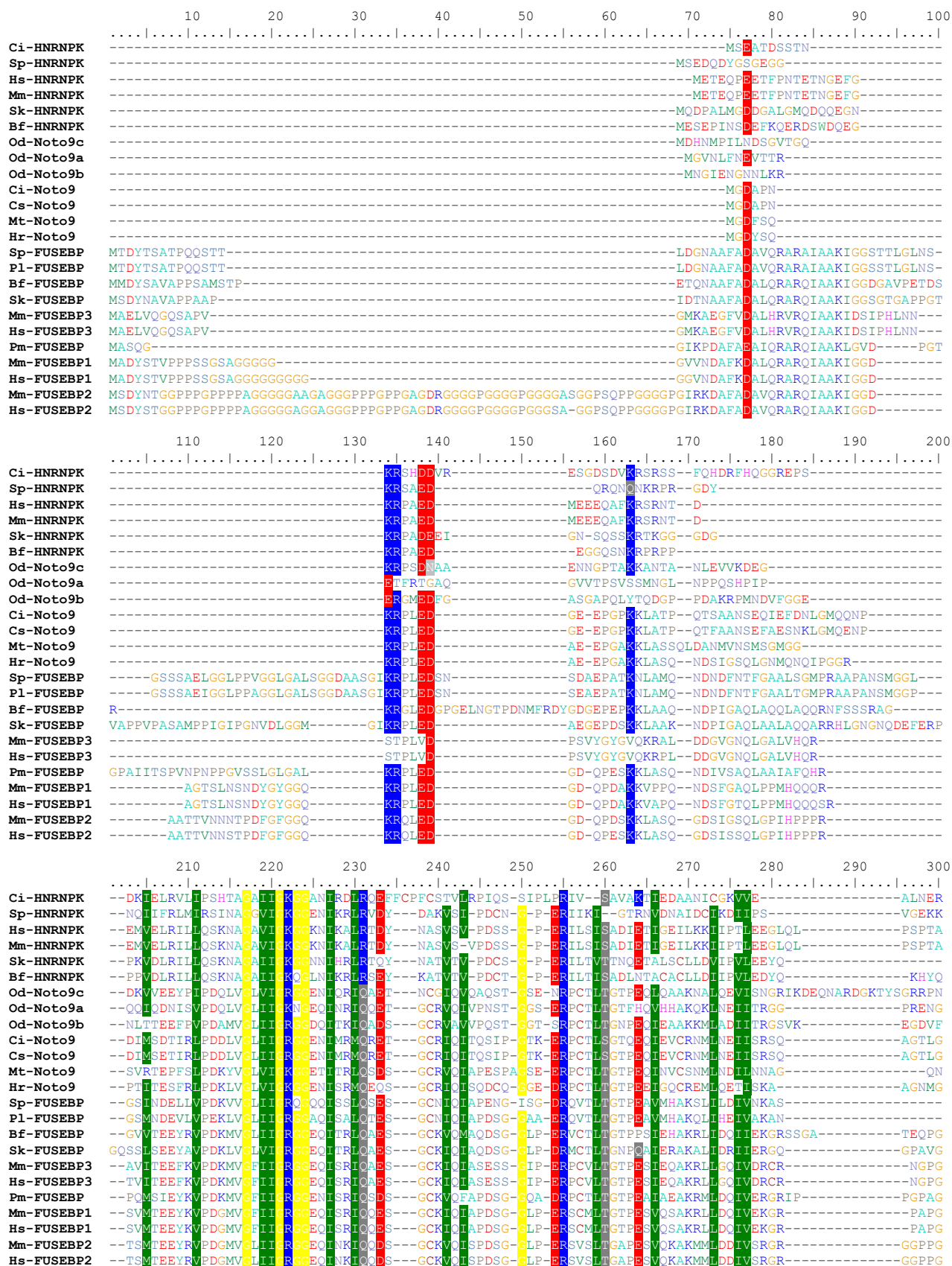
	610	620	630	640	650	660	670	680	690	700
Hs-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002610920.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002601232.1	SKRGVTILVDNI	KRDLC	AAAADFL	INAVSCV	TRKSSPR	FAHASKLR	QQRGMIAV	YVCYMTD	GGAYLFH	KSIRIAPKLQ
Bf-XP_002614007.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002614002.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002599629.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cs-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hr-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dl-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15a	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15b	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

	710	720	730	740	750	760	770	780	790	800
Hs-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Ran	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ci-Rholike2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bf-XP_002610920.1	.....	.....	.....	.....	.....	DELTEV	VYHAGKISKY	KKDGV	VMVLLFG	HNRNLT
Bf-XP_002601232.1	PRLLHLERHAI	ADVKRL	LYLLKGM	NRKDI	CVIASI	HLFTV	SHDVMY	FQGTCEV	LSNLEAK	GVLPYPP
Bf-XP_002614007.1	.....	.....	.....	.....	.....	LTDPN	IRVIET	PPPH	.....	.....
Bf-XP_002614002.1	.....	.....	.....	.....	.....	LTDPN	IKAKP	APPAP	.....	.....
Bf-XP_002599629.1	.....	.....	.....	.....	.....	LTDRN	IKAKP	ANES	.....	.....
Ci-Noto15	.....	.....	.....	.....	.....	IVSR	TAA	CAGNS	DRR	.....
Cs-Noto15	.....	.....	.....	.....	.....	IVSR	TAA	CSGN	ADRR	.....
Hr-Noto15	.....	.....	.....	.....	.....	IISRT	.....	.....	.....	.....
Mt-Noto15	.....	.....	.....	.....	.....	IIQRT	TACGG	ADK	RRK	.....
Dl-Noto15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Od-Noto15a	.....	.....	.....	.....	.....	IIAL	ARP	NGRR	RINS	.....
Od-Noto15b	.....	.....	.....	.....	.....	IIDY	SLT	PTG	KRRCS	.....

	810	820	830	840	850	860	870	880	890	900
Hs-Ran	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|									
Ci-Ran	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Ci-Rholike1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Ci-Rholike2	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Bf-XP_002610920.1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Bf-XP_002601232.1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Bf-XP_002614007.1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Bf-XP_002614002.1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Bf-XP_002599629.1	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Ci-Noto15	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Cs-Noto15	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Hr-Noto15	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Mt-Noto15	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Dl-Noto15	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Od-Noto15a	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									
Od-Noto15b	-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|									

	910	920	930	940	950	960
Hs-Ran	.....|.....|.....|.....|.....|.....|.....|					
Ci-Ran	-----|-----|-----|-----|-----|-----|-----|					
Ci-Rholike1	-----|-----|-----|-----|-----|-----|-----|					
Ci-Rholike2	-----|-----|-----|-----|-----|-----|-----|					
Bf-XP_002610920.1	-----|-----|-----|-----|-----|-----|-----|					
Bf-XP_002601232.1	-----|-----|-----|-----|-----|-----|-----|					
Bf-XP_002614007.1	-----|-----|-----|-----|-----|-----|-----|					
Bf-XP_002614002.1	-----|-----|-----|-----|-----|-----|-----|					
Bf-XP_002599629.1	-----|-----|-----|-----|-----|-----|-----|					
Ci-Noto15	-----|-----|-----|-----|-----|-----|-----|					
Cs-Noto15	-----|-----|-----|-----|-----|-----|-----|					
Hr-Noto15	-----|-----|-----|-----|-----|-----|-----|					
Mt-Noto15	-----|-----|-----|-----|-----|-----|-----|					
Dl-Noto15	-----|-----|-----|-----|-----|-----|-----|					
Od-Noto15a	-----|-----|-----|-----|-----|-----|-----|					
Od-Noto15b	-----|-----|-----|-----|-----|-----|-----|					

Noto 9 Multiple Alignment



310 320 330 340 350 360 370 380 390 400

Ci-HNRNPK MHHP-----KVGC-----LRMLVHQSAGETITLKLKSRIRKELREMTGANIKVNOE-CCPESTDRVCOVREGTADVVVKCVARILEH
Sp-HNRNPK HSQDQ-----QNNS-----FIRIMVHQSHASAIIGRAGFKIKELREKTGAHFKVTE-TCPKSTDRVQVQLGSDVITAKAAREVVEI
Hs-HNRNPK TSQPLPLESDAVECLNQYHYKGSDFDC-----ELRLLLHQSLAGGIIIVKSAKIKELRENTQTITKLEOE-CCPHSTDRVVLIGGKPDVRVECIKILDL
Mm-HNRNPK TSQPLPLESDAVECLNQYHYKGSDFDC-----ELRLLLHQSLAGGIIIVKSAKIKELRENTQTITKLEOE-CCPHSTDRVVLIGGKPDVRVECIKILDL
Sk-HNRNPK QYKDL-----DFDC-----EMRLVHQSAGAIIGRAGFKIKELREQTGANIKVYSE-VCPNSTERVVQMGSEPVVINCNRMLLDV
Bf-HNRNPK EHKDL-----NFNC-----ELRLVHQSAGACIIGRAGFKIKELREQTGANIKVYSE-CMPGSTERVVVALGKPEKCVGAIKKITEI
Od-Noto9c REQNDSNRNAPNTRRAVTQPPMPNPSPQWQTTCBFLISPDKGVVVIKGGQNLKLRCKYQVSLBLVOKDTPDEGVAKVLKINCSTQINGTRMDIFTT
Od-Noto9a MSYGENKH-----QGQM-----QHEMVTPDKKGLIIGKGGNTLKQLEFNVKLHLVQESAEITRDEKELKIGTPQAKVESAKNALVGL
Od-Noto9b NGHPAPSANDLMNQNVAAATASLDGNC-----MEETIIPHDKCSIVICKAENTLRNLRSQFGCSVNL--DSTVNTGDFKPLRIAGPPDKVNLVVAEIVHKM
Ci-Noto9 SNFNLQGGGLGGMG-----DGGM-----EKSIEIIVPPDKGLIIGKGGETIKMLQOQSLGVKMLLIDODSTDNIGQSKPLRITGCPQLNVNAVSAVHQM
Cs-Noto9 NNFNLL--GG-----QGGM--SGIEKSIIEIVPPDKKGLIIGKGGETIKMLQOQSLGVKMLLIDODSTDNIGQSKPLRITGCPQLNVNAVSAVHQM
Mt-Noto9 NSGGAPLSG-----DGQM-----ATIDVMIIPDKCSIIIGKGGETIKSLKMLGVQMNLIIDODSTMVGTQKKPLRISGDPQRVEQAKQAVEQI
Hr-Noto9 VGMFAGLEEPLM-----GAQT-----VQLMIIPDKKGLIIGKGGETIKALQONIGVQMNLIIDODTQNTGMDKPLRISGEPKMKVEQAKQIEQI
Sp-FUSEBP -QNEA-----EGNM-----TVDMLEPATKGLIIGKGGETIKQLEQAGVRVMVMIODGSPVATGMKPLRISGDSQKIEEAKRLVSEV
Pl-FUSEBP -QNEA-----EGNV-----TFDMMIPAKKVLVIGKGGETIRQLMEQAGVRVMVMIODGPGNTGADKPLRISGDSASKVENAKSLVKEV
Bf-FUSEBP TTLP-----DGSI-----VTEMLIPGNKVLVIGKGGETIRSLQERAGVRVMVMIODGPYMNAPKPLRISGDPKQTKQAKDLVMDL
Sk-FUSEBP SDGGL--G-----DGNT-----TIELMIPGNKVLVIGKGGEMKIKKQERAGVRVMVMIODATTSGTSLDKPLRISGDPQKCKHARELVNLE
Mm-FUSEBP3 FHNDM-----DGNS-----TIQELLIPASKVVLVIGKGGETIKQLQERTGVKVMVMIODGFLPTGADKPLRISGDPFKVQQAAREMVLEI
Hs-FUSEBP3 FHNDI-----DGNS-----TIQELLIPASKVVLVIGKGGETIKQLQERTGVKVMVMIODGFLPTGADKPLRISGDAFKVQQAAREMVLEI
Pm-FUSEBP VDHTS-----H-----SQEMILIPAKKVLVIGKGGETIKQLQDRAGVRMLLIDODGSQPTGADKPLRISGEPFKVQQAAREMVLEI
Mm-FUSEBP1 FHHGDG-----PGNA-----VQELMIPASKVVLVIGKGGETIKQLQERAGVRVMVMIODGFPQNTGADKPLRISGDPYKVKQAAREMVLEI
Hs-FUSEBP1 FHHGDG-----PGNA-----VQELMIPASKVVLVIGKGGETIKQLQERAGVRVMVMIODGFPQNTGADKPLRISGDPYKVKQAAREMVLEI
Mm-FUSEBP2 QFHDNANGG-----QNGT-----VQELMIPASKVVLVIGKGGETIKQLQERAGVRVMVMIODGSSQNTNVKPLRISGDPYKVKQAAREMVMDI
Hs-FUSEBP2 QFHDNANGG-----QNGT-----VQELMIPASKVVLVIGKGGETIKQLQERAGVRVMVMIODGSSQNTNVKPLRISGDPYKVKQAAREMVMDI

410 420 430 440 450 460 470 480 490 500

Ci-HNRNPK HQQAPPKGP-----IKNYDPNCFDDSY--DYGGYANERGMDSPPRG--RRR--GRGGRG--GFRSGGRFDRG--EKFSK
Sp-HNRNPK CTETAVKGP-----VQDYDPFCHDLDFYNQYGGYLFDAEEVHGGGERGGFG--ERGGRHWRNGRGPMPGR--GRMGFRGMSGNDNFGGFSRS
Hs-HNRNPK ISESPIKGR-----AQPYDPNFYDETY--DYGGFTMMFDDRRGRPV--GPFMRGRGGFDRMPFGRGG--RMPMPSRDYD--DMSP
Mm-HNRNPK ISESPIKGR-----AQPYDPNFYDETY--DYGGFTMMFDDRRGRPV--GPFMRGRGGFDRMPFGRGG--RMPMPSRDYD--DMSP
Sk-HNRNPK INQTPIKGP-----VQLYDPYCHD--PYLDYGGYGG--DEFGRRG--G--GRGGRGGPRG--GPQRFSPPMRG--G
Bf-HNRNPK LQKAPIKQ-----NIPYDPFMYDEFYAAEYGGYT--SYDDQRRG--G--GRGGGDRRGGGFSGRG--GSGGGFRGRGG--PPRGH
Od-Noto9c LLPKEEKTA-----AKLAP-----G--GQVK--SEFPVPOGAVG--VVI
Od-Noto9a MAQKD-----GAKPAA--SIINTKTIV--G--HS--IEVSVEKAAVG--VVI
Od-Noto9b MAAKE-----NITHTKPV--D--GQDQ--VTFMIPIKVSIG--VVI
Ci-Noto9 MANRDQQA-----QQKMERDG--G--GGGGQGGMDPNMFGDDVNKTIIPVEKAAVG--VVI
Cs-Noto9 MANRDQQLA-----QQKVDRRG--S--G--MDPNMFGDDVNKTIIPVEKAAVG--VVI
Mt-Noto9 MQQRDEQMM-----RSGMGQQTQRRFENNQPQ--G--SEN--VGIQVRPAVG--VVI
Hr-Noto9 MAQRDLQQ-----QQQMQR--GGG--GGGGGNGG--G--GGRMNFPSPGPQ--KLIPVFKPAVG--VVI
Sp-FUSEBP MENAKNDR-----SSG--DNFYSRGG--P--H--KDVIVKHAVG--VVI
Pl-FUSEBP MENARNQD-----RSGG--DNFFSRGP--G--G--TEVTVRHAVG--VVI
Bf-FUSEBP ITDKLELVG-----EGEFFGGGPPGMRRGGDFDNTDYGSRG--G--GGG--MDIPVRFVAVG--VVI
Sk-FUSEBP IGDKNPGMEMFGERMDGGYDRERDDDRDFERRGR--GDYGPRMG--GPP--GGG--FEMLVRFAVG--VVI
Mm-FUSEBP3 IREKDQADF-----RGVR--SDFTSRAG--G--GS--IEVSVRFAVG--VVI
Hs-FUSEBP3 IREKDQADF-----RGVR--GDFNSRMG--G--GS--IEVSVRFAVG--VVI
Pm-FUSEBP IREKDRDDFR-----PGNNNNNGNFGNKSGGGGGGGGGGGGGGGGGG--G--GGGGGGGGGGGGGGGGVGSMEVTVRFAVG--VVI
Mm-FUSEBP1 IRDQ-----GGFREVRNEYGSRIG--G--NEG--IDVPIRFAVG--VVI
Hs-FUSEBP1 IRDQ-----GGFREVRNEYGSRIG--G--NEG--IDVPIRFAVG--VVI
Mm-FUSEBP2 IREKDRQGGF-----GDR--NEYGSRVG--G--G--IDVPVRHHSV--VVI
Hs-FUSEBP2 IREKDRQGGF-----GDR--NEYGSRIG--G--G--IDVPVRHHSV--VVI

510 520 530 540 550 560 570 580 590 600

Ci-HNRNPK -----GYGGMKRGGRGQNYGGDGGGGGG--SRY--SAFKSGRRLY--GGYDEDSYQDYD--DNFDPYQE-NLYND--S-----
Sp-HNRNPK PYVGGGGGGGGGGHL--GGGGGGGGGMR--GDR--GGRGRG--R--SGR--GSGGIGG--RPRFDRDQQFGAQQ--FDFGGDAG-GRGQS--
Hs-HNRNPK -----RRCPPPPPPPGRGGRGGSRRNLPL--LPP--PPPPRGGDLM--AY--DRRGRPG--DRYDGMVGFSADET--WDSAITW-SPSE--WQ
Mm-HNRNPK -----RRCPPPPPPPGRGGRGGSRRNLPL--LPP--PPPPRGGDLM--AY--DRRGRPG--DRYDGMVGFSADET--WDSAITW-SPSE--WQ
Sk-HNRNPK -----GRGMRGR--GGGSGGGGGG--NSR--GSPRGGNSMPFR--GGRGRGGGGGG--RGGYNYRD-DYESG--QG--GYGGGNQGYAQ
Bf-HNRNPK -----RCCPGGGGSRMGGMGHRDNHGGHGGGRAGGPRMPPSEMRS--GPPPSRGLGGGGPPPMRNRGGLMSQGGQGGRRGGMGSSDRMGGYGGGGGRDFTTR
Od-Noto9c -----KKGETITHL--QGETVTRIQPKP--EEP--DAATPRGCYIT--GSM--EGVLRAQ--QIVMSICRKKMTGV--DTIQNIPKFGQGAQPPMM
Od-Noto9a -----RGGENISKI--QNETNTRIQPKT--DDP--TQDVRSCSIS--GTP--EACQVAN--DRISEIARQKLQEQ--H-----
Od-Noto9b -----KACETINRI--QEQTQTRIQPVP--DDP--KILERRGCYII--GPQ--EGCLVAQ--KEVLEVRKKMEEV--EGS--K-QMPM
Ci-Noto9 -----KGGDMINQI--QNVGTGRVQPKP--EDP--TLEPRMCSVM--GPK--EGVDAAI--RRIHEIQL-NVQER--DA--G-NRSG--
Cs-Noto9 -----KGGDMINQI--QNVGTGRVQPKP--EDP--GLPERMCSIM--GQK--EGVDAAI--RRIHEIQL-NVQER--D--G-NRS--
Mt-Noto9 -----KGGDMITRI--QNETGTTRIQPRE--DNP--NLPNRLCSIT--GTT--EGCRQAQ--VRVEELIQ-SVQEH--DA-----
Hr-Noto9 -----KGGDMITRI--QNETGTTRVQKQEEEDP--NVPRMCTIT--GPH--ENIQKAI--RIEIQELIQ-SVRDH--DN--S-GMG--
Sp-FUSEBP -----RGGDMIKRI--QEQTARVQPKP--GDR--DAPERVALIT--GSA--ESVMAE--SMVNDLVA-NARDI--GMDGGMDM-GQGGP--
Pl-FUSEBP -----RKGDMIKRI--QEQTAKVQPTP--GDR--DAPORVALIT--GSP--ESVMAE--SMVSELVS-NARDM--GMD--G-SPGSEMGWM
Bf-FUSEBP -----KGGEMIKKI--QNESGVRVQPKP--DDG--QNPFRVCGLI--GAP--DRCQAAA--HTIQNLVE-DAQQR--DQA--G-G
Sk-FUSEBP -----RGGDMIKKI--QNETGARIQRP--DDG--HSPERLAVIS--GSD--DKIDHAR--EKIDELID-SARQK--DEQRRQGG-GRDR--
Mm-FUSEBP3 -----RNGEMIKKI--QNDAGVRIQPKP--DDG--TSPERRAAGVM--GPP--DRCQHAA--RIINELIL-TAQER--EIL--G-GL--
Hs-FUSEBP3 -----RNGEMIKKI--QNDAGVRIQPKP--DDG--TSPERRAAGVM--GPP--DRCQHAA--RIINELIL-TAQER--DGF--G-GL--
Pm-FUSEBP -----RSCEMIKKI--QSDAGVRIQPKP--DDG--SGPERVAVLV--GSP--DCCQHAS--QLIHNLID-SIQEG--AVP--G-GGGG--
Mm-FUSEBP1 -----RNGEMIKKI--QNDAGVRIQPKP--DDG--TTPERRIAIT--GPP--DRCQHAA--EITIDLRL-SVQAG--NP--G-GPG--
Hs-FUSEBP1 -----RNGEMIKKI--QNDAGVRIQPKP--DDG--TTPERRIAIT--GPP--DRCQHAA--EITIDLRL-SVQAG--NP--G-GPG--
Mm-FUSEBP2 -----RSCEMIKKI--QNDAGVRIQPKQ--DDG--TGPERIAHIM--GPP--DRCEHAA--RIINDLLQ-SLRSG--PP--G-PPGA--
Hs-FUSEBP2 -----RSCEMIKKI--QNDAGVRIQPKQ--DDG--TGPERIAHIM--GPP--DRCEHAA--RIINDLLQ-SLRSG--PP--G-PPGG--

	610	620	630	640	650	660	670	680	690	700
Ci-HNRNPK	---	---	GDGQTG	---	NGDQK	---	---	TTQVTF	ITSCAASVI	KTGQRIKQIR
Sp-HNRNPK	---	NFGS	GGGGGAGAGGF	---	EGGPG	---	AGAGGEAS	QSQVTF	INDLAGSI	IRGGGRIKIR
Hs-HNRNPK	MAYEPQG	---	GSYDYSYAGG	---	RGSYG	---	DLGGP	---	IITQVTF	PKDLAGSI
Mm-HNRNPK	MAYEPQG	---	GSYDYSYAGG	---	RGSYG	---	DLGGP	---	IITQVTF	PKDLAGSI
Sk-HNRNPK	DSMGGGG	---	YGG-GQGYDS	GMQDQYN	---	TSQFT	---	TTQVTF	PKDLAGSI	IRGGGRIKIR
Bf-HNRNPK	DDYGGGSRFSRDRDRD	GMGGGGGGFGGGGG	---	GGGFR	---	SGGSDHGF	TGGN	---	ITSTQVTF	PKDLAGSI
Od-Noto9c	APPHNGA	---	PPMNWNQSPAG	---	HGGYNGM	QNSYQMPRPP	PPALQPEQ	---	TVDPVPA	QKAGAVI
Od-Noto9a	---	---	PLHGNNDSSF	---	QGGH	---	---	---	CVETP	VPASRAG
Od-Noto9b	---	KLVF	---	DGKRYVKQDGM	---	N	---	ASHHN	---	GGG
Ci-Noto9	---	SGGG	---	GGSGGGHPGG	---	MGG	FGGWE	---	GPN-MGR	GGRGM
Cs-Noto9	---	GGGG	---	GGGPPGGMGSF	---	GGWE	---	GPN-MGR	GNGRM	GVSS
Mt-Noto9	---	SGQT	---	TRTRPGTNS	---	FGGWE	---	GPGM	GGGGGRNT	---
Hr-Noto9	---	GGQG	---	DGSRGRNRP	GG	S	FGGWE	---	GGPGM	MVRGRSG
Sp-FUSEBP	---	WMGS	---	GRGRGRGGGGPS	FGSRGGGN	RGDFG	---	GMGGGGGGGGG	IRGEPLD	HRV
Pl-FUSEBP	G	GGGR	---	GGGRGRGGGPN	FGGRGGGR	PGDFG	---	DFGGM	GGGGPM	GGGPP
Bf-FUSEBP	---	---	---	GGMGRRG	---	RGDWG	---	RGPG	---	GGP
Sk-FUSEBP	---	FGGP	---	PPHREGGRGGG	---	GGFR	---	GGP	---	PDR
Mm-FUSEBP3	---	---	---	TVTRGRGRG	---	RSDFS	---	VGT	---	PGG
Hs-FUSEBP3	---	---	---	AAARGRRG	---	RGDFS	---	VGA	---	PGG
Pm-FUSEBP	---	GGGG	---	GGGRGRGRGGG	---	GRGGGFC	---	RGDWG	---	SHS
Mm-FUSEBP1	---	---	---	PGGRGRGRG	---	QGNWN	---	MGF	---	PGG
Hs-FUSEBP1	---	---	---	PGGRGRGRG	---	QGNWN	---	MGF	---	PGG
Mm-FUSEBP2	---	PGMP	---	PGGRGRGRG	---	QGNWN	---	GP	---	PGG
Hs-FUSEBP2	---	PGMP	---	PGGRGRGRG	---	QGNWN	---	GP	---	PGG

	710	720	730	740	750	760	770	780	790	800
Ci-HNRNPK	CAVETIDEAGP	EEER	---	RVISIT	NEE	OTQNA	QFLLOK	---	---	---
Sp-HNRNPK	CAQIKID	DDPLSGAKD	---	RIITIT	CTQHD	IAHAK	FELLONS	---	---	---
Hs-HNRNPK	CASIKID	DEPLGSEB	---	RIITIT	CTQD	QIONA	QYLLONS	---	---	---
Mm-HNRNPK	CASIKID	DEPLGSEB	---	RIITIT	CTQD	QIONA	QYLLONS	---	---	---
Sk-HNRNPK	CALIKID	DEPLGSD	---	RIITIT	CTPE	QIONA	QYLLONS	---	---	---
Bf-HNRNPK	CAQIKID	DEPLGSD	---	RIITIT	SDND	QIRNA	QFLLOK	ESCSVNL	---	---
Od-Noto9c	GCQITQ	NKTNPPSND	TAWRYFT	IRGQ	PEGV	OLA	OKLIE	KEV	---	GGPPPPG
Od-Noto9a	CAEVQIE	KNASDKCD	---	NWKT	FIIR	TEQQI	QEAOK	LIDKAG	IGPPNT	HTQASH
Od-Noto9b	CAEVQI	KNK	PPAEHPD	WKYFT	IRNS	QQIA	HAOKLIE	KEV	---	GGPA
Ci-Noto9	CAHAIEI	QRNPPPG	SDLN	YKTFI	IKCTPE	QIKMAR	QLIE	KEV	DAG	PGSSNG
Cs-Noto9	CAHAIEI	QRNPPPG	SDLN	YKTFI	IKCTPE	QIKMAR	QLIE	KEV	DAG	PGGQNN
Mt-Noto9	CAHVEI	QRNPPPG	SDPQ	KTFI	IKCTPE	QIYA	QLIE	KEV	DGG	PGGAAT
Hr-Noto9	CAHVEI	QRNPPPG	SDQMY	KTFI	IKCTPE	QIALA	QLIE	KEV	EGG	PGGGNH
Sp-FUSEBP	RAHVEI	SHGQHP	---	PGQK	IFLIS	CDPE	QIDYAR	SLIDE	KVNS	SPGGG
Pl-FUSEBP	CAHVEI	SHGQHP	---	PGQK	IFLIS	CDPE	QIDYAR	SLIDE	KVNS	SPGGG
Bf-FUSEBP	CAHVEL	MRNPPPH	CHG	PGMK	MFSTR	SSPQ	QIDHAK	QLIE	HEKIS	DDMH
Sk-FUSEBP	CAHVEL	SRNLGP	---	PGEK	VFTIR	SSPQ	QISCAQ	QLIE	HEKIS	SPGGG
Mm-FUSEBP3	CAHVEL	QRNPPPN	TDN	LRIFT	IRSSAP	QMEVAR	HLIDE	KEV	---	GGASL
Hs-FUSEBP3	CAHVEL	QRNPPPN	SDN	LRIFT	IRSSAP	QMEVAR	HLIDE	KEV	---	GGASL
Pm-FUSEBP	CAQIEI	QRNAPPG	ADPN	KLFIR	SGQQ	QIEHAR	QOIN	NSG	---	GGPPG
Mm-FUSEBP1	CARIEL	QRSPPPN	ADPN	KLFIR	STPQ	QIDYAR	QLIE	KEK	---	GGV
Hs-FUSEBP1	CARIEL	QRNPPPN	ADPN	KLFIR	STPQ	QIDYAR	QLIE	KEK	---	GGV
Mm-FUSEBP2	CARVEI	SRQLPPN	GDPN	KLFIR	SSPQ	QIDHAK	QLIE	KEK	---	EGPL
Hs-FUSEBP2	CARVEI	SRQLPPN	GDPN	KLFIR	SSPQ	QIDHAK	QLIE	KEK	---	EGPL

	810	820	830	840	850	860	870	880	890	900
Ci-HNRNPK	---	---	---	---	---	---	---	---	---	---
Sp-HNRNPK	---	---	---	---	---	---	---	---	---	---
Hs-HNRNPK	---	---	---	---	---	---	---	---	---	---
Mm-HNRNPK	---	---	---	---	---	---	---	---	---	---
Sk-HNRNPK	---	---	---	---	---	---	---	---	---	---
Bf-HNRNPK	---	---	---	---	---	---	---	---	---	---
Od-Noto9c	GAPPQR	MPHMPQPP	---	QTGPP	QFQSP	GMPVPVQ	---	HGAQH	QYQHP	STP
Od-Noto9a	LNHLHPN	---	PGTPGPP	---	PPSNQ	PGIGG	PWPQVD	QHDP	SDVNQ	GW
Od-Noto9b	ANSSG	---	NGYSYTG	---	---	---	---	---	---	---
Ci-Noto9	GGLPPA	---	AGYGHPS	---	HNPLQ	GPPQAP	QAPQSYQ	---	QFW	GNQF
Cs-Noto9	GGLPPA	---	ASYSYGH	PNFL	---	QGPPQ	APQAPQSYQ	---	QFW	GSQF
Mt-Noto9	QPAAPQ	QAQYGSQ	---	---	---	---	---	---	---	---
Hr-Noto9	GPPPPQ	NNFAG	PPPGGG	FGGPPG	---	GPPQQA	PPQPFQ	---	QWAG	APNQY
Sp-FUSEBP	GPQGHR	---	GGFGGPP	---	GGSPQ	APVQ	QGYNNQ	---	QW	NAY
Pl-FUSEBP	GPQGHR	---	GGFGGPP	---	GGPQ	QNPVQ	PGYNNQ	---	QW	NAY
Bf-FUSEBP	GGP	---	GFNQGPP	---	PPNQ	PPPGGG	PPYAP	---	QGW	GNAY
Sk-FUSEBP	GGPGG	---	GFNQAPP	---	QGGP	GGQGG	PPPPQA	FTP	---	QGW
Mm-FUSEBP3	FPNIAA	---	KVNGNPH	---	STPVSG	---	PPA	FLT	---	QGW
Hs-FUSEBP3	FPNMAA	---	KVNGNPH	---	STPVSG	---	PPA	FLT	---	QGW
Pm-FUSEBP	QGGQGP	---	PFHFGPP	---	GGPR	GPPSP	QPF	FEQ	---	PGW
Mm-FUSEBP1	GPYNPA	---	PYNPGPP	---	GPAPHG	---	PPAPYAP	---	QGW	GNAY
Hs-FUSEBP1	GPYNPA	---	PYNPGPP	---	GPAPHG	---	PPAPYAP	---	QGW	GNAY
Mm-FUSEBP2	GPFPNG	---	PFNQGPP	---	GAPP	HAGG	PPPHQY	FTP	---	QGW
Hs-FUSEBP2	GPFPNG	---	PFNQGPP	---	GAPP	HAGG	PPPHQY	FTP	---	QGW

910 920 930 940 950 960 970 980 990 1000

Ci-HNRNPK
Sp-HNRNPK
Hs-HNRNPK
Mm-HNRNPK
Sk-HNRNPK
Bf-HNRNPK
Od-Noto9c
Od-Noto9a
Od-Noto9b
Ci-Noto9
Cs-Noto9
Mt-Noto9
Hr-Noto9
Sp-FUSEBP
Pl-FUSEBP
Bf-FUSEBP
Ks-FUSEBP
Mm-FUSEBP3
Hs-FUSEBP3
Pm-FUSEBP
Mm-FUSEBP1
Hs-FUSEBP1
Mm-FUSEBP2
Hs-FUSEBP2

--NSQPQNPAFATPTQPAAA--
KIQDHHAHSYQQPHMIHQSSSQPNISSADPG---QWSDPYRGHLGTGYHP--G-
SQQQAAS--APAAAPA--A-
--GAQAQAYQQPAAAAVSAA--P-
--GAQAQAAAYQQPTAAAAVSAAP-
--QNGTTADQMGGMPQMAGGA--A-
GQQPAAAAAVAAAYPQAAAAAGTVVHTQT--A-
YQQQQQNPTSQTASTVQTTPSTSAFQSTD AQQGQANN--G-
AQQQQQQAATSQFASTVQTTPSSAPQST-
YNWQQQAQPPAPGGGPQQAAQPPGGSGQQPDYSKAWEEYWKRTGEQPQQPQQQQQPQQPGGQQGAPAQQTQQAGQQAGQ-
YQQNQPN SQQQNPSPNQSSQQQSFPQQQPPQSSTSSSTTAPGTGSGAGGGGSSGSGSNSQSQNP GS----QAPK-G-
--QSQP-Q-
--QSQP-Q-
--GAMPGGMPGGMPGGMPGGMPAGMPGAMPGGGMPGGMPGGMPGGMPGGMPGGMPAGMPGGMPAGMPGAMPGGMQGGMGNMQAAMQTAMQP
YQQQAQP-----PPAAPAGAPA-----TTQTNGQGNYGDDQQAFA-P-
YQQQAQP-----PPAAPAGAPT-----TTQTNGQ-----GDQNPFA-P-
YQ---QP-----PGPVPGPAPA-----PAAPP AQ-----GEPPQPP-P-
YO---OP-----PGPVPGPAPA-----PAAPP AO-----GEPPOPP-P-

	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100
Ci-HNRNPK	...	...	...	...	...	...	...	...	...	...
Sp-HNRNPK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hs-HNRNPK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Mm-HNRNPK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Sk-HNRNPK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bf-HNRNPK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Od-Noto9c	-----	-----	-----	-----	-----	-----	AAQPDYTKAW	EYFKVQKHQQSNNGSAAQ	-----	-----
Qd-Noto9a	-----	-----	-----	-----	-----	-----	QGYPGNTNQPNFHYQDLGLSSL	-----	-----	-----
Od-Noto9b	-----	-----	-----	-----	-----	-----	TGQPDYSKAW	EYFKKTGQTPQSYQAS	-----	-----
Ci-Noto9	-----	-----	-----	-----	-----	-----	ASQPDYSKQWDEY	LYLKQNAAAVAEQRQQLTLAAPAAAA	-----	-----
Cs-Noto9	-----	-----	-----	-----	-----	-----	ASQPDYSKQWDEY	LYLKQNGLTAAAVAERQQLALASFAA	-----	-----
Mt-Noto9	-----	-----	-----	-----	-----	-----	PAVPDYSKQW	EYFKKGEGTGAAPQGG	-----	-----
Hr-Noto9	-----	-----	-----	-----	-----	-----	AGQPDYTKAW	EYYKKQEAAPAA	-----	-----
Sp-FUSEBP	-----	-----	-----	-----	-----	-----	AGNRDMLRQWA	EYYKNQA	-----	-----
Pl-FUSEBP	-----	-----	-----	-----	-----	-----	DAQPGQGAA	-----	-----	-----
Bf-FUSEBP	-----	-----	-----	-----	-----	-----	SGQPDYTKAW	EYYKRAQSQQ	-----	-----
Sk-FUSEBP	-----	-----	-----	-----	-----	-----	DGQPDYSAAWA	EYYRQQAQ	-----	-----
Mm-FUSEBP3	-----	-----	-----	-----	-----	-----	NSQPDYSKAW	EDYKKQSHPTS	-----	-----
Hs-FUSEBP3	-----	-----	-----	-----	-----	-----	SSQPNYSKAW	EDYKKQSHAAS	-----	-----
Pm-FUSEBP	GVQPGMQAQMGMGAQQP	QQ	VAAQQAADPNQATV	QNGQVDYTKAW	EYYKSIQQ	-----	-----	-----	-----	-----
Mm-FUSEBP1	-----	-----	-----	-----	-----	-----	AGQVDYTKAW	EYYKMGQAVPAP	-----	-----
Hs-FUSEBP1	-----	-----	-----	-----	-----	-----	AGQVDYTKAW	EYYKMGQAVPAP	-----	-----
Mm-FUSEBP2	-----	-----	-----	-----	-----	-----	TGQSDYTKAW	EYYKKIGQQPQQPGAPPQDYTKAW	E	-----
Hs-FUSEBP2	-----	-----	-----	-----	-----	-----	TGQSDYTKAW	EYYKKIGQQPQQPGAPPQDYTKAW	E	-----

	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200
Ci-HNRNPK	-	N A E E P K D E -								
Sp-HNRNPK										
Hs-HNRNPK				K Q Y A D V E G F -						
Mm-HNRNPK										
Sk-HNRNPK										
Bf-HNRNPK			F E L V L H F V A Q Y -							
Od-Noto9c		P T Q A T G S Q -		P D Y T A A W A E Y Y K S M G - Y Y K S -						
Od-Noto9a		L E D S L E A K -		L N L S L C S D S E F D F E P Y E P Y D P A L D S S R F T P Q S Q C -						
Od-Noto9b		L A A Q Q P A A A P A P T P A A A -		P - A T G G Q D Y S A Q W A E Y Y R K L A E Y Q K A Q G N -						
Ci-Noto9	A I Q Q Q V A A P A A A A P A A S A A V Q -			P A T T Q A A D Y S A A W A E Y Y R Q Y Y A M H G Q A G Y A A A A A A A G Q A P A P T -						
Cs-Noto9	A A A I Q Q Q V A A P A A A A A P T A A A A A V A Q P A T T Q A D Y S A A W A E Y Y R Q Y Y A M H G Q A G Y A A A A A A A G Q A P A P T -									
Mt-Noto9		A P P T A G T P Q P A T S Q A A A G V D Y S Q A W A D Y Y R Q Y S Q Y Y Q Q T Q Y S A G Q Q P A Q Q -								
Hr-Noto9		V N P A A A S Q -		A G G A D Y S A A W A E Y Y R Q Y A Q Y Y Q Q S Q A Q Q Q Y S T A P A P A Q Q -						
Sp-FUSEBP		A G Q A G G Q P -		Q D Y S Q Q W M E Y F Q Q Q A L Y F N Q P N Q G T P A Q Q Q -						
P1-FUSEBP		T G Q A G Q P Q -		Q D F S Q Q W M E Y F Q Q Q A M Y Y N Q P N Q G Q T P A Q Q Q -						
Bf-FUSEBP		Q Q Q A A Q P Q -		Q D Y S Q A W A D Y Y R Q Y G G A P G Q S Q P G Q Q L L Q A E N S Q E D D Q V G V -						
Sk-FUSEBP		P Q P G A G N Q -		P D Y S N A W A E Y Y R Q Q G M Y Y G A G G Q Q S N Q P T N Q P P S Q Q Q Q -						
Mm-FUSEBP3		A A P Q A S S P -		P D Y T M A W A E Y Y R Q Q A A F Y G Q T L G Q A Q A H S Q V C S Q S P A P -						
Hs-FUSEBP3		A A P Q A S S P -		P D Y T M A W A E Y Y R Q Q V A F Y G Q T L G Q A Q A H S Q E Q -						
Pm-FUSEBP		P G Q P A G A Q -		P D Y T K A W E A Y Y K S Q S A S A Q A A V T G G S D -						
Mm-FUSEBP1		A G A P P G G Q -		P D Y S A A W A E Y Y R Q Q A A Y Y A Q T S P Q G M P Q H P P A P Q Q Q -						
Hs-FUSEBP1		T G A P P G G Q -		P D Y S A A W A E Y Y R Q Q A A Y Y A Q T S P Q G M P Q H P P A P Q Q Q -						
Mm-FUSEBP2	E Y Y K K Q A Q V A T G G G P A P P G S Q -			P D Y S A A W A E Y Y R Q Q A A Y Y G Q T P G P G P G P P P T O Q G Q Q Q A S G N C H P P P P P F S F Q P P A T V H P A L V G S A G N -						
Hs-FUSEBP2	E Y Y K K Q A Q V A T G G G P A P P G S Q -			P D Y S A A W A E Y Y R Q Q A A Y Y G Q T P G P G P G P P P P T O Q G Q Q Q A Q -						

	
Ci-HNRNPK	-----
Sp-HNRNPK	-----
Hs-HNRNPK	-----
Mm-HNRNPK	-----
Sk-HNRNPK	-----
Bf-HNRNPK	-----
Od-Noto9c	-----
Od-Noto9a	-----
Od-Noto9b	-----
Ci-Noto9	-----
Cs-Noto9	-----
Mt-Noto9	-----
Hr-Noto9	-----
Sp-FUSEBP	-----
Pl-FUSEBP	-----
Bf-FUSEBP	-----
Sk-FUSEBP	-----
Mm-FUSEBP3	-----
Hs-FUSEBP3	-----
Pm-FUSEBP	-----
Mm-FUSEBP1	-----
Hs-FUSEBP1	-----
Mm-FUSEBP2	PFPCGVCP
Hs-FUSEBP2	-----

Calumenin Multiple Alignment

	10	20	30	40	50	60	70	80	90	100																																																																											
Ci-Reticulocalbin-1	-MRLYLVCVL	LVSGCLLG	VIGRSVI			-KKEGQP	-KKQSTL	DKEVLF	EDDYEDD	VLDLPPEE	SKSRKSL	VEKMMVM																																																																									
Cs-Reticulocalbin	-----MMKLS	SLLVFTTT	--IFHCK			-----AQELHT	-----GGGKS	DKEVLF	EEEGQD	-DIFNL	PESEE	KELIAKLVQNKIDQG																																																																									
Ci-Reticulocalbin-2	MERINLNC	FVLLMILV	FRATWG	KEMA			-----TGGGKS	DKEVLF	EGDDDF	-----LPEAT	SKELLLKLV	KNMKMDLN																																																																									
Od-Calumenin2	---MTRIA	FLLP	IPFFARG	TSHP		---KNPTI	-DNP	-----VDSFNS	HVDGIL	QNESL	KFH	-KLTKEE	KLASLEEFK	-KMDAD																																																																							
Sp-Calumenin2	MMKSVLF	FAYVVA	VVISL	--AVCKPND	---HEGSS	RVKQETK	---	LSDQAH	FDEHGH	KHNPDY	DHDAFL	EEEA	AKFT	---NLSPEE	SKELG	GLFD	-RVDDN																																																																				
Od-Calumenin1	---MKFS	ALS	SNAG	-RIAEP	QKSKL	DEKKEML	QDKDR	PLVD	MDR	---	DDPDY	DPAALW	-CDEF	KTHD	---	DLTHEE	ARDKLIILIE	-KMDRD																																																																			
Cs-Calumenin1a	---MLRE	VFLYF	VYV	--AFALEH	---	KDRVI	-DSK	---	LSDKEF	---	GTADY	DHDAFL	KE	TAAEMD	---	ELSPEE	SKRLAIIT	-KVDKN																																																																			
Ci-Calumenin1a	---MWRK	LVL	LLFLGV	---GLAAV	---	KERVI	-DSK	---	LSDKEF	---	GTADY	DHEAFL	KE	TAEELD	---	DLAPEE	SKRLAIIVK	-KVDKN																																																																			
Ci-Calumenin2	---MLIR	CVLL	LLVASA	---AFAGVAR	---	QDRV	L	-DPK	---	LSDKEP	---	GSPDY	DHEAFL	KE	QAEELD	---	ELPEEE	SKRLGIIVD	-QVDKN																																																																		
Cs-Calumenin2	---MVVV	GKLYF	LLSVSV	--AIAAVAK	---	KDRIL	-DQT	---	LSDKEP	---	GSPDY	DHEAFL	KE	QAEELD	---	ELPEEE	SKRLGIIVD	-KVDKN																																																																			
Cs-Calumenin1b	---MLIK	VFL	LLFVCYV	---GFAAVAK	---	KDRVL	-DQK	---	LSDKEP	---	GSPDY	DHEAFL	KE	QAEELD	---	ELPEEE	SKRLGIIVD	-QVDKN																																																																			
Ci-Calumenin1b	---MKGL	MVLL	LMCTV	---AFAAVAK	---	KERV	L	-DQK	---	LSDKEP	---	GSPDY	DHEAFL	KE	QAEELD	---	ELPEEE	SKRLGIIVD	-QVDKN																																																																		
Sp-Calumenin1	MKTS	LIVCMY	LALLIAV	---TLAKPAD	---	KGRVKE	BEV	---	LSEDEH	FEGN	-EHNPEY	DHDAFL	HE	DAKTFD	---	NLSPEE	SKRLGIIVD	-KIDAD																																																																			
Pm-Calumenin	-MACG	QKVA	FVALC	AWL	---ALAKPTA	---	EKKNR	VHP	DEP	---	LSEKKH	---	DD	-EQSF	DYDHEAFL	CAETAKTFD	---	CLSPEE	SKRLGIIVD	-KIDSD																																																																	
Sk-Calumenin	-MKST	SSVLS	ALG	LFLSV	VAKPT	DKKQARK	DRIL	---	BEK	---	LSDKH	YDGD	-LHNP	DYDHEAFL	CGDGASED	---	ELSPEE	SKRLGIIVD	-KIDKD																																																																		
Bf-Calumenin	-MQNL	LLLLLV	LTTLTF	---	AIPKPTD	---	GKKDRV	V	-DKP	---	LSEQ	DHY	-GD	-NHNSD	YDHEAFL	ED	-AHTFD	---	CLDPEE	SKRLGIIVD	-KIDKD																																																																
	110	120	130	140	150	160	170	180	190	200																																																																											
Ci-Reticulocalbin-1	CDGFFDA	KEHLS	SWTLK	AFDS	FENDDA	KEB	FSM	-VVDK	DGAVS	MRSSD	DA	---	KGYG	EESE	PEFAN	PEAEE	GIEKK	ETYK	KKKI	AAAD	DRD	ET	LDLME																																																														
Cs-Reticulocalbin	KDGFV	DYAE	ESWS	LKSLND	ETEDSR	EFSS	-VDE	EDG	KITR	KEYS	SFLG	GEDF	DI	EE	SQF	-QGLSP	DWK	NL	KT	AM	TAD	DRD	DSGLVDE																																																														
Ci-Reticulocalbin-2	KDEFY	DRBEL	VQNS	QKSLNR	ETEAS	RSE	SS	-VDE	EDG	KITR	KEYS	SFLG	GEDF	DI	EE	SQF	-QGLSP	DWK	NL	KT	AM	TAD	DRD	DSGLVDE																																																													
Od-Calumenin2	ENGE	DEDE	DELQ	QWMRY	VENR	VEED	DNB	LAQ	-MDL	KNG	MS	SIRE	NEAK	N	---	PERI	YQD	PSM	NAAT	AM	YQKK	KD	IR	RNA	AD	DI	DDQ	HLS	RNE																																																								
Sp-Calumenin2	KNGS	SESE	SEL	SAWIE	IQ	NSVLY	GEL	DL	LEKA	-HIM	NG	DD	LT	MAEY	NHTTS	---	GLP	LE	KLI	TM	QED	K	TL	D	FR	KV	R	Q	KAR	S	L	AD	Q	R	D	AL	DR	E																																															
Od-Calumenin1	KDGK	VTE	EBEL	TI	WI	HYVQ	T	K	NIYDD	PER	QWEE	-N	HTDK	K	G	K	T	W	PE	YS	KHTY	---	FLT	DD	Q	L	-NEE	ED	D	G	F	S	Y	K	A	M	L	R	D	E	R	R	R	K	A	S	D	R	E	N	K	G	Y	L	T	R	E																												
Cs-Calumenin1a	GDGI	LTE	KE	M	K	D	WIR	F	T	H	QR	I	R	E	D	S	K	R	E	M	L	M	O	N	G	T	G	M	L	H	W	A	P	K	H	M	V	---	Y	G	E	D	G	Q	I	-V	D	E	I	H	E	T	E	E	Y	R	K	Q	F	I	R	D	E	R	R	K	R	A	D	L	D	E	N	Q	C	T	I	B	E						
Ci-Calumenin1a	EDGS	VTE	Q	E	L	E	D	W	R	L	T	H	N	K	I	S	E	D	S	K	R	E	R	Q	L	V	E	E	N	G	E	L	H	W	N	N	Y	K	M	V	---	Y	G	E	N	G	E	L	-V	H	E	V	D	E	T	E	D	Y	R	K	M	Y	E	R	E	K	R	K	R	A	D	S	D	E	G	S	V	L	T	E	E				
Ci-Calumenin2	RAGQ	VTE	Q	E	L	V	D	W	I	K	F	T	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	F	L	E	D	D	Q	E	-Q	V	N	G	E	D	S	E	S	Y	K	M	L	R	D	E	R	R	R	R	E	A	D	V	D	K	D	R	C	T	E	E	
Cs-Calumenin2	GDGK	VSE	TE	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	L	V	E	D	E	Y	-P	G	S	D	E	T	K	E	S	K	R	T	I	E	R	D	O	R	R	E	K	Q	A	D	K	D	D	H	C	T	E	E			
Ci-Calumenin1b	GDGN	VTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	F	M	K	D	H	E	-N	S	D	D	E	D	G	L	S	Y	K	M	L	R	D	O	S	R	N	A	D	S	D	N	K	E	C	T	E	E				
Ci-Calumenin1b	GDGN	VTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	F	M	E	E	Q	A	-N	Q	D	E	E	D	G	F	S	Y	K	M	L	R	D	E	R	R	R	E	A	D	V	D	K	D	R	C	T	E	E			
Sp-Calumenin1	KDGF	VTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	G	L	T	E	E	L	S	R	M	Q	E	N	Q	H	M	D	F	S	T	M	I	R	R	D	K	K	R	K	V	A	D	M	D	N	D	G	L	T	E	E
Pm-Calumenin	GDGL	VTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	F	L	A	E	E	A	-Q	G	G	E	E	D	G	F	N	Y	K	M	L	R	D	E	R	R	R	E	K	A	D	V	D	K	D	G	Q	A	S	K	E	E
Sk-Calumenin	NDGQ	VTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	Y	L	A	D	D	F	---	D	D	I	E	G	D	Y	K	M	D	M	I	R	D	E	R	R	R	E	A	D	V	D	K	D	G	L	S	K	E	E		
Bf-Calumenin	CDG	FVTE	Q	E	L	V	D	W	I	K	F	I	Q	K	R	Y	I	R	E	D	S	N	K	O	F	L	-H	D	N	K	D	G	K	I	E	W	D	E	M	K	E	A	T	Y	---	F	M	S	P	E	E	L	E	D	D	D	D	G	Y	N	I	K	D	M	V	K	R	D	L	R	R	E	T	A	D	S	D	D	K	H	L	T	K	E	E
	210	220	230	240	250	260	270	280	290	300																																																																											
Ci-Reticulocalbin-1	VNEK	HP	PR	NR	PET	S	GV	L	E	D	K	L	E	S	D	A	N	K	G	T	D	E	E	L	K	D	---	KN	A	D	E	D	---	AL	A	E	S	E	T	E	R	E	G	E	L	-D	C	D	S	G	V	L	R	G																															
Cs-Reticulocalbin	VINE	K	H	P	O	F	S	P	A	T	R	E	V	L	A	D	K	L	S	S	A	D	L	K	D	G	T	D	E	L	T	D	S	---	KE	H	D	T	H	K	---	D	E	---	DK	K	I	V	E	T	D	K	E	T	D	L	D	N	K	D	G	V	L	K	G																				
Ci-Reticulocalbin-2	VIDE	K	H	P	O	F	S	P	A	T	R	E	V	L	A	D	K	L	S	S	A	D	L	K	D	G	T	D	E	L	T	D	S	---	Y	K	N	N	K	E	N	---	D	Q	---	DK	K	I	V	E	T	D	K	E	T	D	L	D	N	K	D	G	V	L	K	G																			
Od-Calumenin2	FAHY	D	H	P	T	G	H	D	M	E	V	I	A	E	T	L	E	D	L	R	N	G	E	I	D	V	N	E	L	G	D	I	G	A	E	K	Q	E	S	V	E	K	I	V	P	M	D	D	E	F	E	N	D	E	N	I	W	E	A	P	G	I	D	E	D	E	W	I	E	N	E	R	R	I	N	E	E	R	D	D	G	G	F	L	M
Sp-Calumenin2	YMAF	E	W	P	R	E	K	T	I	M	K	O	V	A	I	A	E	T	I	D	T	D	G	E	V	N	F	E	D	E	M	K	D	L	---	W	D	G	Q	E	---	M	P	---	D	W	V	E	A	B	R	K	S	A	E	Y	R	D	K	D	G	G	K	L	N	H																			
Od-Calumenin1	LTA	F	L	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	W	I	E	E	D	G	A	---	B	P	---	E	N	V	V	E	B	E	E	Q	F	K	D	I	R	D	N	G	E	K	M	D	V																			
Cs-Calumenin1a	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	F	N	P	E	N	G	E	---	B	P	---	D	W	V	R	N	E	R	E	H	-N	I	R	D	N	S	N	C	K	M	D	A																					
Ci-Calumenin1a	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	Y	H	P	N	N	E	E	---	B	P	---	D	W	V	N	E	E	E	Q	F	R	E	R	D	K	D	G	L	S	D	L																						
Ci-Calumenin2	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	Y	H	P	N	N	E	E	---	B	P	---	D	W	V	N	E	E	E	Q	F	R	E	R	D	K	D	G	L	S	D	L																						
Cs-Calumenin2	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	Y	H	P	N	N	E	E	---	B	P	---	D	W	V	N	E	E	E	Q	F	R	E	R	D	K	D	G	L	S	D	L																						
Ci-Calumenin1b	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	Y	H	P	N	N	E	E	---	B	P	---	D	W	V	N	E	E	E	Q	F	R	E	R	D	K	D	G	L	S	D	L																						
Ci-Calumenin1b	ERIS	F	H	P	E	Y	D	H	M	K	E	L	V	I	E	T	I	D	I	D	K	D	E	K	I	G	E	S	I	G	D	---	Y	H	P	N	N	E	E	---	B	P	---	D	W	V	N	E	E																																				