

## Supplementary file1

### Identification of peptides and their GPCRs in the peppermint shrimp *Lysmata vittata*, a protandric simultaneous hermaphrodite species

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#### Adipokinetic hormone-corazonin-like peptide1 (ACP1)

MFRWQIIMAVVCLSLAPALSQITFSRSWVPQGKRSAAGTVVPGSPAVAAAGEVDGGLGDAFCLEARLMALSEVGAHI  
AELMDETSKAEASLALRLKHSLMARRSK\*

#### Adipokinetic hormone-corazonin-like peptide2 (ACP2)

MHRLTVLLAVACLVFPGPAMAQITFSRSWVPQGKRSAQAGSLLSSGDIADTCQEAKLTVLTQVANYVTRLMEETS  
D MGSDEASLAYHLRQAQIARRRMA\*

#### Agatoxin-like peptide

MGSKVLVMVLAFFLVLSIAMAQPLIEEDHEDEVGQPDADYTADLLERLLARTSQKRDDMGGPIKRWRSQIPRGGSC  
THR PKSCCNSSSCRCNLWGTNCRQCQRMGLFQQLGK\*

#### A-type allatostatin1 (AST-A1)

MVVVRHGGIRAYSIAAFLLLGGCVRTQEDYYDSVVEELLEGNDFEQPQPNYGWEYGKRHNDYAFGLGKRSPGY  
AFGLGKRDRLYSFGGLKRENLYAFGLGKKSQTYNFGLGKRSAREVVPDGFDDDEQPMFPSSSPSSPSSPTSSSSPS  
SSSIRTKREAESNEDVSEEKRKQYAFGLGKRGGEDDQKRKSKSFSFGLGKRQDSDEEKDRSYAFGLGKRDPDMDK  
KSQQYAFGLGKREPTEGDTQEADLEKRRQNYAFGLGKRGEDFIDKRALQYAFGLGKREPSLEKRPRNYEFG  
LKRKRDNDMDKRPQHYAFGLGKRGEEDTEKRAQ\*

#### A-type allatostatin2 (AST-A2)

+RPQHYAFGLGKRDSIDLIKKPQHYAFGLGKRDFEDDLEKRANYAFGLGKRYSIEDVNRMYAFGLGKRSAEYDLIGE  
DDLVDDEDFDDDDSDIDDLDEEDLVEYQEQLKRAASYGFGGLGKRAGHYAFGLGKRGGSYAFGLGKRTPGYAFGLG  
KRPSNAYSFGLGKRSSSYQFGLGKRAGSYAFGLGKRAGSYAFGLGKRENPFYAFGLGKAGHYSFGLGKRSSPYAFGLG  
KRTSPYAFGLGKRTPYAFGLGKRTPYAFGLGKRTPYAFGLGKRDDSSSSSGLGRRSGSYSFGLGKRVPGSYAFGLGK  
RETNDDEDDQPQEPTGAS\*

#### A-type allatostatin3 (AST-A3)

+YAFGLGKRDSLEKRPQHYAFGLGKRDFNSYLDKRPQHYAFGLGKRRESNLDLGRKRPQHYAFGLGKRRES  
DLEKRPQ+

#### B-type allatostatin (AST-B)

MMQQHALRNASLLALMVIQVAVTQTLTTALDLPVPETPHTEV**KRADWSSMRGTW****GKR**SDGDAVALEEPDD**KRSGWNKFQG**  
**SWGKR**SDEM TDAELQMAED**KRANWNKFQGSWGKR**DGDFDGTDD**KRGGWQNFQGSWGKR**TADLMAADD**KRGGW**  
**QNFQGSWGKR**DDDLMDAEE**KRANWNKFQGSWGKR**NNWSSLQGSWG**KRD**IPAEILEELE**KRGGWSSLQGSWGKRAW**  
**QNLHGAWGKR**NNPAESTDDVVDDEDEQE~~EE~~EALQRALLSPVALARLMNASPQ**KRGWTLWGKR**PQYPARVAP**RSAN**  
**WSSLRGTWGKR**SGDWSSLRGAW**GKK**NADWSQFKGSWG**KRAL**GDEDAASQVA\*

**C-type allatostatin (AST-C)**

+FSSSSSSPTSDHSPSPSINTHTQRIQ**KRT**VGKEPSPEELAVLKDILSRVASELSENREQQPLA**KRV**KEESERQKEA  
EEEAKEAEKEAMLAEAKA**KRM**FGGSPLSGLPGELPTM**KRQIRYHQC****YFN**PISC**FRRK**\*

**C-type allatostatin (AST-CC)**

+PPANMNGRAGGGSTTSWAAGRSNPQHGRGSRPCCVSNKSGPSSSSSFSTSQRSIPLLLLLLLGILLPFVMPAAAAAVP  
HVAPQRPMYIEARPVMTNSAMPSPAPQVVLQIQIPDNVPPRKRAAIVLDKLMFALQKALDDTPNATPPGPQQDFPRN  
RAFAAGPMDLQ**RRGN**NDGR**LYWR****CYFNAVSCF**\*

**C-type allatostatin (AST-CCC)**

MMVARSSVAFVLVALMAVLAMTSVEAKAIPDREPQGYAQGQQLMDLQLPYGNHLVDDDGSLDTALINYLFAKVMVDRL  
RNNVDVKDLQR**KRSY**W**KQCAFNAVSCF****GKRK**\*

**Bursicon hormone alpha subunit**

MSSRRMISIMGVALTLVGVLMSDIAFA**DECSLTPVIHILSYPGCNSKPIPSFACQGRCTSYVQVSGSKIWQTERS****CMC**  
**CQESGEREATVTLNCPKARVGD****PKRRKILTRAPVD****CMCRPCTDVEEGTVMAQEIANFIADD****PMAHVPFLK**\*

**Bursicon hormone beta subunit**

MWSWWTWIVVFVIGVCQMTHA**KGYRSE****CE**TL**PS**TIHISKEEFDEAGRL**IRT****CEEDLAVNKCEGS****CLSKVQPSVNT**  
**SGFLKDCRCCRETHLRSREVLTHC****YD**V**DGNRLVGGKGLSLKMSEPAD****CQCAKCGDSTR**\*

**Calcitonin**

MRHGCWLACISMMAVVATVLSAHVQPIPESELMEIPERLRELLVRKLISSLNAAEPLPELQARPGQTIR**KRTC****YINAGLS**  
**HGCDYKDLVGAMAEKNYWDLSN****SPGRRRR**SLENSYSSSSSPSSSSSSSSLYPSSSSSSSSPSSGLDYQASVSLEASGET  
Q\*

**Calcitonin-like diuretic hormone (DH31)**

MNNSALVFISLVA~~AA~~FFVSSVNSAALNRETRAVVEIDDPDYVLDLLTRLGHSIIRANELEKFVRS~~SS~~GA**KRGLDLGL**  
**GRGFSGSQA****A****KHLMGLAAANFAGGP****GRRRR**SSDDNGLQNPHEEDNYTQDHHDAVATNAAAGSTR\*

**CCHamide**

MSSLKTYSFLLIFPLVIVCSPVTSARR**V****PKGGCLNYGHSC****LG**AH**GKR**ASPSAISPSMLGVLLLEASSRPGELAVLSHSRG  
DAAVGTN**TL**HRAVSHHNRYP**S**ARIVSSPTAQE**DEE**AMARAAMPDTFR**S**LLASRLN**GRD**VRSRDGVDEESEADV**V**PMN  
VEDYADDR**IR**SAVEKVPVSKGGQKEISDEWEQEKEGNNHREENDNRNLRYETWL**RR**\*

**CRF-like DH44**

+QQQQQQPPLSLEDLPSQDFTQDDIQQLLARHPDNAPAA**S**IPSLNSYDGSEGLPYVYRLQEGLAGAGLPSSGLASDVT  
NLDNPDWMTIDPRYLLSQYLDHP**EE**ATDS**SGS**NSMTPVRKIRDSSNPSSVSSSSNSNFDNSNSKAKRTWPHGFS**RRRN**

SGLSLSIDASMKVLREALYLEMARKKQRQQLRARHNQALLTTIGKRDVQRQLQQQELEDDQQEHLRAERI\*

**Crustacean cardioactive peptide (CCAP)**

MSHHQSIGRTVSLAAALLLLVLVQATASPVAKRDIGLLDGKDKRPF~~C~~NAFTGCGKKRSDASVEALASGAEL  
DDLAKHVLTEAKLWEQLQNKMEVMRSLAARMDDHPLYRRKRSPAPESRQQQITASSQQQQKTENQ\*

**Crustacean female sex hormone 1a (CFSH1a)**

MAPHRPPSSTRFCSSLTLVGAVVLALAAQQGKSDLDLPAPYPKPFLEWEEDDLRDFKWSDALRNSLKR~~N~~KGDD  
ELGNDPLQYFSEEQVNAAMKA EYKVVPHPVVYTSQILREGVN~~C~~SSIRMNLHRNHVKPELQLRPDWIHKSDFIGD~~C~~PAH  
YVTKELPPMYS~~P~~AVILEAV~~C~~T~~C~~GG~~S~~Q~~C~~SRSGHQ~~C~~VPVSRHVPVWVRRGPNFH+

**Crustacean female sex hormone 1b (CFSH1b)**

MEQHSHSKSPLRLCLMASFCLAAFLQEPSEATLNLPYQLGSGGWDENIPKHIKWRAEAIRILKQDELSTDKLQ  
YFSEDQVNEASKLEYKVVPEPIMYTSQIIHKGVN~~C~~SSIRTGLHKNHIRPELQLHPewIHTSELIGS~~C~~PTHYVTKELPP  
MYS~~P~~SVVVEAV~~C~~T~~C~~SG~~S~~K~~C~~SREGHQ~~C~~LPVSRYPVWVRQGNFHVLDVEEITVAC~~C~~VRRPSASGNFIYASAVHS\*

**Crustacean hyperglycemic hormone1 (CHH1)**

MVPNSLMWSAVFLVGLAFSWTTSASARSADGLARIERLLASSASESEPSTALAVQEEDQAVSKRAILDQSC~~C~~GIYD  
RELFRKLEKVC~~E~~D~~C~~YNLYRKAHVGV~~E~~CR~~S~~NCYGNLIFRQ~~C~~LDDLLMMDVVDEYIKKVMV~~G~~K\*

**Crustacean hyperglycemic hormone2 (CHH2)**

MICNGTMWSTLMVLVVLSSNSNPAMARSAEGLARIEKLLSSSSSASPSVPSQPSSPLTAALTQRGHSLPKRAVL~~D~~Q  
S~~C~~KGIYDREL~~F~~FKKLD~~R~~V~~C~~E~~D~~CYNLYRKPYPV~~G~~ID~~C~~RRN~~C~~FLTKTFDQ~~C~~VVDLLLDEKEFGEIRDHVAFI\*

**Crustacean hyperglycemic hormone3 (CHH3)**

+MARS~~A~~EGLARIEKLLSSSSSASPSVPSQPSSPLTMDFTQGDHSLSKRAVL~~D~~H~~S~~~~C~~KGIFDREL~~F~~FKKLD+

**Crustacean hyperglycemic hormone4 (CHH4)**

MWSTLMVVILVGLSNNNSAMARSAEGLARIEKLLSSSPSSVPLVPSPLTEHSLRKRTVLDQSC~~C~~KGIFDREL~~F~~FKKLD  
+

**Crustacean hyperglycemic hormone5 (CHH5)**

MISDNMLRTTSSVLVVLVSSQSLVQSAEDLRPIQKLSASSSSPSDGLGSLVKGHPIAKRSYGMSC~~C~~KGPGYSPEL  
FQQLSKV~~C~~DG~~C~~YNMYRQY~~E~~ID~~E~~CR~~R~~N~~C~~FGTGVFLQ~~C~~VAYQLDVEEHMGIREAIAEF\*

**Crustacean hyperglycemic hormone6 (CHH6)**

MFSYSTEMWMSVVLVGVFLSSNSISLVQSATTVRDIDNLS~~S~~SSSSSSSLTSPVKGHGITKRS~~L~~GK~~S~~~~C~~KGMHFDIEL~~F~~QKLD  
KV~~C~~EV~~C~~YNLYRRADVAIE~~C~~RRN~~C~~FGT~~S~~VFRQ~~C~~VAAQLDVEEHMDIQQAIAADF\*

**Molt-inhibiting hormone/gonad-inhibiting hormone1 (MIH/GIH1)**

MVFSTTPNFVQRAVATAILIVSLLVSGTSA~~R~~YLD~~E~~CPGV~~M~~GNRDLYEKVARV~~C~~DD~~C~~SNIFRKN~~D~~VGAR~~C~~RK~~D~~C  
FYNE~~D~~FLW~~C~~VYATERYDDVEQLNRWMSILKAG~~R~~K\*

**Molt-inhibiting hormone/gonad-inhibiting hormone2 (MIH/GIH2)**

MPAQLRQRVSLRSLTSLVLTAVFGLLVADETSARFLDDECKGVMGNRDLYEKVVRICDDCDNIFRLNNIGHKCRK  
NCFYNMDFLWCYATERREELDQLNRSMSILRAGRK\*

#### CHH-MIH-like peptide

MSQRSCCQSSYSQFILVLGLLLLTQNAANRYIRLRPNTYKEFQFLKCGEFDKQYSALNRLCDDCHNLFRDPEVL  
LECKADCFQNSLFPACVSAALLLDHKKPELNKMIYTVSGRKPLAYSLVNDSSAMASLT\*

#### Ecdysis triggering hormone (ETH)

MSWMVAVAVLATMVSLAHS DAGHFFAETPKHLPRIGRRGDLPLVNLNLEEPRGSSGGAAGSSMTEALAKVDGSD  
GCVLSSELLRIPIIRIAILLQNPALITPHVDAEANESSDVYASDRRPEPRLLRYLKK\*

#### Eclosion hormone (EH)

MSFKAQVRFAVSVVCLIVLASLTEASITSMCIRNCGQCKEMYGDYFHGQACAESCIMTQGVSIPTC\_NNPATFNRLKR  
FI\*

#### EFLamide

MIAGWQCVLPSLILCCTLCSTHPTLRQDESKAVVEKRSSGYPYDPVLHLFLVAMSNPKTNQQSPQLNLRGVRRIGSEFLG  
KRSVENVEDHKITPRCDDCSEDADDLKKEQLSYTGQYDYDDERKTTEASENSDQNTYDAPVKRNVRGFYGGPNRDG  
LKNFFSLLMSKKGSEFLGKRMGSEFLGKRAMGSEFLGKRAMGSEFLGKRAMG+

#### FLRFamide

MMIIAAWISLGALSCCTYALAPPVVSGLPPTSDSGNSENLSVPDKRILKYLLPSSQSWGEGANAPVPTGQEGSKRQYV  
DRNFLRFRSEGEKRDVGNFLRFRGGGEDYEDDEYLSPALTDVDKDRNFLRFRPDLEEFGMETSPLAFGQGLKE  
EDLVENEKRAAHKNFIRFRGNKNFLRFRNYNKNFLRFRSVDSQTFCEDCEDSNINKHSTSSSSSSSSNL SAGHGI  
ESNNKHLNEAIPSEVSDSSAASEERDTRRSKRSA PMYYDYAVVPSHSPASWAREFQPAEEEEVDDELVDLQDVS KRNA  
YNRNFLRFRDRNFLRFRKREPSDSSVMVMAPAQYPRIIRASNRNFLRFG\*

#### Glycoprotein-A2 (GPA2)

MVKVWIVLVAYLVASSAAFQHAWQTPGCHKVGHTRKISIPCEVEFDITTNACRGYCE+

#### Glycoprotein-B5 (GPB5)

+VTLGAAWLLVLVLLMPVAAIDPISTLECHRRQYTYKVHKSDDDEGRMCWDYINVMSCWGRCD SNEIADWKFPYKRSH  
HPVCMHETTQLTEVTLRHCDDEDASPGTELYTFHEATRCSCSVCKSSEASCEGIRYRGARRAPRAEIPRG\*

#### Hyrg1

MNLLGFIVVIMAAIFGVSQAYPEPAVIVDGRPNMIPDGYIQAPRFHYRGFQKPIPKYDWS\*

#### Hyrg2

MNVLGFIVVILAAIFGISQALPEAAVIVEGRPNRAPDDGYVQAAPRFHYRGFQKFPV PKYDWS\*

#### Insulin-like androgenic gland hormone1 (IAG1)

MEPGHLSALLLLSLSVLLILLPHSTCGYEIKCLAHFDCGNLSGTLSTCKTYDYDYRERRSVDLDSLLEN SHSH  
NAGGIPIKIFGEMSREDANQVLKSRGGRYRRSYVTAYDECCRVDDGGPHCTYNEVVGYCEELHAGVNTCNRSPG  
H\*

**Insulin-like androgenic gland hormone2 (IAG2)**

MGPAYLSMVLLLSSTYLTLPPQETS<sup>G</sup>YNIT<sup>C</sup>LA<sup>F</sup>DFD<sup>C</sup>Q<sup>L</sup>ADTMS<sup>L</sup>LL<sup>C</sup>CK<sup>V</sup>YRSHIDE<sup>R</sup>RRRS<sup>V</sup>NQ<sup>S</sup>Q<sup>P</sup>SLR<sup>N</sup>FQ<sup>G</sup>IR<sup>T</sup>  
LPFKMYEELTQ<sup>E</sup>TTNTSLNIRGG<sup>R</sup>F<sup>R</sup>RN<sup>T</sup>RRNTTVYNECC<sup>Q</sup>QP<sup>N</sup>C<sup>T</sup>YNDLREY<sup>C</sup>EILQDGIY<sup>T</sup>C<sup>\*</sup>

**Kinin1**

+NAWAG<sup>K</sup>RADDLD<sup>K</sup>RQ<sup>S</sup>FSAWA<sup>G</sup>K<sup>R</sup>ESDPE<sup>K</sup>RQAFNAWA<sup>G</sup>K<sup>R</sup>GTEAT<sup>K</sup>RQ<sup>S</sup>FSAWA<sup>G</sup>K<sup>R</sup>NDDFE<sup>K</sup>RQAFSPA<sup>G</sup>K<sup>R</sup>  
DLENQHAFSTSSATQTRLNE<sup>K</sup>RQAFNAWA<sup>G</sup>K<sup>R</sup>YDENFNNADNHDETL<sup>L</sup>TLHNLNKQIYNVPLRKDSL+

**Kinin2 (maybe artefact)**

+NYDK<sup>R</sup>QAFSAWA<sup>G</sup>K<sup>R</sup>NNDFD<sup>K</sup>RQ<sup>G</sup>FSAWA<sup>G</sup>K<sup>R</sup>DDDL<sup>D</sup>K<sup>R</sup>Q<sup>S</sup>FSAWA<sup>G</sup>K<sup>R</sup>DDDL<sup>T</sup>K<sup>R</sup>Q<sup>S</sup>FSAWA<sup>G</sup>K<sup>R</sup>DDDL<sup>D</sup>K<sup>R</sup>Q  
AFNAWA<sup>G</sup>K<sup>R</sup>DGDLD<sup>K</sup>RQAFSPA<sup>G</sup>K<sup>R</sup>NDDL<sup>D</sup>K<sup>R</sup>QAFNAWA+

**Myosuppressin**

MVFGSSFSAWCSLFFVSVAVAMAVFAGVGEAMP<sup>P</sup>PICTDPK<sup>L</sup>PLSPYAQK<sup>L</sup>CTALT<sup>N</sup>IAEFSRAMEEYLDAK<sup>V</sup>IKNSMPV  
NEPEV<sup>K</sup>RQ<sup>D</sup>L<sup>D</sup>H<sup>V</sup>FL<sup>R</sup>F<sup>G</sup>RS<sup>Q</sup>Q<sup>\*</sup>

**Natalisin (WXXXRamide)**

+NPYWIS<sup>R</sup>G<sup>K</sup>KEDSNLYSLVSDKEPSEINPFWVAR<sup>G</sup>K<sup>R</sup>EGESNPYWIAR<sup>G</sup>K<sup>K</sup>EPETAPYWVSR<sup>G</sup>K<sup>R</sup>TSDASSFWVSR  
G<sup>R</sup>KSDPKNSGKDDPSFWIAR<sup>G</sup>RRN+

**Neuroparsin1**

MKSCIVYIMLSVFL<sup>L</sup>LL<sup>L</sup>LQ<sup>N</sup>SEG<sup>A</sup>PR<sup>C</sup>TQ<sup>H</sup>DRPPAEK<sup>C</sup>VY<sup>G</sup>TVLDW<sup>C</sup>RNLV<sup>C</sup>AKGPGESC<sup>G</sup>GHQWEMG<sup>K</sup>CGEG<sup>T</sup>FC  
SC<sup>G</sup>E<sup>C</sup>T<sup>G</sup>C<sup>S</sup>VITEV<sup>C</sup>YPSALV<sup>C</sup>\*

**Neuroparsin2**

MEKMLSTR<sup>T</sup>LLV<sup>N</sup>IL<sup>L</sup>VL<sup>I</sup>ALISE<sup>S</sup>CG<sup>A</sup>PN<sup>C</sup>STR<sup>R</sup>HHEV<sup>N</sup>C<sup>T</sup>Y<sup>G</sup>TYVDW<sup>C</sup>RNTV<sup>C</sup>AKGPGQT<sup>C</sup>GGQW<sup>E</sup>RG<sup>K</sup>CGEG  
TY<sup>C</sup>T<sup>C</sup>G<sup>F</sup>C<sup>S</sup>G<sup>C</sup>SVDIE<sup>C</sup>WFG<sup>T</sup>FC\*

**Neuroparsin3**

MNQSRSVLFMVFAVFL<sup>L</sup>LL<sup>L</sup>TQ<sup>F</sup>IKAS<sup>P</sup>H<sup>C</sup>PS<sup>T</sup>RRIEEDLSK<sup>C</sup>QY<sup>G</sup>T<sup>A</sup>IGW<sup>C</sup>GNL<sup>E</sup>CAKGPGER<sup>C</sup>GGNWL<sup>E</sup>HGSC<sup>G</sup>EGM  
Y<sup>C</sup>G<sup>C</sup>G<sup>Y</sup>C<sup>A</sup>G<sup>C</sup>FIVE<sup>C</sup>APR<sup>K</sup>FC\*

**Neuropeptide F1 (NPF1)**

MRHTAALATSKSMVIVAVAVASLLMSSASS<sup>A</sup>RTDNTAEVLQAMHEASLAGMLSSAEVPPSRPNVFKSPVELRQYLDA  
LNAYYAIAGRPRF<sup>G</sup>K<sup>R</sup>GGSTPLRSTSQDDLFDY\*

**Neuropeptide F2 (NPF2)**

MFTRAGQVWAALLVGVVVVSVMQMGGVEG<sup>K</sup>PDPTQLAAMADALKYLQELDKYYSQVSRSPRSAPGPASQIQALEK  
TLKFLQLQELGKLYSLRSRPRF<sup>G</sup>K<sup>R</sup>SEYAVPPGDALMEASERLLET<sup>L</sup>ARRR\*

**Orcokinin**

MTVQAFSALLLTCALFFVVASAN<sup>P</sup>VKTATNGATAAQHDAGYTDNAPV<sup>K</sup>R<sup>F</sup>DSFTTGF<sup>G</sup>H<sup>S</sup>K<sup>R</sup>NFDEIDRS<sup>G</sup>FGFN<sup>K</sup>R<sup>N</sup>F  
DEIDRS<sup>G</sup>FGFN<sup>K</sup>R<sup>N</sup>FDEIDRS<sup>G</sup>FGFN<sup>K</sup>R<sup>N</sup>FDEIDRS<sup>G</sup>FGFN<sup>K</sup>R<sup>N</sup>FDEIDRS<sup>G</sup>FGFVRRSAE\*

**Pigment-dispersing hormone1 (PDH1)**

MQSGLVAALVLMVAVSTMMTSAQEELKYPQVVAELAAQILRLARGGPWGTVAAAAGPHKRNSELINSLGLPKVM  
NDAGRR\*

**Pigment-dispersing hormone2 (PDH2)**

MQSKIVVVVALMVAVAFSLAAAQQYDLLTTEKQLVSELAQILRVTHLPWTDASAKRNSGMINSLLGIPKVMTDAGR  
K\*

**Proctolin**

MARTVLVVLMAALVLVATVSEARYLPTRGDDSRLEEIRELLREILERTADGNSSSGSMNSRTAAAGFGYDKRYIYKRSVA  
GDNMAQAAVAAPALNGGERMPQLFNLAQ\*

**Pyrokinin**

MLLLLITSSSSSSSSSQPEVNSNNDVDVGSWWWSKAAIRRSPFSPRLGKRDEAHYGLVYDDDDDEEEDDFDFTD  
DDLNDIFEDSAAQSYSDETEVEVSPQLAVRSALVPRLGKKAFAFSPRLGKRVTAFIPRLGKRGDFAFSPRLGKRGDFAFSP  
RLGKKAFAFSPRLGKRGDFAFSPRLGKKAFAFSPRLGKRGDFAFSPRLGKKSDFAFSPRLGKRGTAFIPRLGKRGTGA  
STSPSEDSWRTNANDVSQQLQQRSVAFSPRLG\*

**Red pigment-concentrating hormone (RPCH)**

MVRSGISLVAVLVLVSCVSAQLNFSPGWGKRATVTGGAGSEGGAQIHSASGLALPAAASTVARGTAGDNCATIPSTVM  
HIYRLIKREAS+

**RYamide**

+SSPSQSELPEIKIRSSRFIGGSRYGKRSGTAMVPDVSSVPSVSEDDSEAPATLLVGDVSVCLLIDLPDIYKCLKKTANEE  
TN\*

**Short neuropeptide F (sNPF)**

MGVGVLKWCAAALFCCLILAQVASSMPAEPDYDALNDVYDWLSSHGVERRGPPSMRLRFKRGSGIRSWQQVSRSE  
PSLRLRYGKRTVTDEAEPLLDHELVRKDRTPALRLRFKRTSDYDQDEPFQDTRVQRDRAPALRLRFKRDVATYQGE  
ETGTGVAAATATASQEQ\*

**SIFamide**

MSVQTRLVVAVVVVLLVAVFTDHASAGYRKPPFNFSIFKRSGGDALYEPGKALASACQVAVEACAASFPGSEKK\*

**Sulfakinin**

MQSVMRTTSLTCAALVALVAAAVLVSGEVAASKPSLALARRLAPAIRHKLEGGHFSPALMEEIVADFPELMDFYDAE  
KRQFDEYGHMRFKRAAGGDYDDYGHLRFGRSLGQNRQLPKRH\*

**Tachykinin**

MMRAGICLVLMGVLMLGVVASVVDVDAQEPSERERRAPSGFLGMRGKKNDYLLQEDDYLMNDPIAARIEAAKSLPIRG  
KKAPSGFLGMRGKKSDEEVYGNLDADYELALLKRAPSGFLGMRGKKAAPSGFLGMRGKKAAPSGFLGMRGKKNYDD  
DVEMDALIEALSAMAEGQHQRAPSGFLGMRGKKNYDDQTDSEDDLTAGGVDKRAPSGFLGMRG\*

**Terminal ampullae peptide (TAP)**

MKWFALFLLMAMVCVSSQEDIYSKSEAQIEILGPLLKKLLMPRPRPVYQIHQLLRVHVEKCCNAQPVMDCCTPA  
MCCQLSLDSCCKK\*

**Trissin**

+EVS<sup>C</sup>GS<sup>C</sup>GLE<sup>C</sup>QK<sup>A</sup>CGTRNFRA<sup>C</sup>CFNFQ<sup>R</sup>RRRSQAPSSSHSLKGLEDP<sup>E</sup>AVDIHLVLKSPVTAVSRSHESQLPNIIRFISR  
LADDSFRSPVQLKDLQLYHPAIP<sup>S</sup>FLQSSSEDEEEEEVEEVELEERDNGLT<sup>P</sup>RSQGV<sup>A</sup>EGRSLPFG<sup>E</sup>A<sup>G</sup>AGSGVEADTLN  
RLVEMAYRHPSSPSSSSLLHRQIQQAHYPPSPSKIRK\*

**Vasopressin**

MQLSVVLVVISLIMGYGNA<sup>C</sup>FITN<sup>C</sup>PPG<sup>G</sup>K<sup>R</sup>SMPSSHIGHTRTCTSCGPGLQGR<sup>C</sup>MGPEICCGEGIGCFLGTREAQICRTE  
NLIPVTCNNSDLKTCGAARSGRCASEGLCCTEAKCEFDIRCIQDGG<sup>S</sup>QIGRRIPFSSTDTEDQWNL\*