Supplemental data 1:
Known or predicted (fgenesh++) neuropeptide precursors. For the predicted genes that have expression evidence, the EST identifier is included in the description line.
xxx shows the signal peptide (SignalP 3)
xxx shows the neuropeptides characterized by mass spectrometry
xxx shows the flanking (di)basic cleavage patterns

>gi|115944736|ref|XP_001176287.1| PREDICTED: hypothetical protein [Strongylocentrotus purpuratus]
MYVNALTFPLAVAIFLVGLAILPGMLAEDGMELTHDEQPLNAMEIRSPQDEQIDLRYLLQNFLDNRDTRS
WSPLRNSKQCIGDKCRYAWKRGFETPASSRINSRGAPAWATSQFSNGGCSGSSCLTGWKRGFRVLPQLND
DDN

>gi|72008820|ref|XP_785647.1| PREDICTED: similar to pedal peptide precursor protein [Strongylocentrotus purpuratus]
MKFSGNGRGAFLVVNLIFVLCLVDHMAECRPARKTRDVDEDLEKEEDSLINALEKVLADEEVIDNAENDS
DDETGITDRELSLMLSMLRDDVSPSRLRGYFGGKWRPAYYPSESLHVGALEPLATGFLPSRYSGQKKRFL
TGALEPLSSGFIKKGFNTGAMEPLGSGFIKKGFNSGAMEPLGAGFFKKGFNSGAMEPLGAGFFKKGFNSG
AMEPLGAGFFKKGFNSGAMEPLGAGFFKKGFNSGAMEPLGAGFFKKGFNSGAMEPLGAGFFKKGFNSGAM
EPLGAGFFKKGFNSGAMEPLGSGFIKKGFNSGAMEPLGSGFIKKGFNNGAMEPLGSGFIKKGFNSGAMEP
LGSGFIKKGFNSGAMEPLGSGFIKKGFNTGAMEPLGSGFIKKGFNSGAMEPLGSGFIKKDFNTGAMEPLG
SGFIKKGFNSGAMEPLGAGFFKKGFHAGAMEPLSSGFIDGKRGFYNGAMEPLSAGFHQGKRGFHEGEMDK
DKKGFHNGAMEPLKSGFLKD

>gi|115839524|ref|XP_001175944.1| PREDICTED: hypothetical protein [Strongylocentrotus purpuratus]
MQPNSIISVAVVMTLATLFTQAVCSLQFETTQDRVPAKRLFWVDKKDHPVDTDFFTVRANDAEEVLDCFV
EVCIADFVNCAKKCLFYENGNTCLPTCRHTRSICSVQCFKRYDVDVSDSVH

>gi|72007133|ref|XP_799858.1| PREDICTED: hypothetical protein [Strongylocentrotus purpuratus]
MWYVILSMLLLGALASSEYSGMSLRDRIALRNLLMNSNYYDFPLAPSQRDLENTATNSKVVIPPLTFIAG
GAGEGVQHLGAEGDIPNRQNPIPEVSSQYDNPPNPCPPGGELTGKVKVYSKVHRHQVCACEKGWEAGERR
DCSSAPKCCLPNMPNDAEFVNQYQLSERSLKNRQLFTQTRNKYSVGDKRSDHMAKKSPVYKRSINSYLPG
DMVRHVSKKSAYPIRTYVNPYTYNQPHLKSVVAKKAPVYSGAKPIM

>gi|115933326|ref|XP_001199000.1| PREDICTED: similar to arginine/serine-rich splicing factor 4 [Strongylocentrotus purpuratus]
MSRNAYLWAGLLLGALCLLITTTSIKADGEVTEDVDKRANYFRGRGRKPGKRDEPDAALVPDDDLSEDKR
ANMFRSRLRGKGKRDDPDAAMLPGDWDEEKRANMFRSRLRGNGKRDDPDAAMLPGDWDEEKRANMFRSRL
RGKGKRDEPDAAEALVPGDWEEEKRANMFRSRLRGKGKRDDPDAAEALVPGDDLSEEKRANMFRSRLRGK
GKRDDPDAAEALVPGDDLSEEKRANMFRSRLRGKGKRDDPDAAEALVPGGDLSEEKRANMFRSRLRGKGK
RDDPDAAEALVPGGDLSEEKRANMFRSRLRGKGKRDDPDAAEALVPGDWDEEKRANMFRSRLRGKGKRDD
PDAALVGDDFGDEFVDEEKRANMFRSRLRGNGKRDDPDAALVDEFMDEEKRANYFRGRGRRPGKRDEPDA
ALVEDEKRANFRARQRPKLGK

>XP_001175555 PREDICTED: hypothetical protein [Strongylocentrotus purpuratus].
MKSTVIVTLTICCLLYQTTRAASLTNRDGLSRQDILDLLQLYEEPIRQEGGDKRSKGCGS
FSGCMQMEVAKNRVAALLRNSNAHLFGLNGPGKRRRSVDDLPQVNDAETE

>gi|185134999|ref|NP_001116993.1| GnRH-like tetrapeptide [Strongylocentrotus purpuratus]

MWACILGYVTWGGAALPTILGKELVLSENDGPEIADWVQGKEIPLRNQYWGDVAEEEEEEELGMLSPDSE
KRQYPGGKRQYPGGKRQYPGGKRQYPGGKRQFPAGKRQFVGGELIPSPELRQWPGGKRQWPGGKRQWPGG
KRQYPGGKRQYPGGKRQWPEVKRQYPGGKRSEDDQDLLPMEIRQYPGGKRQWPGGKRQYPGGKRQYPGGK
RQFPGGKRQFVGGEALEQESNINKRFAPEDDTMDFFRLSQLYDTNDNIVADEGELALEDLLDDIMVDTRP
EFEDPRDLLLGNVDQEDVLALDLSALLGDRNPNNGW

>gi|3328383|gb|AAC26833.1| thymosin beta [Strongylocentrotus purpuratus]
MADKPDVSAVSSFDKTKLKKTETEEKNTLPTKETIEQEKTA

>gi|115666438|ref|XP_001175484.1| PREDICTED: hypothetical protein
[Strongylocentrotus purpuratus]
MNSLILVVMGLLLLTAELIPAAPAPYFDEDAMDLMDPVFNFKDDSAVKRSPMLQKSCIYTCLACSKNTQM
TMPECIYGCQSAGRDPSQARAYNACHKYLHSGR

>gi|115963204|ref|XP_001186882.1| PREDICTED: similar to LFRFa precursor
[Strongylocentrotus purpuratus]
MRVLVALALCLCFIAPSPVLSFTMPEEKFVENKMADVGEEGTGQNNINSIAKSLIREVFGAAEEREMEAE
NEAEDEAELSLSKRTTGSTRPQREIRARAQYAARRPPVTTRSKFTFGKRSSPTPVISRPLAEQLLEELQR
NAEMSDDWRESDKLALLNDAALYDSLVDSHQVQKDAYSAFSFGKRGMSAFSFGKRAQPSFAFGKRGLMPS
FAFGKRPHGGSAFVFGRRDWAPREQDFANAAEESGPYKRGDLAFAFGKREDQ

>gi|115936357|ref|XP_001175691.1| PREDICTED: hypothetical protein
[Strongylocentrotus purpuratus]
MKSVYQVVLAFLAVLVCVAWTCQAYGLDQDEYRRGAAENALDEQEIYEIIESLEHAMSKRGSVKHLGLAN
VDNWRMMKNVNRLRNLLNSGKRSDQQLDSQ

>New_Precursor_GSTPEDIA (3 exons, 112 aa), EST(BM322032)
MGALVFANKREFDVGKAPLAYLIRLFDLKHEANSHREWLITFPQQKQDLAAILDQLHNTYQMARKRNFCN
DFFLDSLAQDFCMRKRGSTPEDIAELVSRNRRETVDEMTDME

>New_Precursor_FGGANEPM (2 exons, 184 aa), EST(CD294941)
MNNYAFLFCLACAIGQVWTLPIEDKDGLDIEDQEEAEKRFGSMNMEPLVSGFYKRFGSGLDSMQSGFYKK
NFGSGLNMEPMQSGFYKKNFGGSMEPMQSGFYKRFGGAMEPMSSGFYKRFGSGSLEPMSSGFYKKNFGGS
LEPMQSGFYKRFGGANEPMRSGFFKRFGSGSLEPMSSGFYKKNFGGSLDAMQSGFYKRSQEETD

>New_Precursor_GYPRNSVV (2 exons, 135 aa), No EST
MVTDTTRLLLLAAIFSVFLACLPSLGQCFVVYEEDVDEDSENDGEWKRGYPRNSVVADPVLRSPVTYKSM
SKYLQGLASRRFVRDPQMDKRQVNVGLRLVSMDAIRNHINQLADSRSRQKLRHNQNLMDRVGRRR

>New_Precursor_DAGPAWYG (2 exons, 235 aa), No EST
MALNRLKVACCVVFVYLCLALLTSAKEFSPLTGDDFAKNYDPQPWGVDNPAPMNLQDPQNTFYNEADVGK
ELDEKRGTKNDRLRGLRRLSRLYGELGLDRLRPVKKTPETADDMYSLDDKRNDAGMPKRDAGPHAWYGTG
MFGKRTDENRGRWRIRSPRPQPYRVGLFGKRDFETVDMNELAQIIEAIREQQKQQMQKPCTILSLLISHP
YCYYFKYYNDDGDDDEDDNILVQLC

>New_Precursor_LPANLARE (2 exons, 44 aa), EST(EC439560)
MELRLFLLVVLFCALATSLPANLARERRTTNPVLRDKDPTNNSL

>New_Precursor_LYDALKNA (3 exons, 98 aa), No EST
MYHKTTTVALAVLLIALVSLSDASNYWRIKNKGRNARYTARSPRLYDALKNAQVKRYAGIEDVEAAEEPV
DTWLRDWVISNRNFIRGTLFDDTYTNEV