

	1	10	20	30	40	50	60	70	80	90	100	110	120	130
Human	MRHQGALLLLGALLCAHGLASSPECACGRSHFTCAVSALEGETCIPRAHQCDGNDGCDGSDSDGECILPTCSPLDFHCNGKCIIRRS4VCGDNDCEDDSDQDCPPRECEDEFPCQNGYCRSLMH													
House	MRHQGALLLLGALLCAHGLASSPECACGRSHFTCAVSALEGETCIPRAHQCDGNDGCDGSDSDGECILPTCSPLDFHCNGKCIIRRS4VCGDNDCEDDSDQDCPPRECEDEFPCQNGYCRSLMH													
Zebrafish	MRLAAYLCGSLTFTLLAKGLVLSARECSGKNNHFTCAVSALEGETCIPRAHQCDGNDGCDGSDSDGECILPTCSPLDFHCNGKCIIRRS4VCGDNDCEDDSDQDCPPRECEDEFPCQNGYCRSLMY													
Consensus	..\$rr.wgalllGallcAhG.aSs.EcACGrSHFTCAVSALEGETCIPRAHQCDGNDGCDGSDSDGECILPTCSPLDFHCNGKCIIRRS4VCGDNDCEDDSDQDCPPRECEDEFPCQNGYCRSLMH													
Human	131	140	150	160	170	180	190	200	210	220	230	240	250	260
House	CDGNDGCDGNSDEQCQRKCSDFKRCSDGSCIAEHAYCDGTDCKDGSDEECPsAVPAPPcNLEEFQcAYGRcILOIYHCDGNDGCDGNSDESDCSsHOPCRsGFPHcD\$GLcTnAGNRCDGADCD													
Zebrafish	CDGNDGCDGNSDEQCQRKCSDFKRCSDGSCIAEHAYCDGTDCKDGSDEECPsAVPAPPcNLEEFQcAYGRcILOIYHCDGNDGCDGNSDESDCSsHOPCRsGFPHcD\$GLcTnAGNRCDGADCD													
Consensus	CDGNDGCDGNSDEQCQRKCSDFKRCSDGSCIAEHAYCDGTDCKDGSDEECPsAVPAPPcNLEEFQcAYGRcILOIYHCDGNDGCDGNSDESDCSsHOPCRsGFPHcD\$GLcTnAGNRCDGADCD													
Human	261	270	280	290	300	310	320	330	340	350	360	370	380	390
House	QSDERNCITSNCTAEQFRCHSGRCVRLSMRCDGEDDCADNSDEENCENTGSPQCALDQFLCNGRCIGQRKLCNGVNDGCDNSDESPQONCRPRTEEMCNVNNGGCAQKQHVVRGAYQCTCTHTGYRLTE													
Zebrafish	QSDERNCITSNCTAEQFRCHSGRCVRLSMRCDGEDDCADNSDEENCENTGSPQCALDQFLCNGRCIGQRKLCNGVNDGCDNSDESPQONCRPRTEEMCNVNNGGCAQKQHVVRGAYQCTCTHTGYRLTE													
Consensus	QSDERNCITSNCTAEQFRCHSGRCVRLSMRCDGEDDCADNSDEENCENTGSPQCALDQFLCNGRCIGQRKLCNGVNDGCDNSDESPQONCRPRTEEMCNVNNGGCAQKQHVVRGAYQCTCTHTGYRLTE													
Human	391	400	410	420	430	440	450	460	470	480	490	500	510	520
House	DGHTCDQVNECAEEGYCSQGTCTEAGFQCACEAGYELRPDRRSCKALGPEVPLLFANRDIQRVLPHRSEYTLILLNLENRIALDFHRRLELFFMSDVTLDRLRANLNGSNVEEYVYVGLSEPGGLAY													
Zebrafish	DGHTCDQVNECAEEGYCSQGTCTEAGFQCACEAGYELRPDRRSCKALGPEVPLLFANRDIQRVLPHRSEYTLILLNLENRIALDFHRRLELFFMSDVTLDRLRANLNGSNVEEYVYVGLSEPGGLAY													
Consensus	DG.TCqVNECA#EGYCSQGTCT.EgAFQCACE..GYELRPDRRSCKALGPEVPLLFANRDIQRVLPHRSEYTLILLNLENRIALDFHRRLELFFMSDVTLDRLRANLNGSNVEEYVYVGLSEPGGLA!													
Human	521	530	540	550	560	570	580	590	600	610	620	630	640	650
House	DHYHDKLYTDSGTSRIEYANLDGARRKVLQAQLKPRALIAHPHEGTYIYTDGNGPRTIEASSNDGSGRRIRIADTLFWPGLTIDYAGRRHYHVDKAKIHYTERADLNGSRKAYTSOGLPHFPFATY													
Zebrafish	DHYHDKLYTDSGTSRIEYANLDGARRKVLQAQLKPRALIAHPHEGTYIYTDGNGPRTIEASSNDGSGRRIRIADTLFWPGLTIDYAGRRHYHVDKAKIHYTERADLNGSRKAYTSOGLPHFPFATY													
Consensus	DH!H#KLYTDSGTSRIEYANLDGARRKVLQAQLKPRALIAHPHEGTYIYTDGNGPRTIEASSNDGSGRRIRIADTLFWPGLTIDYAGRRHYHVDKAKIHYTERADLNGSRKAYTSOGLPHFPFATY													
Human	651	660	670	680	690	700	710	720	730	740	750	760	770	780
House	FEDSLYTDHAKTSINSANKFTGKNOETIRNKLHFPMDIHTLHPQRQPAK-NRCDGNDGGCTHLCLP\$GQNYTCACTGFRKISSHACQSLDKFLFARRDIIIRISFOTEDLSDVYIPLADYRSAVA													
Zebrafish	FEDSLYTDHAKTSINSANKFTGKNOETIRNKLHFPMDIHTLHPQRQPAK-NRCDGNDGGCTHLCLP\$GQNYTCACTGFRKISSHACQSLDKFLFARRDIIIRISFOTEDLSDVYIPLADYRSAVA													
Consensus	FEDSLYTDHAKTSINSANKFTGKNOE!IRNKLHFPMDIHTLHPQRQPAK.NRCDGNDGGCTHLCLP\$GQNYTCACTGFRKI.sHACQSLDKFLFARRDIIIRISFOTe!sDvYIPLADYRSAVA													
Human	781	790	800	810	820	830	840	850	860	870	880	890	900	910
House	LQDMSRDDH---YIYTDVSTDTISRAKHADGTGQEVYVDTSLSPAGLADWYTNKLHYTDAGTORIEVANTDGSRTVLIENLDRPRDIIYVPHGGYHYTDGASPKTERAGHDASGRQVITSSNLTFP													
Zebrafish	LQDMSRDDH---YIYTDVSTDTISRAKHADGTGQEVYVDTSLSPAGLADWYTNKLHYTDAGTORIEVANTDGSRTVLIENLDRPRDIIYVPHGGYHYTDGASPKTERAGHDASGRQVITSSNLTFP													
Consensus	LQDMSRDDH..!YIYTDVSTDTISRAKHADGgQEVYVDTSLSPAGLADWYTNKLHYTDAGTORIEVANTDGSRTVLIENLDRPRDIIYVPHGGYHYTDGASPKTERAGHDAS.RqVITSSNLTFP													
Human	911	920	930	940	950	960	970	980	990	1000	1010	1020	1030	1040
House	NGLAIDYGSQRLYHADAGKTIIEFAGLDGSKRKLIGSQLPHPFGLTYGRIYATDQKTSIQSADRLTGLDRETLQENLEMLMDZHVFHRRPPVSTPCAVENGGCSHLCLRSPPN\$GFSCTCPTGIN													
Zebrafish	NGLAIDYGSQRLYHADAGKTIIEFAGLDGSKRKLIGSQLPHPFGLTYGRIYATDQKTSIQSADRLTGLDRETLQENLEMLMDZHVFHRRPPVSTPCAVENGGCSHLCLRSPPN\$GFSCTCPTGIN													
Consensus	NGLAIDYgs#RLYHADAgKTIIE\$agLDGSKRKLIGSQLPHPFGLTYg#RIYATDQKTSIQSADRLTGLDRETLQENLEMLMDZHvFHR.RppV.T.Cav#GGCSHLCLRSPPn\$GFSCTCPTGIN													
Human	1041	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160	1170
House	LLSDGKTCSPGNSFLIFARRIDIRHYSLDIPYFADYVVPINHTKNTIAIGVDPQEGKYVYSDSTLHRISRANLDSQHEIDIITGLQTTDGLAYDAIGRKYIYTDGTNRIEYVGNLDSGRKVLVYQN													
Zebrafish	LLSDGKTCSPGNSFLIFARRIDIRHYSLDIPYFADYVVPINHTKNTIAIGVDPQEGKYVYSDSTLHRISRANLDSQHEIDIITGLQTTDGLAYDAIGRKYIYTDGTNRIEYVGNLDSGRKVLVYQN													
Consensus	LL.DGKTCspgNSFLIFARRID!RHISLDIPYFADYVvpIN.HKNTIAIGVDPQ.EGKYVYSDSTLhrISraN!#GS#HEIDIITGLQTTDGLAYDAIGRKYIYTDGTNRIEYVGNLDSGRKVLVYQN													
Human	1171	1180	1190	1200	1210	1220	1230	1240	1250	1260	1270	1280	1290	1300
House	LDSPRRIYLYHEHGFMYATDGENAKLERSGNDGSDRAVLIENNLGMPNGLTYDKASSQLLWADHATERJEARDLNGANRHTLYSPVQHPYGLTLD\$YIYTDQKTSIRHRADKGTGSNVILVRSNLP													
Zebrafish	LDSPRRIYLYHEHGFMYATDGENAKLERSGNDGSDRAVLIENNLGMPNGLTYDKASSQLLWADHATERJEARDLNGANRHTLYSPVQHPYGLTLD\$YIYTDQKTSIRHRADKGTGSNVILVRSNLP													
Consensus	LDSPRRIYLYHEHGFMYATDGENAKLERSGNDGSDR.VLIENNLGMPNGLYDkAsQLLWADHATERJEAaDLNGANRHTLYSPVQHPYGLTLD\$YiYTDQKTSIRHRADK.GTGSNV!ILRSNLP													
Human	1301	1310	1320	1330	1340	1350	1360	1370	1380	1390	1400	1410	1420	1430
House	LHDHQYDRAQPLGFNCKGSRNGGCSHLCLPRPSGFSACPTGTQLKGDGRKTCOPSPETYLFFSSRGSIRISLSDTDHTDHYVHPVPELNNVYISLDYSDVGGKYVYTDVLDVIRRADLNGSNMTEYIGR													
Zebrafish	LHDHQYDRAQPLGFNCKGSRNGGCSHLCLPRPSGFSACPTGTQLKGDGRKTCOPSPETYLFFSSRGSIRISLSDTDHTDHYVHPVPELNNVYISLDYSDVGGKYVYTDVLDVIRRADLNGSNMTEYIGR													
Consensus	LHDIQYDRAqPLGfNCKGSRNGGCSHLCLPRNGTSCACPTG!qLKGdgrKTCOPSPETYLFFSNRYSIRISLSDTDHTDHYVHPVPELNNVYISLDYSDVGRKYVYTDVLDVIRRADLNGSNMTEYIGS													
Human	1431	1440	1450	1460	1470	1480	1490	1500	1510	1520	1530	1540	1550	1560
House	GLKTTDGLAVDYMARNLYTDTGRNTJEASRLDGSCRKVLINNSLDEPRAIYVPRKGYLFWTDGHIJAKIERANLDGSEKRYLINTDLGMPNGLTDYDTRTRYHVAHLDRIESAIDLNGKLRQVLSH													
Zebrafish	GLKTTDGLAVDYMARNLYTDTGRNTJEASRLDGSCRKVLINNSLDEPRAIYVPRKGYLFWTDGHIJAKIERANLDGSEKRYLINTDLGMPNGLTDYDTRTRYHVAHLDRIESAIDLNGKLRQVLSH													
Consensus	GLKTTDGLAVDYMARNLYTDTGRNTJEASRLDGScRKVLINNSLDEPRAIYVPRK%LFWTDGHIJAKIERANLDGSERKRYLINTDLGMPNGLTDYDTRTRYHVAHLDRIESAIDLNGKLRQV!L\$H													
Human	1561	1570	1580	1590	1600	1610	1620	1630	1640	1650	1660	1670	1680	1690
House	YSHPFALTQQDRHIYATDQKTSIQRVYKSGRNKETVLYANVEGLMDIIVVSPQRGTGNAcGVNNGGCTHLCFARRSDFVACPDPEPSRPSCLVPLVPPAPRATGHESEKSPVLPNTPTTLYSSTTR													
Zebrafish	YSHPFALTQQDRHIYATDQKTSIQRVYKSGRNKETVLYANVEGLMDIIVVSPQRGTGNAcGVNNGGCTHLCFARRSDFVACPDPEPSRPSCLVPLVPPAPRATGHESEKSPVLPNTPTTLYSSTTR													
Consensus	YSHPFALTQQDRHIYATDQKTSIQRVYKSGRNKETVLYANVEGLMDIIVVSPQRGTGNAcGVNNGGCTHLCFARRSDF!CACPDPEsRPSCL!pGLVPPaPrat.n.eksPvlpnt.pttl.ssttk													
Human	1691	1700	1710	1720	1730	1740	1750	1760	1770	1780	1790	1800	1810	1820
House	TRTSLEEYEGKSERDARLGLCARSDNAYPAAPGEGHLSYRIGGLSILLLVVIAALMLYRHKSKFDPGNGMLTYSNPSYRTSTQEVKIEAIPKPAHYNQLCYKKE--GGPDHNYTKEKIKIVEGI													
Zebrafish	TRTSLEEYEGKSERDARLGLCARSDNAYPAAPGEGHLSYRIGGLSILLLVVIAALMLYRHKSKFDPGNGMLTYSNPSYRTSTQEVKIEAIPKPAHYNQLCYKKE--GGPDHNYTKEKIKIVEGI													
Consensus	TrtsLe.v.grCsEr#a.LglCa.sN.a!p!PaPgEgH!SYaIGGLSILLV.VIAALMLYRHKSKfDPGngMLTYSNPSYRTSTQEVKIEaapKPA.ynQLCYKKE..GgpDH.YTKEKIKIVEG!													
Human	1821	1830	1840	1850	1860	1870	1880	1890	1900	1910	1914			
House	CLLSGDDEADDLKQLRSSRGLLRDHYCNKTDYTSQSSGSLDDTETEQLLQE--EQSECSVYHARTPERRGSLPDTGAKHERKLSSESQV													
Zebrafish	CLLSGDDEADDLKQLRSSRGLLRDHYCNKTDYTSQSSGSLDDTETEQLLQE--EQSECSVYHARTPERRGSLPDTGAKHERKLSSESQV													
Consensus	cLLSgdDeaDmLkQLrSSRgLLRDhYCNkT#YSYQSSgSL#dTEtEQLLQE..eQSECSs!Hta!PprrGSLPDTGAKHRKLSSESQV													

Supplemental Figure S1