Mosquito\_AGAPOO YNDVYMRVVD-PADVALD VEITFKDQYIGRSEMWRLKTRLTNTCVYLNKKIESCEGCIR Drosophila\_DEPD YSNVVMRIVK-PADVALDS IEITFKDQYMGRSEMWRLKTYLTDTCVYVNKKIDYNDMQIR Louse\_DEPDC YADVYMNVVN-PESVALDS IELTFKDQYMGRSEMWRLKNSLLNTCVYLNKKIEFCGGSIR Louse\_DEPDC Human DEPDC5 YQDVYVNVVD-PKDVTLDI VELTFKDQYIGRGDMWRLKKSLVSTCAYITQKVEFAG--IR YKNVKVTKVQ-PGDVALDI VELVFKEQYISRSDMWRLKNSLVDTCIHIQQKLELSG--IR StlPrp DEPDC5 Tunicate DEPDC5 FODVYVYKTE-PEDVALDIFEVSFKDOYISRSDMWRMKKTFLNSCVYIDOYLPFSG--IR **DUF 3608** Ascaris DEPDC5 NQNVTVKVVD-KKQVALDHIELTFKERYMSRSDMWRYRSCLLNTCAYIGKKLEWLG--IP Ustilago\_IML1 RAEAILTR<mark>V</mark>T-KD<mark>D</mark>FTI**DEVEL**YFRDQYVGRAEMWRVFQN<mark>L</mark>ED**TCVY**CGQKVTLA<mark>G</mark>-SVR RSRIWIKLKPNKF<mark>D</mark>LQAD<mark>VVE</mark>FNIKDČLLNRGDMWVLSSK<mark>L</mark>VDTCVFMDQRLAFLD-SIR FRS<mark>VTVRRV</mark>D-QR<mark>DV</mark>ČVDIVELSFKDQFLSRADIWRFKVTMLGQCVYVGRTVECL<mark>G</mark>--IR Saccharomyces\_I Completely conserved Phytophthora\_hp Albugo VMAP FKD<mark>V</mark>VIRF<mark>V</mark>P-KDQ<mark>V</mark>EAAN<mark>VE</mark>ISL<mark>KDQ</mark>FISRRDLWYLKRSLTGKP<mark>V</mark>SVGKNVRVH<mark>G</mark>TRWQ y-dv-mrvv--p-dvald-vEltfkdqyi-RsdmWrlk-sll-tcvyl-kkiey-g--ir consensus Identical Mosquito\_AGAP00 CQVYEMWSQGERVACGVINEDTKVVFRSNTSMVYLFLQMSSEMWDFDIYGDLYFEKAVNG COVYEMWSQGERVASGVITEDTKIVFRSSTSMVYLFLOMSSEMWDFDIHGDLYFEKAVNG Drosophila DEPD Similar CQVHEMWSQGDRVACGV IAEDTKI VFRSNTSMVYLFIQMSSEMWDCDINGDLYFEKAVNG Louse\_DEPDC Human\_DEPDC5 AQAGELWVKNEKVMCGY ISEDTRVVFRSTSAMVYIFIQMSCEMWDFDIYGDLYFEKAVNG StlPrp DEPDC5 **AQVQELWSRWERVSCGAITNDTRVAFRSATAMVYLFIQMSSEMWDFDTCGDLYWEKAVGG** Tunicate DEPDC5 AQVSELWSNSMKVRCGYITDNTNFVLRSYTAEVYVFIQMSSEMWEYDAYGYLQFERAING TTVSDLWSKGEMVRSGFVSEDTRVVFRSSSSMLLVYVQMSSEMWDIDPHGDLYFEKCVNG Ascaris DEPDC5 Ustilago\_IML1 ATIGRIFIKEKKVTSGYVSASTKAIFRSESAKYNLFIQLSREMWEFDEDGEIYYEKALQG Saccharomyces\_I GTIKGIYRNGKKIVSGYIGEQTRIIFRSESARLIFLIQITDEMWNFEETGEQLFQKMVNS Phytophthora hp SQVDAILADNTQLSCGVIGDATKIVVRSRSSRLFWLVQMSTEMWEFAPDGEIYYEKLLNR VMDVHASKSEEOAVSGVISEHTKLSLRSKTSRVMWLIOISPELWDLANSGYMYLEILVN-Albugo VMAP consensus -qv-emws--erv-cG-itedTkvvfRS-tsmvylfiQmssEmWdfd--Gdlyfekavng Mosquito\_AGAP00 FLADLYKKWQKLGSNHEVTIVLFSRTFYSAKSLDEFPPHMRDCLQIDYR------Drosophila\_Depd FLTELFQKWRKLSCNHEVTIVLFSRTFYAAKSLDEFPEHMRDCLQQDYK------Louse\_DEPDC FLSDLFQKWKKNGCYHEVTIVLFSRTFYEAQDLEKFPIYMRECLQQDYK-------FLADLFTKWKEKNCSHEVTVVLFSRTFYDAKSVDEFPEINRASIRQDHK-------Human\_DEPDC5 StlPrp DEPDC5 FLTDLFNKWRDKGVNNEATVVLFSRTFFKAKSLDQFPKWMRDNVKVDYA-------Tunicate DEPDC5 FLKALFKKWKQKKCCHELTLVLFSRTLYETQDIEDFFIHLRDCLRRNYQ------FFPELFERWKEOHCAHYVSFIVCSRWYFKEELIN---DEMKEKICKDHR-------Ascaris DEPDC5 Ustilago\_IML1 FIPELLRRWRAVPTNHILTVILFARVHYDESEIH----MLEGPIRQDAR--------Saccharomyces\_I FFPKIFKKWKDVDTHHTITIAFAISMDLSDTSFK-----DLTPGES------Phytophthora\_hp LLRVLIDKWSESSVSHSVTIIAFSRSFYDANQFPDDFDPRRAPFSDPRRQGFGPGCGAPG VVHHVLQKWIRHKVSHSLTILFFARSYYPENEKEGNENSAEGMHCTSTASERKAASSSMP Albugo VMAP consensus fl-dlf-kWr----hevtivlfsrtfy-a--ld-fp--mrd-l--d-r------Mosquito\_AGAP00 ------------GRFYEDFYRVAIQNERCDDWSTTLVQLRRLFTGYRDVVLKYHE Louse DEPDC -----Very to the contract of t -----GRFYEDFYKVVVQNERREEWTSLLVTIKKLFIQYPVLVRLEQA Human\_DEPDC5 StlPrp\_DEPDC5 -----GRFYQDFYRAVVHHERRDEWHGLLQTLKAHFIVYLKEVLCETQ Tunicate DEPDC5 ------NQLYMDFYKCVVQTERLEDCTSLITTLKRLFNKYEKLTELDG-Ascaris DEPDC5 -----GKYYQDFFRLIVQNEHYDDWKHVLPKLRLVFYTYEKSIENYLR Ustilago\_IML1 -----GKYYIDYYKVVVDLESNCNWDAVMTTLKEEFFRFQHDILLIRR Saccharomyces\_I ------LKNSQDYFRIVVDQVSIIHWVDIMETLREEFMEIRKDLLNKQT Phytophthora\_hp INMANGYGPTIHVDPVS<mark>GRYYEDFYKVVVM</mark>PTGP<mark>DW</mark>SRLVLLLKKEFASYYEMHRWRTP Albugo\_VMAP ICVDE------BNRKYQDFYKVVVIFDSTITDVQPLLVKLKCELNDFPRVCGWRSP consensus ---------grfy-Dfyrvvvqner-ddw--vl--lkrlf--y---vl---RD-----GIEIPRAVNSTAAQGNFLEVLNMS Louse\_DEPDC EG-----FPQGDNSTSAQGNYLEAINLS Human\_DEPDC5 ES-----GQIPPGYNSSAAEGNFLETLNMT StlPrp\_DEPDC5 Tunicate DEPDC5 Ascaris\_DEPDC5 KEF-----PDYTGVEPLAONSTAVDGNFLOILNMS PISGPAASHEE------LHADLIRDRVHMAGRISSSYEGNLEAINLA Ustilago\_IML1 Phytophthora hp EEFSAAKYEICRCPKPATSTNTGKTSEKGTMDVYIKWTKLPSGVPSRAKDGNILEAINVT Albugo VMAP KFWNDETSSSTSIS---------QSQQHTRDGVPANAQDGNLLEAINIV -----ip-q-nsta-eqnfLe-lnis consensus Mosquito\_AGAP00 LNVFEKHYLDRSFDRTGQLSVVITPGVGVFEVDRELTNITKQRIIDNGVGSDLVCVGEQP Drosophila DEPD LNTFEKHYLDRTFDRTGQLSVVITPGVGVFSVDRELTNITKQRIIDNGVGSDLVCVGEQP Louse\_DEPDC LNVFEKHYLDRSFDRTGQLSVVITPGVGVFEVDRELTNVTKQRIIDNGVGSDLVCVGEQP FNVFDKHYINRNFDRTGQMSVVITPGVGVFEVDRLLMILTKQRMIDNGIGVDLVCMGEQP Human DEPDC5 Ascaris\_DEPDC5 MNSFDSYYTDRRFETSGQQIIYVTPGGGVFNVDRHLVNFTKQRLIDMGISLDIVCLGEQF Ustilago\_IML1 LNPFDEHYIDRDLNRTGLSMVFLTAGTGHFDVDKKLLRITTERMIENGTGLDLVCLTKMF Saccharomyces\_I TTILTDPFKQLDLRHTTTHVMIISPGSGLFDVDYSLLRLTGKKLLSLEMTMDLICLSKAF Phytophthora\_hp LNVLDKHYMDRDLSRTGQGIVMMTAGCSIFNVDRKLAEITEQRMMDNGVGMDMISLTTPP Albugo\_VMAP <mark>LNIFDKHHIDR</mark>HLA<mark>RTGO</mark>NVVIA**T**AGNGIFKVNKOLSE ITEORMMDHGIGIDIICLSSPP consensus lnvfdkhyldr-fdrtgqlvvvitpG-gvFeVdr-l--iTkqrmidngvgvDlvclgeqP Mosquito\_AGAP00 LHAVPLLK HN-------KDT-LTS-IDD--------------