

>Sponge NOS-like 1440 aa

MSYDLIKVSKKPGESLGLGFNKNSEKQNKVYAILEGTALQRSGEVVRPGDLIVEVNGVDVS
GYTSSQLIDIISTLQDKSEVSLKILRPDGSLSNGGTPAVSIDHPNNETPAPATTSRPNQR
QRRKGGPLPQITETLDDGGKPGGLLQVKDHFASGKRHSLTPESSRREMVPLOPKSLSLDL
ALPTWRNKTFITLNNYVTGEQQTDRLHTQSKAVPKQTGCHPSHCVGSIIWPKHPRSRPY
GPPRPKEEMKELAKEYIKIYYDSLKFLSDDYEQKLSRTLQVCQEIEEKGHYNLTYEEL
TYGARLAWRNAPRCVNR I IWRQLEVLDAREVDSAKEMFEALCDHLRYATNQGSIRSTITV
FRHRTRANSDFRVWNSQLIRYAGYKQQDGSIIIGDPPSVEFTEVCRKLGWSPNNKPGMFD
VLPVLVQANGEPPEMFTIPPELIMEVDIVHPEYKWKDLKWKYAVPGVSNILLDIGGLE
FTGAPFNGWYMSTEIAARNFSDEYRYNLLKPAERMGLNTSTYKWLKDRALVELNVAVLH
SYQSASRGGCPADWVWLVVPIISGSVSKLFHQEMLLYYLTPAYEYQEPAYKYHYLPGDMPK
LNTGRTFKALATMVLDA TRMRNRVKKR I KATVLYATETGRSKNYANIVKTLFDRTFNCS
VYCMDEYNRANLEHEQLVLIIVTSTFGSGDPPANGELSSKTRYRQVRLAFHHLPPQVFRDFC
HNHRYAVFGLGSRAYPNFCFAHTIDNLFSLGAEQAYPCGEGDELCCQEEFSQSWLREC
YLRSEVYKLEPRLEGS DCTVVKSEYKDFFRISSTFTEPVTKDICRVV I KPNHMNYQP
GDHIAIYQNNPSLVRQLLRYLPLTSAIDEP I I IESQYEAEGGIKWKERRLPFPVTLQE
AFMYLDITTPPTQLLQFQKMATRLEQNFLLEELGKGGDVYEDWKYERFPNLLVMDQ
FHSKLDVFPFLQLNPLLQCRYYSISSSPNAHPNEIHATIAVVTFRKRGQGP RHYGVCS
TWLNKMEPGSESI VPFVIRRTNSFHMPEDSHAPIIMVGPGTGIAPFRGFQWQERMYQRSEE
LKKQLLSKAVPARAARVPRNRKGGRAV I PDT PANK I S IGGGGMQAGRRGFVSTVTA PVI
KLLDVS RPTQAPVSDIDDTESSESESSDEEVKRDQVQFKVPKTSGTFLKRRSASDEF
QRKDLASLVAARD SHWGDMTLYFGCRNRD TDY I YREEIKRAQLTGAMNNVHVAFSREGPQ
KTYVQHLLKKNADITVQQLIEERGHFYVCGDVSMADVGR TLQNI FEENAAMSSDEARQL
IESMKDNGYHNEDI FGVTLKTA E VTSRVRNAAKKAWR.ILVSAADHSPITPMSALSSRAP I
TPTPTGLDTPQDGTLR LGGNRF SKRPTVTVL I PTPTQANEPTS PGNRTYVDKATEKEER

>Sponge PMCA-like 1235 aa

XKRFGLTQVQLTIIMDFGDKSGMKKVDQYGGIDDIARHLKTNLTDGLPVNEADHEERKRE
FGVNYIEPVPPKSFALMYDAIQDKILLILLCAIISIGLSVGLAEHERSTAWFEGFAIF
LAVVIVVLVTAINDYTKQQFRDLQKKLESTSKYTVIRESEFEINAADIIVGDIIEFKY
GNAFPDGLLIRGNDVSISESALTGETENIRKRPDKDFLYAGTQVMEGTGTMLVIAVGI
HSQQGI IFTLMSKQAE EEVGI I TAAFRK I TGP CVRAYRNR TN PQDEEVKPVKVEIKEIPP
RGAEEMQE EEELEELSCCQKILHPKTAMKNRRARKEKKRREQQKGETSHGSLVQK KLT
LALQIGYFGMAAAILAIVVTSLKFAIEEYGIKGRGAMKTDALQFLFFINGVTIVVAVP
EGLPLAVTIALAFSVKMKLKDNNLVRHLHSCETMGNATTICSDKTGTLTNRMVTVDSYV
AQMRYNGMPTTAENFPVLEVLQONIAINSNYSSSLQPE SAAANDGLLSKVSSFFSR
RKRKIGAEAKES ETKKPLTVNELKSLVRGEGKLVNQVGNSTECALLGYLIELGIHYDPI
REVYPKECFVKQPTFNSKRKSMSTVIPLPDGKGYRLLTKGASEIVLNKCDKIMTATGEIV
PLTDDMSSHVNSNVVRNMSGALRTICLAYRDFTMEEVTAPKSNVEQQGGLIEVNLSES
EPVFDWDEDNVVSGLTICIAIVGIEDPVRDEVPESILKCRAGITVRMVTGDNVETAKS
IAEKCGIIPKGNKGLLVLDGPTFRKRVMTVTEGKEVVNQEMLDKIWPRLRVLARSSPQD
KHTLVNGI IQSRVNXSEVVAVTGDGTNDGPALKCADVGFAMGIAGTDVAKEACDI ILTD
DNFTSIVQAVKWRNVYDAISKFLQFQLTVNVAVTLVLI GSFTIGDTPLRAIQLLWVNI
VMDTFASLALATAPTDALRRKPYGRKKPLISRRMWF I IGH SFYQLVVLNVLVLFAGPE
LFDIDHTQSASENYFAEPT EHTMI FNSFVFMQIFNEFNARRIHGEQNVFANIHTNWI FL
GIMFGQVICQVLFIVVPLGNDRIFKATSLPFDLWMMCIFFGSFLVWGQILTLIPVERFP
AIRLPWRKKSDDQDENDYDIGLDSYDANRARLLWAKSLSRLRTQIRVVNAFKSGLESND
QLLSQLPHYTLTPKSSRYNAGDNPVFKDSKETEV

>Sponge CaMKII-like 510 aa

MWIKIAFMGVVWRNLPRTILIALSCLSLTMSSSPGKEKIFSELYDLKEDLGKGFASIVKK
CIGREDKIEYAAK I INKRLTGRDISKLQKEEKICRQLQHPNIVLLHDVISESFTHYLVF
ELITGGELFDEIVAREYSES DARYHYDAYIHCVQQILDGIAYCHRMGIMHRDLKPENLL
LASRAKNAAVKLADFLAVQLETDPDQVEWHGFAGTPGYLSPEVIKREAYGKAVDVWACGV
ILYILLVGYPPFWDEDQKRLYAQIKMGRYSFPSPPEWDSVTKEVKELISMLNANPKRIK
AEEALRNPFWICKRTEVASNIHRQATIAGLKR FNARRKLGAFSLTSLIAVRTHNAATFALK
KKEPEVKPQSDVVSSTVPEIPVAEDETTEVMKAQQALLMAIRCRDYEAYQKLCDSQVLS
FLSTGGCRLLTGVEHNNFFANVPPYPAENITMIEPHVQFLGDNAAYICYVRLSQHV DKT
GRAGSSECKETC IWEKKEGQWKCVHIHTSS

>Sponge IP3R-like 2434 aa

MALRVESDHQATSSFLHIGDTSISLYAEGDVSGFISTLGLVDDRVRVPTSGTPLNPPMKF
RDCLFKIYPMQR YGAQEQFKKATQSTKSMPDVVILQLKQTAADQEREQSRIESEKQWQQP
VKYGTMMIQLRHVKSANFLTVTKRSSAQVEKKAMKVS LDFQGS ENAWFYITPLYKLR TSG
DNV IIGDKVVLTAITANKLHVSELSLPHDHCCKEVNIAIDHTSWKIQLFMDYKEDKEDI
LRGGDVVRLFHAEQEKFLTCDKLDKLGQLQVFLRF SARATKTDATSSKALWEVEVVHHD
PCRGAGHWNLYRFFKHLATDTYLAAREDPDTADPTRAKLRGSDTDDVYYLCTDQDVPE
EPIFTIFELDSTTIQPHDQVPRSSYVRLRHARTLTWVHATN I LIDRESKSPVMFKLGLA
TLREDKEAFAIVHVSQVRLDFANDAALSSAADIMEGGHLLQPTQRKNV I KLEEDL
VYFTVRKENSGETQKALHVQKPD RDRQKLIREQNVLKAIFRLLSVPLP INKEGSRLLFE
MADLSEQKHESLRYMYQLCYRVIEQTQNNYRKNQEHIAETFFQVMQSQIGYNIRAEDTLA

ALVNDNVKLETHIRETEIETFNLLKKSQDPKFLTYLGDLCVSKGTAIQKVQGMVCEVV
LKPEHSDILMKLVSVVDRESKMMVLHYSNDELCEPRLIADSAAHGNPSSDKVLEYFRA
QLDLFAQMCFNRYLGINENKRLPIRLVLCMENCNLTYSLRAAFCRIMYCVYLDTSQP
EVVNPVGYSRNLWDHIPDVLVLDYCPWKENDVSRRRSMFQQQHKESILRGTTNFVSEYL
HERSVWKLDKQNVLTVEVCLARMVYFGFYDFSKLLSLTYVLLDGLDNREATPIHHS
HFLTTSGLTSSRGVLSLVGSSAAHFPRSESLDGNDSHKSDYERSDPAVINTRKRILEI
IDFIMDVRLDLRITNLLVIYKKEFSLSDGNSNQSPDSDLDSDVILKQFEVIFRGNQDL
KMDLDDSQGKQLLRVLLQMSMKNPHLSLQALKLITRHFSSQRSELTKCFQVQLLVSKQE
KSNYQRIRTNLEKLTLDVDEAELWITKTEDLVVGGKILSSSLTDICNGDDRSFEQRLLKMN
GALQVILDLLQVPYNKAYDTKMSIIMHQGHKFLQNFRCRGNANQLLLHRNLKLFINSGHP
TVEVVTLTEVFKDNAALCQEVQSEIQYFLHCIEKGRDIRYLQFLQTIMKVHGQPVKRSQ
DLVMAEIANAGDVLFFHDQPFVFDLDMKKEQGTALPTSNIYHLNLLRLLTICTEGK
NVNTEMRCHSLPLDDIVKVIHPKCIPEVKREYLDLFLHCYDAEVDNKETFTKDYMW
LFANMAKIDAVYKENCTEGEEQYTNVYVTHIIPVTLTSYFSSPLATHGVKIHQDVYINLLT
SLVRLQCPFIQDPNEEIRQSFQKCKKMISSVVSQHARRKALQWLHKHKEKKQLSEWTL
DVSIGIQTEKKNKHIIGGVVVAELNETWDCLIEAEEVSVLVNLLYNPEALFQRGTNAFKQ
ASKKFLSRIVSHMEHKVSEDELFISSMMHYFTKMMTEDELSESGMELRSHLLKVYFTN
YLLDKQHFTKQRHKSERKQSVMLAKLATI SEDPFSSMQDDMLLVSLGDKSVTLLEVQNG
LNKCHVTKLVVNI IKSSPSHFVMSAVNLAVALNNGNTIVQGTMDLLCTCDELFFNE
IYRRFQMAQNEKMSPTGLIITETDGTNLVVVQDRKSTGGTSLDIQNYLRHQNTSKN
SKNLILETLQFLDCIGITGGVLVLLSYIHCENVEVIDQCLTTLTEYCQGPCHDNQKCI
SSNESSGDIIVVALIQTELTALENYQDLAIQKVNICRTHLHSGSSDDNENSPEVGHNI
YILAHQLATSNRALQLELDKAVKDPNDAVSFYAANTAQIEIVRADRSLEIRIVPKHEICK
FLTTESQNHVRHVTKCDTQSKVEDDFNHMDSLIEEMLCQQALRDHSIQYWMKSNINVNS
SLSFYLAVVINIVILFYFPGKGNKYIALSGLFWYFARNRSRYEKRAWFSIGSLAIVSTLF
TIGVKPTLFFMGFFQLFBIIVYREEMLQSVMRSLTRNFLSIIITTTLALILVLYAAILGYM
LLEDLFLMETHPIALVSNLTKENATDNMLKNTCFICGLDRTRFENQHIITFKEHCEQEHNM
WNYLYFVVHLRMRKHTKTPESYVYDQIKGHIENRSASANLEWFPRLKCMSLNIEEPEQ
EQNMKELQKQLEATSLVKVLSHQLTDLRDKVGIHYATLLQVPTVPLMWSCNMLHEVET
LSTSCSMLPNDIKETKNWICYARFEESQGFIDNARNIFERATEFFGDEGLDEKLYMAFAQ
FEESCQEYERSHTIFKYALDKIPKQAVDLFKAY

>Sponge Beta Catenin-like 1730 aa

MDLVNQDGSFAFASGVTTKAHSIVEDIDDLLEQLTTDDFPPTTISHGHAPPPVQQPHLPP
GVGQSQERIANDQLIQSTSGDRVRLTMFPGSSAEGEEVPNTQVAPERQSNLQRMTQSTQI
IRAAVQNLVNYQSNTLTAKANALPEIISLLSHQDQTVITEASKLIHDLKSKKEASLTAINAN
PAAVKGIQTLASVNNAEVQKPLSGAVHNISNSOGLLVIYNCSGIPFLVRLTSPVDAV
LFYAVTTIHNMLLHFEPAKMDVRLAGGLEKMVALLVKDNVFLAITVDCLHILAYGHQDS
KLIVLASGGPSSLVRIMRIYTYEKLWTVSRLLKALSVCSSNKPEIVQAGGMQVLSLHLG
HRSNRLVQNILFLRLKSDAATKQDNLDLLELQQLIGFLSSNDVHYLTCAAGVLSNL
AKNKTMCVQLRGI EALLRTIGNNTDKGEDNLDLLELQQLIGFLSSNDVHYLTCAAGVLSNL
TCNNAKNTMVCQLRGI EALLRTIGNNTDKGEVIERCVCTLRHITSRHLAAEMAQNAIRE
LNGIPMLMNLQPQTRYPLIKALIGLFRNLSLCSNHTVLRQGCIPKLWQLLNRSFQEL
QRRSGQPQMALGIVDGVSMNEVVECSAALHLLARDPYNRLIMRQLNVIIPMFVQLLYMRN
EGIQRAAVGGLSELALDPEGAEQIEREGAPTPLGELLHSPNEGIAAYAAAVLFLCLSDDRN
GELPHLPADIGGVPYRQDYMGLDTPNPQSYSTSTPPLHQQLRGHYSNPGSVPGSQPF
TPNMSEPPSGLMTPHSEFELPLDFEYAHGAGSYHHSGLSSVVDYKNGVSPSVIGGLSG
IYDSNGVQNILFLRLKSDAATKQDNLDLLELQQLIGFLSSNDVHYLTCAAGVLSNL
IGGVECMVNLVHSNYQFIVLTDALRLITASDKESKIFSRSGGPRALLQLLKIYRINE
KLLWTVSRLLKELSVCSNKPEIVQAGGMQVLSLHLGHRSNRLVQNILFTLRNLSAATK
QDNLDLLELQQLIGFLSSNDVHYLTCAAGVLSNLTCNNAKNTMVCQLRGI EALLRTIENN
TDKGEVIERCVCTLRHITSRHLAAEMAQNAIRELNGIPMLMNLQPQTRYPLIKALIGL
RNLSLCSNHTVLRQGCIPKLWQLLNRSFQELQRRSGQPGVIVTTPFLNVVDERVQLFVV
KILSKLSLDDERVGLIDRENGFYISDLAITSNNNELVSDCPKPTKERIDATGGACLQG
NFDNSITFTCLAAGNTQDMYRSVTVLLHNGTGTIELVMQCPGNEWSNDCMSVSADVTNV
AREDCLVNHQCVVEGLVDVLPVAVLSMMDKDPVLIIPVQLVKSTPLIISVVSHTVLSLYD
DIIILYFSDNSDNTPESTVSSKEYIEGNFKSMKSCIPRSNKGEEQQNGEVEVTRTRSRPY
VACTTLKESPIELTEEEKGPPLPPRSISDAEVGYQKIVTTTKRSVHLYNPVNRSTSLP
RQPSSDDGYVDLRKRSTIPHGEYVELDYQRSRKRGRKGMVKTQSAAIITRMKIRGKK
GACADDDGEFEFYSYPKMSPRLKRKIEKMQQKGPAPQPKPTAKPKKGGKMKVAPSEDQD
GYVATSEIQELKARARLQKEATLDQDGYVATAVVHEMKEEVEVKERPKLHRGVVDQEGYVD
CIIILEPKASGAEGPAKKRDEKADERAGPSQSSLRKLWEKKGFGFRK

>Sponge p120/Delta Catenin-like 885 aa

MRGYLAVLLVTVPSAISSTLPLSLPPTGTLQGPVLPETLLNTQIYIILVHTPTPLIS
LTHPRSPLVGATKDLPLISLIPRGVHTVGVAKRHRLISLMPVVVQIIPASVYRRAVSRPT
VTRGVAHRSLSVVIDDSEIQLHSSLGHANHHGSHQHEPNLNDVVYDLSHSDPSTVANAA
IQHLAYGDDNMKAKIRQFGGIPALLSQVRNPDPRVQLAVLGLALRNLISYGRANNESKSQIA
QDAGLPNIVYLLRNLQPEVRELVTSVLWNLSSCEDIKLRIILQCSLKDVIDTILVPTATGY
GPTYPAARDFSQRTSVLHWTAEMKNSLGAIRNISSAGVEARRFLRASNNLVDTLVWTVRA
AATQENVDEKTVENAIILRNLFSQIEVVDVTDQGGADDDIDSQWERQIQEIEAAKEALH

PTSKKTNKSFLLFCARPQGDSSNMRRQVNYHLNTPRNLATPDSTLLPKRPQAVRGASLLW
QPEIIFPYLALLEKYTSTTDLMEAAAAGAIQNLTA CNWKWAVYQRHLIRKANGLLTLLIEHL
NHAHDTVRSVSTALRNSIDETNKEIIGQYIGIPIPRIPYQNSLGI SESTTISLCT
LMELCIDNYNNTSFRDNCNGITPIARLTQSKEHTPKVYVAAHKLCSIISEYKVAKSVLKQ
EGWDSREYLRLFSSEGGHNYNFELSHAGTHHPVGGGGGAGGGASRRSSSEEKKKRANS
PMEITRMAAQQSQHSLKDKLIDPTYNIIPNPKDPPTATPPSDGLPTTVPPSNPGPISMY
AEINDPSIEQVRKKSLEKRPQSRSDSRAHSRTGSQPHSEPRSSPIDPRSTTPHEGLSSDEQ
GEPGNAMYAQVDYNNKRESRKRREKYEKQEEQEKVLNNGAIDSWV

>Sponge GKAP/DLG7 789 aa

MSQARETQYKYKGRSKGVESRLK GKALDSKRQREELLSGRRRAALLE INEE IMAEEEIQE
KGTGATGKKKTSDDRKEELLKWKKERDRKKQKEQKKANAKPAFVVGKANISSNRKVP LPV
EPSSSTATVKEGPKSKGGKRVTEPPGNAKREELGRKRVTSRQPKVKQKPTRSSVRLQTA
KSKETKAVKQSTTKQLTAESSKSTNSKREITKELSPHPPPCIDKSDLQRDSVSSAWIPG
APPTPQCASQNRPNFEQFFSKQVFSPPQFKGQTGGETNTGKAQSI FTFRKEFREEDIK
RIEDDSISNIEEEKREEKRAAVPATDDTGRGKSAKKEVKGGRKRNLKQRONERTEKESD
DEEDLETIDTG I KIGREEEPVDELPTNVRMSDTSIEAINVSAHNNNYTNQQLEERQSS
TDP PASAHTQDLSPPVTFAPPTDVTTPPSEGLATDATGNDSGFDLAPFYKRHADVTQRF
NALCAEWDKLLQLEDDGEKEEDAGCP SDEVIGDIRTTVCQAKLLMRQKQKQYLELVQA
EDPAAEHKTMAEVQGFVDMVYFQVESLYKKFSSFSSEMSNSWKTVVTPAEDGDSTCKP
RRSKRGASKAKRGGSKTGASSAISERLKAARAKREAERLKI REMRQAFAAASKTKEEEV
PPAPVTPEKKNTPSSLRPPTPKSLKTPQSASKSKSLKRLSSIPDPVFVVDKSHET
EGAFMTKLIVQINASKKMIKDFDTNLIMSPARRSKRLSTRRRSELIVSSISEIPNDRNNVA
YLPNEALID

>Sponge SynGAP-like 2072 aa

MAPNITRDLILPRMRGGRSLDNLHRVSM AEGGGENQPSLGEPTFVDLATKGTLSIQLVH
PSVSPRHSCFRLLITDNDI IYASCGSAEELDRWVTSLNKFRHRPNRDHLRRLNTQVFIWIFE
ARHLQPKKKYCEIYLNLLYSQTCCPKMSDILFWGEPFNFEELPMVGSIQIRLIKETYK
KKDCITELIGKIDIPTLVLENNSQITEKWFVTLQQTPKAQSSQKENPSIRIKIHYQVHT
HLTYTCSVVSIPLKHYNGLLKYITTNFASLCEVLEPVI SAKVKDEIAQTLLKILEHSGK
AKEFLCDIVMAEVQGVDMENLIFRGNTFATKAVDTYMKMVG EAYLR ETLKPFINDLLESE
DDCEVDPTRLPPTASLTNNQNLTRHVEKVVFDILSSWTRFPSDLRDTLYGIRQRFGSEK
EEACFKLISGSIFLRFPCAILSPSLFQLCQ EYPDEKVSRLTLVAKVIQNLANFARFV
KEEYMCFMNDFVGREIQNMKQFIDRISEALAQVSELPGILDG I KQTMEASTEDPFTATFE
ALRVMQSTISKFTPLAVMWRDIKDLDELIALERHHYKASVYHQLGLRLKLSYNTLEKI
KKNHGEVDPCFTECLAGWLKPKDGVETPTIDTLIAALRGIEENAVADGIEGERQRI LAPA
PMAAVPLSRSDPEMPVATPPTSHTSEGLIQPVATVNPVVDLELKI DRYPELQEIANNLQ
GKYDFLVSALSKLDDHIDVKRAKRLIERCLMTKAGVSELKPCIDIFEKANDFESFFD
FLSKYKFI GYINYLKLLKLAELVKDDEINNR FYEYK EYTKLLSSASFQDI P L LERKSE
LSPTAPLGLPYVSFRLERPWLHTVVYIWI STFGFSWSSYALLKQLRENCVIT IYAILPC
VLDDVIRDLKDPVILKLEKDVTVIEIIESPQKEEDK LKQHERDLEDTSSSELKIKDEL C
QKAKEELEEQRICGEKIEEANTNYAQRKKE TQRDMEEQLQILRQESSQALALKGMVSAL
VNELVEMGLINVTNVVTDKNMTDMKSGMKQTAQIKETQRQMSDKMNETTEELSKKME
EQGTAFRDEVQSTTSRLKDELAKTDEQVEGTEKIKTDVKEAI IANIVASSAPVQETTY
TAFEEDQNP HQDQTSHHILSRALESPI SLSLTLDDPLINDMFHGT DGLASIMASLLTTP
TPPPFPSPMSCVRWLSSPGAEPVRLVAESGLATLPVDEIVL LLLDEGGGGEGAGASGGE
EQVKDLETFELQYKLLKDAVKDIKDL ETKLQYEEADATKHAKDLEMKELGDDR I KEEMC
HKLQESAKEKDRLIKTLIKLQATEEELKEAKITHKDRMSKELTEKEE IAMLINKITSL
EEKLQQIQEAKKLEEEQICRVQIEEVNQTCAQRTKEIRREVEEQQLIARQNDRREIA
KEVVKEAIMEIPEIKTICQQLEAMNQKIDKISKEKEESSIPTVITTNVAESNPTGTHSY
GFCTL SNHGLIATQIAQVQLLEEEVKKQIQESEKLEKEQQFNKDRHEMEEQVQQN
TEVTKMSMKTVMQVTKTVKSVAGLRGETDPNQEELNGSTEQKRTQKMT EEMKLEEL
RKQNDQKQSQNTSNGWTSFI AKYFPLKKTIDQLEAKNKTMSDQLQEAENALEQEKES
MRKDAQLMQE EHYEQLKSI LYHRCITILYTCFVEQSAIMTSKILKQEENEELRQK LK
EAEASWKKEMDEL RATHANEIDK LKAI VAKGKEDTEK LKAI VAKGKEDTEKQITQIQEET
RQLSRVIEEQKIDQK MEDMSQK IMEGMGQK MEDMEQKMMEGMDEKLDQKIKSLEQKVDD
MGQKTDDMGQKMDMGQKVEDMGQKTDDMGQKMDMGQKVEDMGKKTEDMGQKVEDMGK
TEDMGRKVEDMGKKTEDMGRKVEDMEDMGRKVEDMGKKTEDMGRKVEDTGKKTEDMGRK
EDMGKKTEDMGKKTEDMGQQLKSTNENLENVKQEVATLKEKIEPSAPPITAVAVTESNPT
EASPYSIATLSSNTNFCNMYYIINRTIELH

>Sponge Cript-like 99 aa

MVCKDCEKGLGRVICPDPWKS GARNTVESGGRKVG ENKVLTSRKARFAPYTRFSCKICK
QTVHQAGSNYCCQCA YKKGICAMCGKQIDVKKYVQSTV

>Sponge Homer-like 339 aa

AIKVQAKILYHQ LKDNVEYIYNKTRYCKG SNLLCSSEKAVLSVQAHVFQIDPETKKKWL P
SSSAVRRVTYYHDTNRKTYRI IALEGKVL L VNSTVTANMSFNKTS PKFGQWSDHRANTI
YGLGFGTEKDLES LKFENSKLVALASRLVVS MIYFFIIIIIDNNGGTPPLSSPITSPT
LSTTQASLT TAPETLAPSSSLNGNNDKNNDVVVND SVTRSSSKQVSSDAQVESLKFEN

SLLLCISGANYGYRDASETVTLSGNRI RGARNRTDVIDVLGGLFPVHVSVDGARGCSIR
LERGLERMEAMLYALDI INSNASLLHGLKLGDIRDTCSSENIGLDESIDLVSQQQLDL
ESCPTSDTEYESANDSSEALPTSTVIGAASSGVSVPVATLRLRFRIPQISYASSSARL
DNRDRYGYFYRTISPDLSLQAEAMIDLCMEFNWTVVSTVYTNDFYGEPIQDFRKRAGETG
ICIDVDEGINSDSDDDDFSRIASLLASTNVVLFANQGNARSLFSSIEAINTANGTNK
RFLWIASDAWARSISIVSLFNESLAGLGFAPYTDSESGFQDYYSQLTLESNQRNPFPE
FYQSYFNCTINKTCNNTKPVTSHPRYQQGTFIPLVIDAVYSIAFAIRDYLDNDCKQPIQW
NRRTLSCDGNDRLNGSVLLRYLNNVSFISPTGRHITFNPETGNAAGGQYQIVNYQRFLN
KSYGFVPVGIWNGDNPKNRSLINHSISQFGLELINGQEVLLSRPQSQCCTVCTAGQYIVE
VEGSCCGTCSNCTGQEYNTSSSSSCTCPDRYWGNPPIIGSTSCVALEESYLRYRDAWS
IVLMIMAIIGLISVVFVSVALGLYWNTPIVKSSGREQMILLVGIALTFLTTFVFSKPS
TFVCFQFQSSSLWFCISFILASLLVKLIRISRIFLRQGSAAARPKFTEPRYQILFTLLIVS
IQFIVVLI SMIVVYPLASEEQVESNMAGGPPIIQVTCDSPHLAPLII LALYHTALIIFCN
LLAVVTIRFPANFNESKYVAFSTFSIGLIWLAFTQTYIATSNEEDRTAVVSFALNLSCFV
LLCMFGPRIVIMIFFPERNVTQFTTQPKSRGSTDINAQFDTGYITTLDP SLSVPTPKGSP
RPRVTLNLSDTQQKSGNSGFDNDSTKL

>Sponge mGluR-like(3) 890 aa

MNWQLSPLLLLIFSFSLIKAFGRIQHQYQVPSDVLRSDGGTRISGIQDRIDKDIVLGGFL
TVYFSSGTVNGSCGDVIEDGMEML EAMLYAIDSVNSDPTLLPNLTGLYDIRDTCKREN
VAMDETIDIILSSGDLELESCAVVNTSMSDQVPVSVILGAFESFITIPMAGLLRFLKPKQ
ISYSSSTALS NRRELYSYFFRTFPDDKQAKAMVDLIVHYGWDHISTINSNNLYGQRGIE
EVKKHAATSSICIDFDAIITDEFKIANYTNLANELLNSLANVVVLFASVHHVRSLLTEID
RIKTENNNRHFVWIASDTWAEALTDEEFNNVTAGKFGFAAFSENLDSDFNYSQLLPSTN
NRNPFWPAYEYQYDCKLNGTVCENSITDASDYKQSSVPLVTDVAVYAAHA INNFIQ
DNCIQPVQWYPNNQSCYGYNQSLNRDALFDYISKVNFSSPSNNWVNFNSQGNIAAAKYSI
FNYQLINCTANDCPSFLVNI GTWSSVDNRLLDPNATSQFGIASSPTGEYVPIALMS
QCKVCGPGQIKRIVVSSCCGTCDCPLGQSYTNASLTNVTLCQTCPNMWMGNNPLTGSTGC
VDISHTYLPKPTDAWGIVLIVICAVGLIAVVFVSCVFRVFWNTPIVKSSGREQMILLI
GLALCFLVTVAFLLKPSPIICGCQRVGLWFCFSLVLSALLVKLIRISRI GFHKSMSNRPKCI
GPIYQILFTFLLSVQMSLVLSMIVHPDITTSIKLDENNHNNDPTLILQCTSPHIALI
ILQMLYISALLIASNLAVLTI RFPANFNESRYVSFSTFSLGLMWFLLSYIATDDSTI
QTAVISSTIQLSALAVLGLGPRVFMIFWPKQNDQGTVPADLPTAYEV

>Sponge mGluR-like(4) 906 aa

MICQLTLLFLLTSLPPKTLGIQYQYESQPVILKSDGDTRISGIQDRIGKDIVLGGFLTVY
YSSGGTGVGSCGDEIWDGMEML EAMLFAIDSVNSDPTLLPNLTGLYDIRDTCKRENVAM
DETIDIVLSSGDLELESCAVVNTSTSEQVPVSVIIGAFESFITIPMAGLLRFLQKSQISY
GSSSTALS NRRELYSYFFRTFPDDKQAKAMVDLIVHYGWDHISTINSNNLYGQRGIEEVK
KHAASSICIDFDAIITDEFKIANYTNLANELLNSLANVVVLFASVHHVRSLFTELDRIQ
TLNSNERRFVWIASDTWAEALTDEEFNNVTAGKFGFAAFSENLDSDVYYSQLLPSTNKR
PWFPPYEQYHKCKIDGIPVCDNNTSVTNTSEYKQFSVPLVMDVAVYAAHAIDNFIQDNC
DQPVQWYPGNQSCRGYNQSLNGDVLFRYISKVNFSTSPNNMVFDSLGNIAVAKYSIFNY
QLIKCTSNDCPPLSLVNI GTWSSVSNRQLYLPNVRSQFGITSSGEGEYMPVLTCLKSQC
QVCSPGHIKRIVVSSCCGTCDCPLGQNYTNASLTNTSCQTCPSDMWGNPLTGSTGCVDI
SHSYLPKPTDAWGIVLIVLSAVGLIAVVFVTCFAIFWFWNTPIVKSSGREQMILLI
GLTLCFLVTIVFLKPSPVSCGFQRVGLWFCFSLVLSALLVKLIRISRI FLHKSISNRPKYTGSI
HQILFTFLVGVQMSFLVSMIVVHPDITSTKL DENNHNNDYPTLILKCTSPHIALIILQ
MLYFSALLIASNLAVLTI RFPANFNESKYVSFSTFSLGLMWFLLSYIATNDSTIQT
VISSTIQLSALAVLFCFLGPRVIMIFWPKQNVLETAMPTQPTLLNSFPKADHKDGG
SINLAKRTV

>Sponge mGluR-like(5) 804 aa

DVILGGLFPVHVSQSMGGQCSDRFRSSGFQRMEAMLFAIDSINSNSLLPGMSLGYDIRD
TCVSENIALDESIDFVLESQLEVESCGGMSNGNASDRVKVSSVIGASSSSVSI PVASLL
RFLFRVPQISYASSSSALNDRYEFYFLRTVPPDNQQAMAMIDLIERANWSFVSTIYSDNL
YGEFPGINQFHELHRRGICIDLNLPIKESFLDYEQYVADR LANSTANVTVLF TSEHAD
MLLRTMTNSNRINKAGKVVIASDSTASTVLAANYA QVASELWGVLPATNLHAFDDYYR
QLSTSSNKRNPWTQDAFKQLYNCAHNDCNVSDYSQNEKVPVLDVAVYSIAYALKEFISD
KCSAPLVYANNQSCQSHNGRTAVLNGSVLLQHLMNVSFTSPTGNEVSFNENGTVKAIYN
IAVLKVEGETSSVLENVGNWENLPIANRHLFYATQNELEFDDFTSQCKCPGQFKR
AVTSSCCGTCDCPLGSNFTNTNSSTMCMTCPDNMWMGNNPLTGNTHCIDIDESYLPKPSDAW
GIVLII LAIIGL IAVVFTSAFIFWFWNTPIVKSSGREQMILLVIGITLFCVSTLFFLLK
PSPASCGLQRIVMWFSYSLILCALCVKLRITRIFMQQSISSRPRFITPPYQIIFTFLLV
A CQMLLVFISLLVNPVPGVKELHNNKTNNDNFP TLILQCTTPHIALVVLQMLYNTALLIAS
NALAVVTIRFPANFNESRYVAFSTFSLGLMWFLLSYVATNGSTIQTAVLSSTIQLSAL
SVLLCLFGPRVFMIFWPSHNSSE

>Sponge mGluR-like(6) 811 aa

DIVIGGLVYVHESANGKCLETIVQHKSVESLEALLYAIDLINSNPNILPNLTGLYDIRDT
CGSENVGLDEAIDIIYNSGQIEIESCSSEFDNDTQTPVSAVIGALISPVTISVAGLFRFL

KMPQVFSSTSSILNDRFYFPYFFRTIPDDHQVQAMIDLILHFKWDHVSTLYSSNRVYQ
PAINAFHKLANEKGIICLDISETLDEKSDYDSIASKLYNSTANVVVLFASLTDVQRILDAV
KKVYENSNNKRRFLWLASDSWSEIDDYHEITIGKWTAPSSPFVPGFNEYSELNPSNR
RNPWFEEFYQLYNPNCNNSTTGNCSITQNASYVQDSFDALDAVYTIANAFDAFFK
ENCKFPLVWYQPNRSCIGNNSNDTTLTGEKLDYIQRNFTSFTQTI VNFDFSEGNI EGKY
KILNYQLNKSADCKEKCIALKEVGTWDSLSNRLQLSSDIEQQFGIDKAGNIITALESN
CQSCSPGYFKRVVTSSCCGTCDPCLGSNYTNTNSSTMCMTCPDNMWGNPLTGNTHCIDI
DESYLKPSPDAWGIVLILAIIGLIIVLITVFIWFNTPIVKSSGREQMILVIGITLC
FVSTLFLKLPSPASCGLQRIGIIVVSCSLILCSLLVLRIRIARIFKQEKSSRPKFVAPPY
QIGFTLILMCFVVLIVVSLIVAPPEANRTIQYNEVNHNHSHPELIVTCSPPHAFIVLQM
IYFSGLLIASNALAVMTRFPIFNFAKYVAFATFSLVLTWFFFILAFIVSQNTPYQGAA
LSTAIQVSSVAVLLSLFGPRVFMIVWPHRN

>Sponge mGluR-like(7) 640 aa

DIVIGGLAQVHSENGKLETILQHHNVEDLEALLYAIDVINSDPNINLNLTLGYDIRDT
CGSENVGLDEAIDIIYSNGQIEIESCSAEFDNDTSLTETPVSAVIGALISPVTVISVASLF
RLFMPQISFSSSTPPLNSRESYPYFFRTIPGDDYQVQAMIDLILHLKWDHVSTLYSSNR
YGGPAINAFHKLAKKGCDFDYSELEKSDYHSIASKLYNSTANVVVLFASLTDVRRIL
SAVSTVYKNSNNKRRFLWLASDSWSEVDEYDITIGKWTAPSSPYVEGFNEYSSQLTSP
SNRRNPWFQSYRLFYKNCNTCTESITDSANYIQHSLDALAIDAVYTIANAFEAFFKNC
DFPIVWYQPNRSCISNNSNYNTLTGENLKDYIQRNFTSFTQNIINFDFSEGNI EGKYIL
NYQLNTS'DCNEKCAI KEVGTWDSRIGIIVVSCSLILCSLLVLRIRIARIFKQKSSR
PRFIAPQYQIGFTLILMCFVVLIVVSLIVAPPEANRAIQYNEVNHNHSHPELIVTCSPPH
VAFIVLQMIYFSGLLIASNALAVMTRFPIFNFAKYVAFATFSLVLTWFFFILAFIVSQ
DTPYQGAALSTAIQVSAVAVLLCLFGPRVFMIVWPHRNT

>Sponge mGluR-like(8) 797 aa

DIILGGLFTIHNDAEAGSAGAKCGERVWGHGIELLEAMFYALDSINSDPDLLPNITLGYDI
RDTQCSDNIALDESUNLVFTNTDAESGTCRPLDASDNDSIQIPVAATIGPLESFI SIPVA
SFRLFMQSVSYGSTSTELNRRNQYGYFFRTIPTNNAQVQAMIDIMLYEWDHVSIIHS
DDLFGSSFNDRFLVAKAKEICIDANEP IRDDFDDSDYRELAQLLFFNTANVIVLLASL
DHAKNLLNYAQMKDSNIAKRNFWIIVTDASAAAATEFTGDVLAGMWGIFPPSEPIITLD
DYFSKLTASTNKRNPWYISYEEVFKCTNEINCNNSSITSVGEYVQFPYVANVVDVAVSL
AHAHISFIQNNCQQPVVWISYNQTCVQTKTFNGQNLRDYLRNVNFTSPTGKYVVSFNEKG
NIEGTYKIKNNQVNDSTTHKLTTFVYWEQDGLYKYPNAIAQFGIDQESGSI LYQFKSQ
CKACAIGYVVRKVISSCCGSCDACLGRNYTNI TLSTSCDVCDDNMWGNPLHGSSTCVHV
QESFLHITDPWAITLMILAIIGLMSVAVFTGTFLCYWNRPIKSSGREQMILILIGITLC
FVVTVIYIPKPSIVICTLQRAGLWFCFSIILSALLVKLVRSIRIFMQKTMTRKPKFISPK
YQILFTFIVLGIQMI LVLISLVASYPKVKKSI VNNNEQNDFPSLVVQCNSPHTAMITIL
MVYYSILLIASNVLAAILTRFPQNFNESKYVAFSTFSFGLMWIAFIFTYLNATDKFQTAV
VSFTIQMSAMVLLCLF

>Sponge PKC like-3 548 aa

MAEGSPVRRPKRRNAVKQKVVIEKGHKFVLYFYKQFTFCGHCTRFLWGLTGPQGYRCLS
CDFTIHRRCLEYVSFICPGTSLPAGLEPRPHTFKTASFYHPTFAHCGSMIYGLFNQGVR
CSDCGMTAHRRCQALVPRACGQDTQEKRGRIKVGFTYQRSTENNRINIEIEICRNLP
DPNGLADPFVVKVSLLDSDGKDKSSMKQKTERREKTLDPKFDESFFFDVSEQDLNNFVVA
VWDWDRIGSNDFI GGMGLKVNDIITETCEGQRIESWYKLLGDNISRRKIRISDEEAEK
LIDEYRKTTRANKVATLKADIEALDLRRGSQ LAPGSKDLPRMTLDDFKLLVVLGKGSFGK
TKEHLFFVMEFVSGGDLMFHILEFGKFPENQTRFYAAEIVIGLNYLHEKGIVYRDLKLDN
VMLDADGHKIKIADFGLSISMPQIHERSQFMELIISYQPYDQAVDWWALGVLI FEMLI GRP
PFDGDDDDQLFNNIMEKPKSNKSHNNFDKEFTSEKCVLSPVDKHVIEAIDPEAFDGFST
NPELYVPH

>Sponge Alpha Catenin-like 921 aa

MAAATTVQTKRKKILEQKDVEIKTKAVEQSLPLIEQEELWLSCEEVRNAGLSLEEAA
KEYSTDTLDKCKREGMHESAKELLSVTRLLAIVDLIDIHEFLKATSKIESKLSQLRNIK
TWKGFVDSIKNITKELKQVSELAVARQEMKGNAAQQLLVAHAHELKQCNKILITSTKIF
LEHPEDPHAQENRDYVIQRMQEAVKTI SMLADGMDPLEIQKQTDDEEEQESDEFEP
PPPPPPPTLHLSLHAQPPLPSPQAPPASKPLVPRDPSPPPPPPHIPRELKGIQTFEDFI
SVIKTEPISEKKDAEDKSDDEGNSVPKPQRKQKSTVVEEETATLRELRRAMIDHVS
DTFVDP LPLVRLVDDASKGDTVAVEESSAQFVAHADKLAHVNTLVCSLSSDNADTRLVR
RAAQMNSLKQVCAAKTLAAHPKSEAAKNLTAFAKEAWVDKVTLLTDSLDAV IPLQDF
IAVTEAHVREDSRHFMEAESQNF IGTANSGNVIQGRQRMVQVLFADIGNNPSRYSHEH
VHEIEQHTKQLQEQRMRPSPILRRGDQMNPPSPSWPLDIVVEEVEVMSPEYKRYLSAT
STQMSSTGQLLEDIMEENEDDGNNSATTSCSSFMKPEDDEGPKSGEVSETAEAGGDT
GLTKISDDTYMTNTIRRRIKRTPSVVVLNESETAQAKMAQLPAHERARIAEAQQKLDV
KNKLESEVNKWDSSNDIVLLAKEMCMMMDMSDFTRGEGPLKTTIDITNTAKDIARAGQ
ALEKLVREVADKCPDEQMRPSPILRRGDQMNPPSPSWPLDIVVEEVEVMSPEYKRYLSAT
IIAAKSLMTTVQVVKSCYVASVAGEVLTTHGNPIDFKTAIQTFGPRGPMMLQDGVYLD
EMAHFDRERIPERVVHAKGAX

>Sponge Citron-like 672 aa

MATLSEETIIHERFLQLKSAALTLLEEGGRLSDQRLVRLGYDCLLDSLESVYKECSSS
ASLSKDKYVSRFLKKYKPVMEFDKLRKLDKDFITKGIIGQGHFGEVVRVVEKTTTSQIYA
MKIMKKTHILQQADATFFIEERDIMALGNSQWLTKLHYAFQDEKCLYLVMYHPGGDLFT
VMERKEMGMTEGACFYTAETIICALHDLHQLGFVHRDVKPDNVLITRSGHIKLVDFGSAS
RLDENGKVVVDYTLFVGTPEYISPEVLTSLDKKLTGVSCDWWVSVGIMYELLFEVTPFEG
STTAETYANIMSYQTSLQIPEELSPPEARSLIESLLVKPEKRLVEYDVKHPFFKQVDWNN
IASIKGPTDTSNFDSDPDDPADANMTHKSSRSFTGRNLPFIFGFSYTNWSSYHTGGEA
PHNIGVNEPDDVHAALKKCREELRAANEKKS IKQESDIYRKQMMDRFTAVNKLKQLKE
LQIKQENASSARVSVTSSRELELKELETKQLTDQYSAKLQDKYDAILKELKCYEBA
EGEFPKTTPTSSNTDDNISLQEEELIQKQLTDEYNFKIYHLRQEHGKLQAAHMKLSKQL
KTQESRAAEASKETEALQDKAVIEEALERLERMQIQLAQFTKLDYRHNTPSAAKKRS
NPKKVPYCIVVV

>Sponge Eph-like 1324 aa

MTEIDSHSFIAKTSLKRKAKNRRRTGRFVQPPFFIFIIIFIIKSCQSSCRDEEEDVTQLF
KQARFRAIKITIGKGGSPRYVIESKLPKLGLTDDKEKPPNAKEISRLEVSSDRIKEGID
NFLDSLNEIDEDMDEAHIVPPSCNCECINCYNHASDEKRRFTRELHNWCKKGGRRGHL
RKVLEEHNKLSLAEIEGPEVSKKDLSEFQNRVYSFLQLVCSISFNHFHNKSEPIKNDM
LYNQITLFRLPQDFSLPGTDQTKLFDYLQKVYFDSPGQTPIRDERRGINDEEDRYINFF
TVGPMKEDAKRVTNLLERLHRGSDIADNCLMLAIRPLMIGGNAVAHKYVYVPSYSIA
PDDADPTCS DIP IRNVTFPNEKILLDSQNYRSVFLVGAEGENRTWLTIDYDGGGVGRGTA
AGFVDSWYEGNSLAEIEGPEVSKKDLSEFQNRVYSFLQLVCSISFNHFHNKSEPIKNDM
SSNLVCLNQCPQQQTFEVQTFETNEPDEMGRNISYYSYAGVRLIHTAEEGATTDSEF
AVSSSGLYLAIWQGSCTVINRIVVFYVNCOPYQLNKAITYPETVAPQGFDPDKNV DATC
IDNASPTSSNILSLRCLLGVWIGSASCQCNPGYEANDTVCEACPTGYKSPGDTICDD
CPGNSDSLNTGSTCQLPEGYRAAHEHTDDVACTAPPGPPVSLRNTSFNSTSISIAWDP
VSNGRSDINYLVSITDQSNNGNSIVPHTTNTTIYKRGGTLP LTTTYITVTSRNGVSDQDL
SNETNRQVSNVTTMSSPPTSPQSLSLQRMPMSGQSTILGWSEFQNSYGTVIRYNI FISE
FNDTDTATVRGTVNGTFRYDLSQLDLTSGSYFVWVQAVTIHGESDLSPPIQYLHVEAPT
PTGVANSYGNHDESDTNIELGLTLPSPNNPNRMYIDPRTYASMNHAIEQNRVKEIPKKEI
AHLEEIGVGEFLVYKGVWTLKNIIPVAVKTLRGGATDEQRSNLF EASVMGQFHHDNVVV
LYGVISRIDPVMIMEYLQNGSLDRYLQKNLDKISHERLSKMSYGVAKGMKYLSSIGFVH
RDLAARNILVANDETCKVADFLAREMVENEYDVQKGRIPVRWTAPEAISHRSFTTASD
VWYGVLLWETGFSGCTPEYDGDW NATIFQRLENGERLHPPRGCPDDLYKIMQACWNIERS
ERPTFENIVECFEVLFGKPKPKPAHLQSPNRP I PPTSSNSAPNGNKAADSIDELL
GSIGMTRYIDIFHAKGLYNVADCFGLSEDDLQRMGVTLSGHQYKIVKNIHLKEELGRV
PDFI

>Sponge ErbB-like 782 aa

MVFSSNGQVVPDCDRGELSGYLELNNIPSIERLSLPLNRLIRGRNLRSGRYSLLVSGTI
ETLHMPNLTEISRGDVILGSSLSNLYLNCNTRSINWTDIAPFPVIGHRFSGTDCNDSVDF
NCNCNNGRCFRNLNVQCENPECVAGCSGGGNDECRACKNVLNDGVCRCERCPQFIIDP
DTRAFIPNPEFKFEAQPLCVSDCPDMLFELGTQCVEDCPSNYMPVAGNNGTMRVLCVCDGP
CPQADTSLVSDLSLSESVINGGIRLENNPSLCYLGNSYLLANASSSSFQTNMTCHPQC
SSAFGWCGPNNTQCVTCTNFIFNGQCVPDCHDFNAHGICQRTVVFLLVLFVCIIPVMSF
VQHAVGLQLVIVFYAHISEALMALPPGATKLTVIPETELEFKKELGSGTFTGYEGYKWP
DNDEAEYHVAIKILKSTADASKELLQEGVVMATMNHENNVCLYGLCISRQIIDLAARNI
LVQSHLKVLTITDFGLTRFIKPDESHYEASGSKVSIITLTNCELPVRWLPPEIQQRIFTH
KTDVWSFGVTWELTTFGESPFGKSVFELLLKLEKGRDLKQPKTCTLEFYKTLQNCWEL
EPEKRPSFEDLVYQFNMMISPKKYVKIKKTRTLRGAVYSRSHDGNQERNFHKGRIEE
TSGYVDVDCLEHDSNNDKGYVDCLEHDSNNDKGYVDCLEHDSNNDGYIDCFNEDSNDKGY
IDCLEHDSNNDKGYVDCLEHDSNNDKGYVDCLEHDSNNDGYIDCFNEGPNGAVVMKVLATS
IA

>Sponge Kir-like(1) 349 aa

MEPAHKNVNYELVSNSENIHRDDVPIFRGTREARRRERLVKRSNGRSLVHHHNI PPLS
LLGYISDGF TTVLNARWIVII LLFAAMYVLSWLLFGFIWWGIDSAYVAVTNSSCVSNIDG
FSASF LFSIETQVTIGYGRFVADDCSFGILILVIQCLVGLVIDSFLGLLIFAKITRPRN
RRKTILFSDTACINVNKGEKRLQFRIGDVRSRSSLVEAHVRVQLYWNKRDGETDYRLE
QNDLEVGYS DGTDRII LLTPVVI THIKETSPLYTITNDSILNEDIEI V I I LEAIVESTG
LTAQALWSYTEREILFNKFKPMIYRQSDAKGTWEVDFNRLSSI EPCSC

>Sponge Kir-like(2) 357 aa

MSVQFSNSYKEMSETEGTVREEATDAAPTIVSFQPTVPTRLRPERLVKRSTARSILHKK
IPPLSWLAYVSDGFTTLINAEWYIIIGLFSAVYLSWLMFTFMWWSFDAAYVSVTNNSCI
ENVGGFSSSFLSLETQVTIGYGHRYIQSTCHFGIFLLVQSLIGLIFLIDSFLLGLIFAKI
SRPRNRRTILFSDIACINVNKGERCLQFRVADVRKNSSLVEAHVRVQLYWHKDKGATD
EYRLEQNDLEVGYS DGTDRII LLTPVVI THIKETSPLYTITNDSILNEDIEI V I I LEA
VESTGLTAQALWSYTEREILFGRKFIPTNREKTAKGTWEVDFKKS LSVVTSEATN

>Sponge Classical Cadherin 2920 aa

MLHELCLILLLLMAGYCYTTVQAQSLRFLSPQPFYAYVPSGASPGRRAYQVYAAGTNGTLS
YSIVESDSANPFLSINNGTGLITNTAPYPSTPSQYRITVQASLSGYSISSNLTIMVLP
FDATPRFERTSYVTSITENGLSPFSLLATQAFSLSTNNIVYTIIVSGNMGVFSISSTTG
IITVTTPLDRETHPQYLLTVRYIDDVGSIDTQVQVLTVDVNDNGPVFNNSYYYYTIEEGV
AFGRPVGSVSATDPPDNLGNLTVSYSLSGPNSNKFVSSSDGQVSTAAVLNVEELIQFSLTV
TASDNGDPPQSSSTAALVIQLNNTDDECPSPFSGSVYVKDVPYDFTSPPVIGDHILTI EAYD
PDNIGGVSYSLSISGNDEGVFQLDPVSGNIS IARNEEAIRGQYVLIVAASDATCVNISRAQ
VEIGIGSANEHSPTFDESTCTASLTENPPNGTFVTQVVMADDDFGANGRITYDILPNI
GDFELFEVNPSTGVVTTTQESRNYDRESRSRFQVGI TADGGYRQDFCILTINLLDENDNEP
IFDLSEYSTNIGDTPINGSYI IQVQAQMDFGSNGEILYTLNNTSSGNCFFLIDQFTGTI
TVSSSVLTTSNVCVNLITASDQGLVPRHSSVIVNITILHDGKVPVSSSSYNVTIPEYSS
SKAVINVTASVSGNSFISYHLINGLEYHTNSLGNFRIFPSSGEIRIESNKPIDYERLYPG
PYSFRLQVTASAANVFSSTTVTVHVTDVNDNFPFPDTPDGPSTPPSITFNVVEGQPPGP
VGLVKATDNTGNGVIEYGLRSAPVNSNSFVSDQNGTVYSLATGLDAEAVSMNYMLTIG
AFNPGVNPQEGIIHVFAIEDINDNRPVFTQSVYNILLNETQLVPHLAELELTANDPDRND
QGRLVYAILSGNTEATFLQRNNAKKGELYLRRSLDYERYTQYSLSVQVSDGIYTDATVS
VLVINVDDEPPIFSQSLYASVVESSPIGTVVLTVNATDLDSNMIQYELKGLAEGFRSID
NNGVIRISGGIDREEFLSEEIVFLVFAYGGLSTADISIHIDDINDYYPQFLFAPFYGT
APENTPPGPQGLYITTVRAVDLDKEENGLTYSLVGTGEQDGFSDPVTGVI IANRTFDRE
TTRFFQLVTMATDNGGAIQLSSTVEVIVEISDHNDNQPSWVYPMYARVYENEALGHVVI
QLPATDPDNGVNATVFFTLISGNDNKFNLTASTGEVRVAGSLDYENLAERRYLLYFSIM
DGGSPPLSSPNVGELEIHLVLDNDHSPFLFDTHYSTIVLPEDETPINAHLLTLTATDQGT
NSLLSYGISDGDNSHDFNLISHSNGSVTLILARALDFESRPNYTLSTVTDHGYPPLTDR
AINITLTDVNDHEPLFSSDHTGSI AENMNTLPVSLYTGATDPDSDEIPGGIDRYEL
VWSDDTNNFNNGWLTVVQSLDRETKAQYHFIVQAVDNDPISPLSSTATITVTVLDVN
DHPSPNGQLQVLI RAQVRFPAQELGLVYFIDSDDNTFTACSIVSGDNHLFNIHSNC
SLYSTVSDFPAGVSYGVEVRGHDGVHDFVMTTVSIIIMHNVSVPPVSSLSITLNVSGDQ
YLDQFRSSIIVNVS DTVSVQSTSLNITVQQGHDPVNTVDLLFAVMSNGVFMDFPII
NKLYLERSIYSNLLYSLPVDACINPCANLGQCTTILSISTNHTSRLASKWYILFNPLT
SVTYQCTLLGTTGDHCEVNYDDCYSNPCQYGGCTDGDYI QDYTCTCEGTAGKDCSINND
ECASNPCINGGCTNGFNRHECICPVGYGDRCEYAYFIPSSFCSSPCLNNGTCSNGRD
SFTCVCSDFIGRFCEQSAQFQGGCSNPNPCYNGSTCTETTINGYCTCSVGFTEPNCRFPL
NNCELEYCRNGGTCERGLYAGYCNLCPFYGGQYCTELLSLCHSSPCLNNGTCTIGNTSSY
TCTCTRGYVGTCTQYPIVPTDLCTTLSPCNSTSVCSGSGNYTCVCTDGSDDDCSMLP
SPSPCDSNPCLHGGQCTNNSPLSFQCTCPVGYTGPNCEDDINECSPNCSNNGICYNGFG
SYICTCTITGFTGRECQIQCPAGHDGENCEININCRPDCSNGGSCIE TDNGYCTCTCPPS
YTGPNCVANDCNVNTCTNSGQCTNDTNGFRCTCRDEEMRDDHCRNLNTVSNFGDQSTPS
YRAYGSDIFRNSGDIQDFSTQSRRI TGEHLMIKLQDGRLLHHSINLGSVTDFTTASTHH
DGRWHHINISRVGLISQINIDDTRINLTHSGPEITLEYSSNQIYFSGNLLSNQTVTDGYT
GCIQDVRDLHTPLPVADSNQYASVTYIGDTPESGCRVGPCYPNPCNTGTCTETHTNTFLC
TCNGRSQTSPCDTPNSNNTIIGIAVAVAILIFISVLI AVLVI GLLIISKYGRKRRKYSLS
DTVLRGGVGRSNEHIEIHANLYAYDEEGEQDTSVNNGNHDDMDHSPIVNEGRYSPSM
STLERNRDYDIPRSRQKQTPSSLKMKRENPPVPPPHSETPPTGTPPVVPGTTPSLKGRGD
SAHSTPPVHLLHPVQETPPVTIMPSPHLPIKEEGTKEQPIAVDTPPLPLAKPTTSVSDR
VTSELRTKGILPLIVNQP ERASTPIDIRFIEDKVNANNTVQDIDSLREYSDEGIEINDG
GSLSDISQVSEFLYTFQFLREAGDPFTNVADILEPVYDEESEEEDSDTILLLFVVVYPR
VGYKDKVETVETKKEKQVDTTGAERYRDDEEPVVVKGSVTEEEYQQYLTEKEKEKEK
MTAQDGERRTDKGGERVDTVEETGSGD TDGSAGGRIMFKRPTKRTSSEATAAGGGITAT
TKNKRTNNTAANNKHKQDERTTTVKNTNLLSFDEEDD

>Sponge DLG 824 aa

MPSKQEA YRALELEQYCTNLERQPGSEELQETLRKAI VAIRSRLFQALLDIQEFYEVTL
ENAAKPV DVKTEETRKLAEKWEDSNPPIPVNVRRLAQHTIAPSVHADKKKEQSKSQSPAT
EELLQPSQSIREDTYI QKEEGRGLGLSVAGGTDNPHAVGETGIFITRLTPGSPAERSG
LLQLGDQLLSVNNVPLVDVHNDAVDALRNAGLTVTLRIRRF LDRVWSPASVDDLDDPPV
MIKEHTSFPPPPAQAFTGGDSPTTVITLKNKGGTSLGFSIAGGKGNQHVLDNDGIFVTKI
TKGGVADQDQLEVGDRVLEVNQNMVEIDHEDAVAILKATGQEVTLKIEKNSLPQDITV
TSDEGKAKALSLLLQAPADKELIDKPRIITLSRPEGVGLGFNIGGEEVGFIFISVISKE
GVAADNGQLRVGDMIVNGQNETWSEHTAAQALKTAGETVTLKVYKPDFEFEFYRKM
NIRPDQDVKTLYVRALFSYDGSNDMDRPG EAVSFQQGDILHVLNGSDEEWQAALVGP
SAEDGVQGLIPSKQRLEKKARTSTKNVKFGPEPDRRSSMSTKLRTSFKKLLGFGRN
SSPQT NATASSVEQSEEPQDEEMLSFYEPVTLQKRGYARPVIVLGPLKEDINDKLVNDFPEKFA
GCVPHTRRKAQGEVGDGRHFVTSVEQMERDIQAHLFIEAGRYKDNLYGTSIQAVREVA
EQNKHCILGVSGYAIKRLHLADLLPIAICIQPDGPNVIKSAQPRIS DENAQVIYDKGRGI
QQDFADSF TAVVEGSSLEEIYDKVKQVIHDNSSDLI WVTSSSEI

>Sponge Shank 1750 aa

MDEHDGAGILVRVDPDLKSQTRIVIGKTDVPVYAKQAVLEKLSHDWPIDVANNYGFYIP
PTGRKKVGRFLDESRLVVEEQSGVITHLELR YKRRDLSALGLSEKALAKANSKSNMKKLV

DHVTSGS IKKI EKLLDSDGLDPNFIMEDGNTPLGLACGRQGRSQCISPLIYGGAIIDFRGS
AGLTPIHRAAIGGNTQALKILLSFGASPNYTDVKGTTPLYHAAIMGDDVTVCCELLKNNS
IVGNTDIIGWTELHQIAKHGHVHMIDALLAYAADINAVNKAGNTPLHVAAQHQQILLILL
KVSLLERDGEQRDLDLAVEKRKCHQPHIALRLCPLLQEKTVPTLSTSPPTKYNITKKA
PVMPTGSKRGPVKGSVEEDTEVTEGSPRTESLAVPQSRKHRYSTDRKTS PKSLHQSPTPA
PMPGTPPLAIRERLYPVGTGPKKYFVVMNVDPEQEGDLHLTRGMTVDVLYVVGKGGFWEK
VGDVTGWFPPQHAITEKMEAVNAGANCKLTPEIPALQYVGRIDKGSADMSGLQKGDFFIE
VNGVNTTKSTHEEVVGIKQSNDSKHLKLVITPLKKGAVTSSSKQPKESKGSHEEPPLA
AQELPTYPTGGSSPKQQAQWGMHSEENEGEGATNYTQSPPLPPQPI SMTPPDKKRVI IQALP
SSSPKLQTRGSPASPLLSNVKSSPLVKHSLHAKDTSDDKKEIEALTSNKDPGGISSSR
SEELLQREENYKLMKKEDEEEEEGLSELAKQLRKASRERYKRTKERDDQLPPSSPSQ
SKVPVTNASTSRPNDNNVASNTSSPKS ISSYSTTMKPAQSI YKTESSTLSKPQSPVAPL
KHDLLAEPVKDDDDDDDDGWEYTEALAYADVVPATTLEQEKHIDTTSNKSKTEKQSL
SKREEQAALRVEHLKKGYLSSKQATASSPKSQHTQKPSPKQEQSKQKVPSSPKTKSSP
LVSHHQSSHEQFSASPKASKQKQDASPPKQQQSPSLLLKEEKYTPQQTSLSKSNDFEKE
PVTSSAATFMPKNPPPIKPKPSVKGVEDDLPSIAVPNASSTAAAASVALAKNFSSPK
SRRDSREKLQYSKKKLSNDTTSGHAQEKSISSLKETSPEKEPEPEPEPEPQVMSLKDKF
EKMAQSKKPPPPGPIKPKPKKQPEPVKPAPEPVKPVSEPAPEPVKPVSEPAFEPVKQVKP
VFEPKPDPEPISPEPESTFLPPPVFEFTDSNRFSIISLEELPIPAELLNDDSLLEENS
KSALIKLLVHESLFFIDDFLPPPLVEDEEMNASFELPPPLSLAHSSEEEEEAVDMDLP
PPLFALPPQFEADGLTNI TEPEIPAPPTPTMESFSVIKSENKVTSSSEKELQPPVETKE
ERDGESTKESKKADHKSPPPENNLLDDIVGKLVKLTGGSSDEDIDSDSDSAGSPPL
PSGPPPDSEENKEDNRNLQELPIIEALDDAPGNKGSTSIEDSSLELHHEVPLPPQQR
DSVFFDDGFDDSAEDFIIPPTLEEEEDENMFEPPIEDTLPPPFDEEDLDSQLPPPF
DEFLLPPPFDEDTLAPPAGPIPVPENDLPPPIFDEETSDNEFSYDLLPPVPMLLDEE
KENEEFLPPSPSPFPSPPLSSSDALNDHSNIQKDDNVTVTTQLSSTEHNAAEENS
APVSSWSVDRVCSWLTEIGLEMHTDTRFSNEIYGLDIGDLIDIIDLKRCGFPETKWYEL
ALRLGLKKN

>Sponge Lin7 210 aa

MATVSDTRVSSPPPMGLDQDIERIEELGLVLEKEDTTLPEQMGQLRQVLISSFFRQV
KEYYENMYQTVEKTSPEVRAQATAKATVAFAASEGQGHPRLVELEKTAEGFGFNMVGG
REQKCPYIYSRIIPGGYSRQGLRRGDQILSVNGENLEEAHSAVDLLKNAQGGKIQMI
VLYSPKILEEMEWRYEHTKSFQRGRSSRRH

>Sponge Scr 1505 aa

MLKACMGLNCSRQIDYVDRRCQLQEIPDDIYRYEDTLEDLMIDSNMIQELPPKFFRLTN
LRKLTLCENEIMRLSPMIANFTKLIELDISKNCLEEVPSNIQFCRSLAILDISCNPLLR
PDCVANIGSLTHLYINDVALPALPREIGNLRNLIVLEARENVLRRVPPSLGDMKLQRLD
LGNNEIEELPPTFGYIDLDELNLWLDNSCLSLPELSLRLHKLHVLVDVTKNKLERFPNHFS
NLVNLVDLHASENCIECLPDNFGMLKSLVQIKLDLNLHVLVLPDSIGDLPMAIEFLFENM
LESIPPTLFNIPTLQMLNIDRNHVMIIPSTIGRCKSLHVFSARENDRSLPEELGELSSL
RVLVDCGNRLHCLPLSISNLQLDAFWISGNQPLPLISLHQEPDPDNPDRKVLTCQFFPQM
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FPTPFRKDLKNKHKRPKLDARPRTTVFRKGSMDLTLHSDVPTVAGPPPEILTASATDRS
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TSLANGDVPFAHDRDETTPGDERGVTPERVISAEVITSDREGEALLLESDEEEEEEG
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DEGIFISKITRGEAAETDGRRLRVGQRILEVNGFSLLGASHVEAVRSLRNKIDTATLLVCD
GYCFDDFIKHLPPRLQIGKLTGSVDVLDNDEGKEQRTHKRTHSSTSGALVDEAGRMEDLN
AILQQLVQFKTSTPVAKETGENREEEEEERGEKVAEIVDPPSTISALEQSVDMNESTKVS
DDKTKETETEEGDEEEEEEWIIDSDSVRQVEKQRFSSASTPPPEDEVASPVPRPQSAQ
GVHVHKTKRSKEAPPTPKPIALVSPKLPFRERVALYQTKLNQEMLRKGDNRRSWAPG
IHSRSLSLSPVHKSWSASYILRNSPDTTINKENQELLSLPKEYSGREEDNAQQQDTE
RDIKSSAASDPPLTSLPLSPPIGAEMQIEEKEIGEDPGFSPIPDDQEPSKKPLSIDE
ELSKNPVYMQALDALPSGSPVDSVQLPPATSEQKRRRELRELRREEMDEEIERALGLQT
PPTAS

>Sponge GRIP 945 aa

MAVFFSFCFSAGRERRRSSLQAEIVCVELLKRTNEPLGLRREGGTDYDQPVKVAQLYPGG
VAYMSGALQLGDKVLSINGTVTERLTNSEVVALLENSGNIVNLEIAFETSSKGIQKIDG
MELKTAFITMSCDPSLPGFVIVSGRLENRPITVSHVKQGSYAYRIGILLHCGDRLLSING
EKLIDKSVQEAHLLNHSIDITVKLEVLMANFTDIDGRLPVPSPADDAISRVSSRCSQSV
PVENQRRPSQLSLISATSESNQVMLHPEIMTITLSADPIGFGIAIEGGTDEFSSYPVVI
IFPNGPAAIILGRLEGRILSINDESLSASLDHASKLIKEADDTLNMIEFVDDVSSVV
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VNGTPHEAAALLTSSGERISLSVRREATNNFMPKQLQSKSTPVIYAVELTKNGDSLGIS
LDGSEQPQPIVISKIREGGVAHRTGAIKVGDRIIAINGESLLTKTIDDACWILQONAGNT
VTLKISKGVVRRSKWYKQQRYNRFRKNSRIPSRISHSSELSASFTSLEGSVPYLVH
SRHPHEKRQQQLPFMNGAVPGRYSPSRGPRGSRGRLSPTKERTSPNRERNNGSKAGGVG
LKNGGVDFHRLSITETDEETQEPPLLWEGEQANGGIRKPGASRNGAYSNKSPHSPLV
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TRKLRHLAQSGSSAEESDQEMSGLFLHHPYPSLHPPPSHPEPEEELIEVTVVKEKDFGF
SFSDGLSEPGVYINQINPEGPAHSGLQSYDRIIEFNGSHVADYDCFKLRPLFSGTDTIV
LTVLRKLSLSSGVNGAAAKSINLPTTSNGPSLPVYLSLTDDEGQ

>Sponge PICK1 353 aa

MAYSVTLEKGNMIGISIGGGAPFCPVVYIVQLFHRTPAYEDGSLCPGDQLVSIINGTSL
VEYTRKQTADLIQSSQGTVHITFNRIHHPKEKSLDISMKKLLKHKIVEKMKESTADTLGIT
RAVLVNDMSSVFNIGVYEPHTDASVAFANFGAAHKMAEEGDKLVSRVGPVAVPDTKLTII
KKYQSAKFEFLSYCLKVKEMDDEEYECNHIGQPLPRVMTGNYYRVLRLCRHATKRKFMK
LRSDVLVQLQLLDNKRVDLAFQLERLIGGMVYVCRQSYNVLKPAVFPVIEVQLQLEEKQ
GPIGMEEGERTATLTVKDDDDVPLLDLPAEEAKKEEGEKKEEVVDLISI

>Sponge MAGI 1113 aa

MSSNNDPLGRSNSLKRKHWSIRAHETLISRNKDGHFCLNVEGGAEHGIFPLIGDLRQDRI
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SRFTKNSVDSELQHQIRENLHTRVIPCCTRQPRDEERNVDYNFISVEEFKMKDKQGLLL
ESGTYENNHYGTPKPPDPSSHAVLPYSRAPASSGYSPREPLMPGNATSGIPTQAPRSS
IPRLSIPQATGPLPSNWEIAYTENNEKYFIDHNTGTHWLDLPRLVHNLKHSLLDCCGDEL
PYGWEKVNDDPMFGVYIDHINRTTQYENPVVEAKRKFVGSLSQRTPLPPTSLPPPLRA
PPSFHTAAALEKQREAEAAAQWPQAGLTDYNDGYPFDPDTINPEEIEENLGRDPIFVTLT
KNPTGFGFTIIGDPRGELLQIRSIQGGVADRDNLIGDVLVVRNGESVVAHNHNRV
DLFQSI PMHSPVLEVRRGYPLPDSMTDELPSYSESNLTRQFDMGQPLVTDALASDFNRK
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VVIYRPNQTSGFVQLSNTLRTGCMICRLIPDSPAECQQLYLYDELVVNGVDVTQMD
HGDIVGLIKGSSTTIKLVVQPEGWHVILAGIPLKCI CVTDKDEILQLQDMSMQEQQSM
QAAMAVPVSSYPQQRSMQYEEVGPQISADLEGIDDEIHHIEFQRDENGFGFSIRGG
AENSHLFLVLRIAENGAADKQSLFQVQDELEINGNSTEGMLHADAITIIKHGGEKVS
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>Sponge Mint 531 aa

MEGTNEGEITETREEGNTPIGKNEPSGNETGGEEKKEEKVPLKNGENGSVTGQVVDEREK
EDETEKKTGAEEEEENGEENGEENGEENGEENGEENGEENGEENGEENGEENGEENGEEN
TAETNDNERDENGERNVEEGNGGSEEVGKSNGLVTQSEGDA SPVQDRE STPTNEEQNTE
NGDKEATPTREDETSPEEDGREATPTEEDGVAKRLEVTRVRFSEDFERFEISSDTHDR
ELVQVELSEDHREVDLMTHTPLRTVSYVADIEGSLVIMAHRTIPSSPGQLKLTCHPRIVA
MVIQAFSTAYKEYLKSHEGKESLDQFYNHVLNSQTKSEADLNSFKDDNKTRIEITFAK
PKGDILGLVVIDSGYGVIPSCIVAHMNTGAAGRSNLLNVGDQILSINGVSLVGMPLRV
AIDQIKKCRNLTLVKMTTCSCPAVVDVTIMRDLKFLQGFVKEGNVRSIAERSGIRVGH
RIIEINGTSTVGI THEEIVHMLSTTVGDLHIRTMPITMYQLLTGQVAPPEYF

>Sponge Tamalin 446 aa

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DILSAILNTNDRVQLLVKFTDGAHRLKLLKQLAQDSLKEKQKSLKQLLATKHCCLTSY
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PFDVAVNPTASSPVMHFLHKGGDKMMNEISLADQCHLGDAMTTTSGELKSRGQVYHCLFG
QFEDHLKLCFESSLNKCLARGLVVVAFWLDGFIYCHVPPTLLVETIKKTLCDSSNDFLSK
FKVIFASQILPQLAELVTHIFKHET