**Data from:**

**Transcriptional identification of genes light-interacting in the extraretinal photoreceptors of crayfish *Procambarus clarkii***

**Zookeys manuscript #73075**

**APPENDIX S1: Alignments comparing protein sequences of *Drosophila* and *Procambarus clarkii* (pleonal nerve cord, and the eyestalk)**

**APPENDIX S2: Nucleotide sequence list referred from Tables 1-7**

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**Abstract**

Crayfish is a model for studying the effect of light on locomotor activity and neuroendocrine functions. In this study, we have described 62 transcripts from the pleonal nerve cord of the crayfish, using bioinformatics tools that identify phylogenetic families of genes related to the light interaction in the extraretinal photoreceptors. We deposited all sequencing data in the GenBank database. Here showed supplement data from the freshwater crayfish *Procambarus clarkii*. The results suggest that the genes related to ocular and extraocular light perception in the crayfish *P. clarkii* use biosynthesis pathways and phototransduction cascades commons.

**Keywords:** pleonal nerve cord, caudal photoreceptor, photoresponse, phototransduction, opsins.

**APPENDIX S1:** **Alignments comparing protein sequences of *Drosophila* and *Procambarus clarkii* (pleonal nerve cord, and the eyestalk)**

AAA28902.1 calcium-activated K+ channel subunit, partial [Drosophila melanogaster]

QIA97593.1 calcium-activated potassium channel transcript variant 4, partial [Procambarus clarkii]

Alignment statistics for match #1 Score Expect Method Identities Positives Gaps

513 bits(1320) 8e-179 Compositional matrix adjust. 241/263(92%) 253/263(96%) 0/263(0%)

QIA97593.1 1 MSTVGYGDVYCHTVFGRTFLVFFLLVGLAIFASCIPEIIDLVGTRSKYGGTLKNERGRRH 60

MSTVGYGDVYC TV GRTFLVFFLLVGLA+FAS IPEII+LVG+ +KYGG LK E G+RH

AAA28902.1 283 MSTVGYGDVYCETVLGRTFLVFFLLVGLAMFASSIPEIIELVGSGNKYGGELKREHGKRH 342

QIA97593.1 61 IVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRHFTTVEFFQGS 120

IVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRHFTTVEFFQG+

AAA28902.1 343 IVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRHFTTVEFFQGT 402

QIA97593.1 121 IMSPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDIRVIIQLMQYH 180

IM+PIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDIRVIIQLMQYH

AAA28902.1 403 IMNPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDIRVIIQLMQYH 462

QIA97593.1 181 NKAYLLNIPSWDWKRGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMRSYKTSPDMQA 240

NKAYLLNIPSWDWK+GDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMRS+KTSPDMQ+

AAA28902.1 463 NKAYLLNIPSWDWKQGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMRSFKTSPDMQS 522

QIA97593.1 241 WQNDYLCGTGCEMYTETLSPSFV 263

W NDYL GTG EMYTETLSP+F+

AAA28902.1 523 WTNDYLRGTGMEMYTETLSPTFI 545

QIA97593.1 calcium-activated potassium channel transcript variant 4, partial [Procambarus clarkii]

Procl\_ES\_4724\_0\_eyestalk Full=Calcium-activated potassium channel [Procambarus clarkii]

Q03720.3|SLO\_DROME RecName: Full=Calcium-activated potassium channel slowpoke; Short=dSlo; AltName: Full=BK channel; AltName: Full=Maxi K channel; Short=MaxiK

AAA28902.1 calcium-activated K+ channel subunit, partial [Drosophila melanogaster]

QIA97593.1 ------------------------------------------------------------ 0

Procl\_ES\_4724\_0 ----------------------------MSDDSGPAHLSQTECLKVRKWWCFLLSSIFTF 32

sp|Q03720.3|SLO\_DROME MASGLIDTNFSSTLANGMSGCDQSTVESLADDPTDSPFDADDCLKVRKYWCFLLSSIFTF 60

AAA28902.1 ----------------GMSGCDQSTVESLADDPTDSPFDADDCLKVRKYWCFLLSSIFTF 44

QIA97593.1 ------------------------------------------------------------ 0

Procl\_ES\_4724\_0 LAGIFIVLIWRVFSFLCCRNRDPSEYQKQQEKDKLLAQQGKPPGQPKPKNLMEGNFVTEA 92

sp|Q03720.3|SLO\_DROME LAGLLVVLLWRAFAFVCCRKEPDLGPNDPKQK---------EQKASRNKQEFEGTFMTEA 111

AAA28902.1 LAGLLVVLLWRAFAFVCCRKEPDLGPNDPKQK---------EQKASRNKQEFEGTFMTEA 95

QIA97593.1 ------------------------------------------------------------ 0

Procl\_ES\_4724\_0 KDWAGELISGQTTTGRILVVLVFILSIASLVIYFIDASNIMEDGVEHCQPWSANTTQQID 152

sp|Q03720.3|SLO\_DROME KDWAGELISGQTTTGRILVVLVFILSIASLIIYFVDASS---EEVERCQKWSNNITQQID 168

AAA28902.1 KDWAGELISGQTTTGRILVVLVFILSIASLIIYFVDASS---EEVERCQKWSNNITQQID 152

QIA97593.1 ------------------------------------------------------------ 0

Procl\_ES\_4724\_0 LAFNIFFMVYFFIRFIAASDKLWFMLEMYSFVDYFTIPPSFVSIYLDRTWIGLRFLRALR 212

sp|Q03720.3|SLO\_DROME LAFNIFFMVYFFIRFIAASDKLWFMLEMYSFVDYFTIPPSFVSIYLDRTWIGLRFLRALR 228

AAA28902.1 LAFNIFFMVYFFIRFIAASDKLWFMLEMYSFVDYFTIPPSFVSIYLDRTWIGLRFLRALR 212

QIA97593.1 ------------------------------------------------------------ 0

Procl\_ES\_4724\_0 LMSVPDILQYLNVLKTSSSIRLAQLCSIFIAVWLTGAGIIHLLENSGDPLDFSNAHPLSY 272

sp|Q03720.3|SLO\_DROME LMTVPDILQYLNVLKTSSSIRLAQLVSIFISVWLTAAGIIHLLENSGDPLDFNNAHRLSY 288

AAA28902.1 LMTVPDILQYLNVLKTSSSIRLAQLVSIFISVWLTAAGIIHLLENSGDPLDFDNAHRLSY 272

QIA97593.1 ----------MSTVGYGDVYCHTVFGRTFLVFFLLVGLAIFASCIPEIIDLVGTRSKYGG 50

Procl\_ES\_4724\_0 WTCVYFLIVTMSTVGYGDVYCHTVFGRTFLVFFLLVGLAIFASCIPEIIDLVGTRSKYGG 332

sp|Q03720.3|SLO\_DROME WTCVYFLIVTMSTVGYGDVYCETVLGRTFLVFFLLVGLAMFASSIPEIIELVGSGNKYGG 348

AAA28902.1 WTCVYFLIVTMSTVGYGDVYCETVLGRTFLVFFLLVGLAMFASSIPEIIELVGSGNKYGG 332

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QIA97593.1 TLKNERGRRHIVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRH 110

Procl\_ES\_4724\_0 TLKNERGRRHIVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRH 392

sp|Q03720.3|SLO\_DROME ELKREHGKRHIVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRH 408

AAA28902.1 ELKREHGKRHIVVCGHITYESVSHFLKDFLHEDREDVDVEVVFLHRKPPDLELEGLFKRH 392

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QIA97593.1 FTTVEFFQGSIMSPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDI 170

Procl\_ES\_4724\_0 FTTVEFFQGSIMSPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDI 452

sp|Q03720.3|SLO\_DROME FTTVEFFQGTIMNPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDI 468

AAA28902.1 FTTVEFFQGTIMNPIDLQRVKVHEADACLVLANKYCQDPDAEDAANIMRVISIKNYSDDI 452

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QIA97593.1 RVIIQLMQYHNKAYLLNIPSWDWKRGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMR 230

Procl\_ES\_4724\_0 RVIIQLMQYHNKAYLLNIPSWDWKRGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMR 512

sp|Q03720.3|SLO\_DROME RVIIQLMQYHNKAYLLNIPSWDWKQGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMR 528

AAA28902.1 RVIIQLMQYHNKAYLLNIPSWDWKQGDDVICLAELKLGFIAQSCLAPGFSTMMANLFAMR 512

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QIA97593.1 SYKTSPDMQAWQNDYLCGTGCEMYTETLSPSFV--------------------------- 263

Procl\_ES\_4724\_0 SYKTSPDMQAWQNDYLCGTGCEMYTETLSPSFVGMTFPQASELCFSKLKLLLLAIEVKN- 571

sp|Q03720.3|SLO\_DROME SFKTSPDMQSWTNDYLRGTGMEMYTETLSPTFIGIPFAQATELCFSKLKLLLLAIEIKGA 588

AAA28902.1 SFKTSPDMQSWTNDYLRGTGMEMYTETLSPTFIGIPFAQATELCFSKLKLLLLAIEIKGA 572

\*:\*\*\*\*\*\*\*:\* \*\*\*\* \*\*\* \*\*\*\*\*\*\*\*\*:\*:

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 EEGTDSKIAINPKATKIQPNTQGFFIAQSADEVKRAWYYCKACHDDIKDETLIKKCKCKN 631

sp|Q03720.3|SLO\_DROME EEGADSKISINPRGAKIQANTQGFFIAQSADEVKRAWFYCKACHEDIKDETLIKKCKCKN 648

AAA28902.1 EEGADSKISINPRGAKIQANTQGFFIAQSADEVKRAWFYCKACHEDIKDETLIKKCKCKN 632

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 YKSDI-------ETELYQVTYTPPELPKRLLNNSRG--DKIPVR-------DGIANQNS- 674

sp|Q03720.3|SLO\_DROME LTVQPRSKFDDLDEHHPAPTFTPPELPKRVHVRGSVSGDITRDREDTNLLNRNVRRPNGT 708

AAA28902.1 LTVQPRSKFDDLDEHHPAPTFTPPELPKRVHVRGSVSGDITRDREDTNLLNRNVRRPNGT 692

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 ----SGQPLVNAAKTLAAA------KKNGGRPADALTSPSQGYNRSVPQQDRPTSRSSGG 724

sp|Q03720.3|SLO\_DROME GNGTGGMHHMNNTAAAAAAAAAAGKQVNKVKPTVNVSRQVEGQVISPSQYNRPTSRSSGT 768

AAA28902.1 GNGTGGMHHMNNTAAAAAAAAAAGKQVNKVKPTVNVSRQVEGQVISPSQYNRPTSRSSGT 752

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 GNGGNNNG--LTVGIADDQAKDFDFEKTEMKYDSTGMFHWCPARSLEDCILDRNQAAMTV 782

sp|Q03720.3|SLO\_DROME GTQNQNGGVSLPAGIADDQSKDFDFEKTEMKYDSTGMFHWSPAKSLEDCILDRNQAAMTV 828

AAA28902.1 GTQNQNGGVSLPAGIADDQSKDFDFEKTEMKYDSTGMFHWSPAKSLEDCILDRNQAAMTV 812

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 LNGHVVVCLFADPDSPLIGLRNLVMPLRASNFHYHELKHVVIVGSVDYIRREWKMLQNLP 842

sp|Q03720.3|SLO\_DROME LNGHVVVCLFADPDSPLIGLRNLVMPLRASNFHYHELKHVVIVGSVDYIRREWKMLQNLP 888

AAA28902.1 LNGHVVVCLFADPDSPLIGLRNLVMPLRASNFHYHELKHVVIVGSVDYIRREWKMLQNLP 872

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 KISVLNGSPLSRADLRAVNVNLCDMCVILSAKVPSNDDPTLADKEAILASLNIKAMTFDD 902

sp|Q03720.3|SLO\_DROME KISVLNGSPLSRADLRAVNVNLCDMCCILSAKVPSNDDPTLADKEAILASLNIKAMTFDD 948

AAA28902.1 KISVLNGSPLSRADLRAVNVNLCDMCCILSAKVPSNDDPTLADKEAILASLNIKAMTFDD 932

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 TIGVLNQNRTTSDLTCGGHDYGLPDLTLTDPSGGGDTLSPLGSPIVLQRRGSVYGANVPM 962

sp|Q03720.3|SLO\_DROME TIGVLSQRGPEFD----------------------NLSATAGSPIVLQRRGSVYGANVPM 986

AAA28902.1 TIGVLSQRGPEFD----------------------NLSATAGSPIVLQRRGSVYGANVPM 970

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 ITELINDSNVQFLDQDDDDDPDTELYLTQPFACGTAFAVSVLDSLMSTTYFNQNALTLIR 1022

sp|Q03720.3|SLO\_DROME ITELVNDSNVQFLDQDDDDDPDTELYLTQPFACGTAFAVSVLDSLMSTTYFNQNALTLIR 1046

AAA28902.1 ITELVNDGNVQFLDQDDDDDPDTELYLTQPFACGTAFAVSVLDSLMSTTYFNQNALTLIR 1030

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 SLITGGATPELELILAEGAGLRGGYSTPETLANRDRCQVGQISLYDGPLGQFGEGGKYGD 1082

sp|Q03720.3|SLO\_DROME SLITGGATPELELILAEGAGLRGGYSTVESLSNRDRCRVGQISLYDGPLAQFGECGKYGD 1106

AAA28902.1 SLITGGATPELELILAEGAGLRGGYSTVESLSNRDRCRVGQISLYDGPLAQFGECGKYGD 1090

QIA97593.1 ------------------------------------------------------------ 263

Procl\_ES\_4724\_0 LFCAALRNYGMLCIGLYRTLRMVPQSAVGLDCRFRDTSSSCDASSKRYVITNPPDDFTLL 1142

sp|Q03720.3|SLO\_DROME LFVAALKSYGMLCIGLYR---------------FRDTSSSCDASSKRYVITNPPDDFSLL 1151

AAA28902.1 LFVAALKSYGMLCIGLYR---------------FRDTSSSCDASSKRYVITNPPDDFSLL 1135

QIA97593.1 ------------------------------------------------- 263

Procl\_ES\_4724\_0 PTDQVFVLMQFDPGLEYKPNRGDMTKEDNS------------------- 1172

sp|Q03720.3|SLO\_DROME PTDQVFVLMQFDPGLEYKPPAVRAPAGGRGTNTQGSGVGGGGSNKDDNS 1200

AAA28902.1 PTDQVFVLMQFDPGLEYKPPAVRAPAGGRGTNTQGSGVGGGGSNKDDNS 1184

Q94901.1|LARK\_DROME RecName: Full=RNA-binding protein lark

QIA97594.1 RNA-binding protein lark-like protein, partial [Procambarus clarkii]

Procl\_ES\_2543\_0\_EYESTALK (LARK)[Procambarus clarkii]

sp|Q94901.1|LARK\_DROME -MPGAGTFKLFIGNLDEKTQATELRALFEKYGTVVECDVVKNYGFVHMETEQQGRDAIQN 59

QIA97594.1 MPVRGNTFKIFVGNLSDRATGSDIRELFEAHGTVVEADVVKNYGFVHMEKEDEGQAAIEA 60

Procl\_ES\_2543\_0\_EYESTALK MPVRGNTFKIFVGNLSDRATGSDIRELFEAHGTVVEADVVKNYGFVHMEKEDEGQAAIEA 60

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sp|Q94901.1|LARK\_DROME LNGYTLNEFAIKVEAAKSRRAPNTPTTKIFVGNLTDKTRAPEVRELFQKYGTVVECDIVR 119

QIA97594.1 LNGHSIHGKPMVVEASTGARKGGNQKTKIFIGNLHKDSKLEELKSLFEVYGSVVEADILT 120

Procl\_ES\_2543\_0\_EYESTALK LNGHSIHGKPMVVEASTGARKGGNQKTKIFIGNLHKDSKLEELKSLFEVYGSVVEADILT 120

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sp|Q94901.1|LARK\_DROME NYGFVHLDCVGDVQDAIKELNGRVVDGQPLKVQVSTSRVRPKPGMGDPEQCYRCGRSGHW 179

QIA97594.1 NYAFIHMDDEAQAQRAIRELDGYELHGLRLRVQESTSRVRQQAGMGNPDMCYRCGSGGHW 180

Procl\_ES\_2543\_0\_EYESTALK NYAFIHMDDEAQAQRAIRELDGYELHGLRLRVQESTSRVRQQAGMGNPDMCYRCGSGGHW 180

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sp|Q94901.1|LARK\_DROME SKECPRLYGSAGGGREPPSPLSAGGYRDRMYGRDPYPPPPPPPPFLRDRIMD---GFRDY 236

QIA97594.1 SKECPRDG-RIGGFRYPDRERGG---RSFGSRYDPYPPPP-PPSYARERMLRYRDDFDRY 235

Procl\_ES\_2543\_0\_EYESTALK SKECPRDG-RIGGFRYPDRERGG---RSFGSRYDPYPPPP-PPSYARERMLRYRDDFDRY 235

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sp|Q94901.1|LARK\_DROME DYYDRRFEDSRDLYERRYQTSRMRDFPPPP--ISR----REPMPLPPTLSGSLRSCSVSR 290

QIA97594.1 DRYDRYYDE--GLYERR------GDHPPPPPPMLDDLYERRLPPLPPHPD---------- 277

Procl\_ES\_2543\_0\_EYESTALK DRYDRYYDE--GLYERR------GDHPPPPPPMLDDLYERRLPPLPPHPD---------- 277

\* \*\*\* ::: .\*\*\*\*\* \*.\*\*\*\* : \*. \*\*\*\* .

sp|Q94901.1|LARK\_DROME GYDTMFSRRSPPPPR--SSNGMSRYGSPTPHGYEDFSRDAFDERMISSRGMRGPSPPGRR 348

QIA97594.1 -Y-LRYGRRSPPPRYPPPPPPMRGYGPPDRRPY--------------------------- 308

Procl\_ES\_2543\_0\_EYESTALK -Y-LRYGRRSPPPRYPPPPPPMRGYGPPDRRPY\*-------------------------- 308

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sp|Q94901.1|LARK\_DROME YAPY 352

QIA97594.1 ---- 308

Procl\_ES\_2543\_0\_EYESTALK ---- 308

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Procl\_ES\_659\_0\_eyestalk Full=Beta,beta-carotene 15,15'-monooxygenase [Procambarus clarkii]

QPM92663.1 carotenoid oxygenase, partial [Procambarus clarkii]

Procl\_ES\_11203\_0\_eyestalk RPE65 Full=Retinol isomerase [Procambarus clarkii]

Procl\_ES\_4243\_0\_eyestalk Full=Beta,beta-carotene 15,15'-monooxygenase [Procambarus clarkii]

Procl\_ES\_30934\_0\_eyestalk Full=Beta,beta-carotene [Procambarus clarkii]

Procl\_ES\_1244\_0\_eyestalk Full=Beta,beta-carotene 15,15'-monooxygenase [Procambarus clarkii]

Procl\_ES\_659\_0 NQDGVYISVTGVDVGEPGFEMPVIN-TAHTGKPYRFVYGTGAYDQGYFKNSVCKMDVESG 442

QPM92663.1 ----------------------RIN-PNFIGKPYRYLYAVRAVPGRLFDA-IVKLDAESK 36

Procl\_ES\_11203\_0 GR----IQVQGHIISKQFFDLPRINY-RHNGKEYTYAYGVDVNPRGIDFPKLVKMNVETG 153

Procl\_ES\_4243\_0 EI----VL-QCEKLTRIPIENPCIN-PKIRSSKHQYIWAMGPDPNGGDSGFVIKLDVTSG 441

Procl\_ES\_30934\_0 NL----VYIKPELLVDIGCEVPRIHYDKYNGRHYQYFYAICSDVDHPCPGTLVKADVVNK 651

Procl\_ES\_1244\_0 GS----LLLTPEVITDYAYEIPTLN-PSYVGKRYRYFYGSSGNMTS-TTGKVGKVDLDSR 442

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Procl\_ES\_659\_0 RS-WVWRGNEHQYLSEPSFIPAPD--AIDEDDGVILCSVADVRKG-SPDFLLVVDARTMK 498

QPM92663.1 EQVAIWE-HPCTSPSEPIFVPRPSTNSTDEDDGVVLTVILS-QHE-KKSFLLVLDAKNLK 93

Procl\_ES\_11203\_0 DT-YLWR-EEGKLVSEPVFVAAPD--ASAEEHGVVLSTLIDKNEP-KFVALLVVNPKTWR 208

Procl\_ES\_4243\_0 ET-FMFT-EDKIYCAAPEFVAKPN--AVSEDDGVILLQCVNSQDE-KKTYLLVLDAKNMT 496

Procl\_ES\_30934\_0 TH-LEWS-EDNVYPSEPIFVPSPE--AQREDDGVVLSALLRARGLDQQVCVLVLDASTFT 707

Procl\_ES\_1244\_0 ET-KDWS-EDGLYTSVAYFVPRPG--ATSEDDGVVLVTLLHADDK-TKVTLLVLAAGDMT 497

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Procl\_ES\_659\_0 ELGRAEVD--ARIPTSLHGVFLPERH\*------------------------ 522

QPM92663.1 EIARADLP--IHVPLSF---------------------------------- 108

Procl\_ES\_11203\_0 ELARVEFEAEGAVTSTFHGQFAGANESVYRY\*------------------- 239

Procl\_ES\_4243\_0 EICRASVTTTSSVPMPLHGHYIPVIGQ\*----------------------- 523

Procl\_ES\_30934\_0 ELGRVEFTAPGPVPKCLHGWWVQEGAFTLSSHHNIKPKKVTKTPIYKGAG\* 757

Procl\_ES\_1244\_0 EVARVSFTTPSDVPRSLHGIYIPA\*-------------------------- 521

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**APPENDIX S2: Nucleotide sequence list referred from Tables 1-7**

SET 1. Retinoid Pathway vertebrate and invertebrate

>MN110026 Procambarus clarkii retinal-binding protein-like mRNA, partial CDS

CCCTTCCTTCACGAGGTTACCCTCAAGAAAATAAGAATATTTGGACACAGTGGGTGGAAA

GAGGCTCTATTAGAAGATATTGACGCTGACCAACTGCCTCAACACTGGGGAGGAACCAGA

ACTGACCCTGACGGCAACACCAAATGTCCCTCACAGATATGTTTAGGAGGAGAAGTACCC

AAGAAATATTACCTAAGTCTCAGCAAGAGCAATCTATCCAAGATTACAGATGATGATAAT

CTATCTACTATCACTCTGAACAAAGGTGGCAAAAAGAGACTTAAATATGATGTTAAGCAA

CCTGGATCCCACTTAAAGTGGGAATTTCGTACCGAAGATTTTGATGTGGGATTTGGAGTG

TCCCGCAAAGTGAAAAAAGGCGAAGAGGAGATTTTGGTACCAATGCAGAGAGTTAACTCA

CAGTTGGTGACAGAGGAAGGATATTTAGTGTGCACAGAACCTGGCACATATGTGGTG

>MT601680 Procambarus clarkii retinol dehydrogenase 11-like mRNA, partial CDS

GCAGACTCTGCTGCTGGGAGCAACTTCTCGTTCTTCGCTCCGCTGCTGCCACTCTTAAGA

GGAGTGAGGATGTTGGAGGCGGCAGCGCTGGTGGTGCTGGTGCTGGTGGTCACCATCCGT

GTGGTGTACCGATGGCTCTCCGGCCGCTGCAACTCCTCCACCACGCTAGACGGCAAGACT

GTCATCATCACCGGCGCTTCTGCAGGGATAGGGAAGGAGACGGCCAAGGACCTGGCAGGA

CGTGGGGCGAGGGTCATCATGGCCTGCAGGAACGTGGAGAAGGCTGACAAAGTGGCAACT

GAGATCCGGGTAGCGACCAACTACCGCGGGGAGGTTGAGGTCCGCAGACTTGACACTTCC

GACCTCGCCTCCGTCAGAGAGTTCGCTAGGAAGATCCTCGAAAACGAGAAGTCCCTCCAC

ATCTTGATCAACAACGCTGGGATCATGGGTCCACCCAGACGAGAGGTCACCGCGGACGGC

CTGGAGCTCACCATGGCTACCAACCACTACGGCCACTTCCTCCTCACCAACCTCCTGCTG

GGTCTCCTGAAGAAGAGCGCCCCGAGCCGAATCATCAACGTCACCTCCGACAGCCACGAC

TACGTCAGTAGACTCAACCCGGACAGTCTCAACTTCGAGCGGGACGACTACACCTCCATG

ACGGCTTACGGCCAGAGCAAGCTCTGTAACATCCTCTTCACCCTCGACCTCACCAGCAAG

CTCCAGGGCACAGGTGTGACAGCCAACAGTGTCCATCCCGGGTGTGTGTCCACGGAGATA

TTCTACAAAGGTCAAGTGACCTTATTCGCTTGGGTGTGCGGCAAGCTCTTCTATCTGATG

GGCAAGGACGCCAAGCTTGGAGCTCAACCTGTGATTTACCTGGCAGTGTCGGAGGAGGTC

GAGGACGTCTCCGGTCACTACTTCGTTGACTGCAAGGACACCCCGACGACGGAGCTGGCG

CAGCAGAGGAAGCTGGCGCGGCACCTCTGGGAAGCTAGCGAGGTCGACGTCAAGCTTCAG

CCCCACGAGAGGTTCTACTAA

>MT601681 Procambarus clarkii retinol dehydrogenase 13-like mRNA, partial CDS

ACGGCGGTGGTGGTCTTGGCCATAAGGCTCGTCTACAGGTACCAGTCCGGACGATGTTCC

TCCCACAGGAAACTGGTGGGCAAGACGGTCATTGTCACCGGAGCTTCTGCTGGCATCGGG

AAGGAGGCGGCGCGAGACTTGGCCCGACGAGGAGCTCGGGTCATCCTCGCCTGCAGGAAC

ATCAACAAAGCACAAAAGGTTGCAGATGACATCATGAGGACTACAGGGAACAGGAAGGTG

GTAGTACGTAAGCTGGACACGTCCGACCTGGCCTCCGTCAGGAGGTTTGCGCGAGGCATC

CTTGCTACAGAAACTGCTCTCCATGTCCTGGTGAATAATGCAGGAATATATGGCATGTCG

GAGAAGAAACTGACAGCAGATGGTCTGGAGCTGACAATGGCCACCAACCATTTTGGACAC

TTCCTTCTCACCAATATGCTGCTGGGG

>MT601679 Procambarus clarkii dehydrogenase/reductase SDR family member 4-like mRNA, partial CDS

GACACTACACTCCCCGGGAGGATGGTGGTGGGTTACCGTGGCCTGAGCCTGGCCCTCCTG

CGTGCCTGGCCCTCCAGTGTCAGGAACATGTCCACCCAGGCCAAGCACAGTGCCAAGCTC

CAGGATAAGGTGGCCATTGTCACTGCCTCCACCGACGGGATTGGCTTGGCTATTGCTCGT

CGCTTGGGTGAAGATGGTGCTCACGTCGTGGTCAGCAGCAGAAAGCAAGCCAATGTTGAT

TCAGCTGTAGCAGAACTTGAAGGTTTAGGCTGTTCAGTCTTGGGTCTCACCTGCCATGTT

GCCAAAGATCAAGACAGACAGAACTTAATTTCCAAGACATTGGAGAAGTTTGGAAGCATT

GACATACTTGTTTCCAATGCAGCTGTAAATCCAACAATGGGAGGTGTATTGGACTGCCCA

GAAAGTGTTTGGGACAAGATCTTTGAGGTGAATGTGAAAAATGCACTCCAGCTTACACAG

CTAGTTGTACCCCACATGCAGAAGCAAGGAGGAGGTGGAGCTGTAGTTTACATCTCATCA

ATTGCTGGATTTCAGCCTATGAATATGCTGGGAGCATATAGTGTAAGCAAAACAGCCCTC

CTTGGGCTAACAAAAGCTGTGGCACAACAAGTTGCCTTTGACAATATTCGAGTCAACTGT

GTTGCCCCTGGTATTGTGAAAACCAATTTCTCAAGTGTGATAACACAACACCCAGCAGTG

TATGAAAAGATTTTGGAATCAATTCCTCTTGGAAGGGTTGCAGACCCGAAGGAGCTGGGA

GGCATAGTGTCTTTCTTGTGTAGCAGCGATGCATCATACATCACTGGCGAAACGTTTGTG

GTTGCAGGTGGCATGCTTTCACGACTATAA

>MT601682 Procambarus clarkii epidermal retinol dehydrogenase 2-like mRNA, partial CDS

TCAAACAAGGGTGATATTGTCACTATTGCCTCTGTGGCTGGTCATGGTGGTGTTAATAAA

CTGGCCGACTACTGTGCCTCTAAGTTTGCTGCTGTTGGCTTTGATGAGAGTCTTCGTCTT

GAGCTGATGGTGGAAGGCTACACTGGGGTCAAGACCACTGTTATTTGTCCGTACTACATC

AGCACGGGAATGTTTGAAGGAGTTAAGTCGAAAGTGATACCAATATTGCAGCCTGAATTT

GTGGCCTCTGAGATTGTTGACGGCATCCTCCTGAACAGAGTCATCGTTGTTTTGCCATCC

TTCTGCCGGATCCTGATCCTCCTCAAATACATCTTGCCCCAGAAGGCCATATATATTTTT

GGGAGA

>MT601683 Procambarus clarkii cellular retinoic acid-binding protein 1-like mRNA, partial CDS

CATCTTGGCAACGCCAACCATACCAAGACCAACCACGTCACCCACCAGAAAGCGACAGTA

GCAGCAGCAGCAGCCCCAGAGCCTCGCCCTGCAGACAGGAGCAGCAACATGGAGCACTTG

GAGGGGAAATACCAACATGAGAGATCCGAAAACTTCGATGAATTCCTCAAGGCCATTGGA

GTCCCGCTGATTCCCCGGAAGCTGATGTTAACGTCGAAGCCAGATGTGGAAGTTGTTCGA

GACGGCGACCGCTGGACGATAAGGATGCTTACGCTAATCAAGACTATCGAGTACGCCTTC

ACCCCGGGAGAAGTCGTCAAGTCGGTGACTATGGGCGGCCTGGCC

>MT601684 Procambarus clarkii carotenoid oxygenase mRNA, partial CDS

CGCATAAATCCAAACTTTATTGGTAAACCCTATCGTTATCTTTATGCTGTTCGTGCTGTC

CCTGGTCGATTATTCGATGCGATTGTCAAACTTGACGCCGAATCAAAAGAACAAGTCGCT

ATTTGGGAACACCCATGCACATCACCTAGTGAACCCATATTCGTGCCTCGACCTTCAACA

AACTCGACGGACGAAGATGATGGAGTCGTTTTAACAGTTATTCTCAGTCAACATGAGAAA

AAATCATTTTTATTAGTTTTAGACGCTAAAAATTTGAAGGAAATCGCTCGAGCTGATTTG

CCTATTCATGTTCCACTTTCATTT

>MT942649 Procambarus clarkii class B scavenger receptor mRNA, partial CDS

TTTGAAAGAAATATTTCGGTTGGATCTGAAGATGACATAATCACTACACTAAATGTCCCA

ATGTTGAGTGCAGTATCTCAATGGAGATTTGCCCAGAGGTTGGCTAAATTGGCCCTCTCG

TCGATGCTGGAAGTATTGAATGAAAAACCTTTTGTCTCCAAGTCTGTCCGTGACTTGATG

TGGGGCTACGATGATCCACTCCTGAGAATAGCAAAGGATATTATTCCACCAGACCAACGA

ATGCCTTATGACAAGTTTGGGTTCTTCATTGAGAAAAATGGATCCACTGATGGTCTGTTC

AATGTTTTCACTGGAGTAAATGATATGACAAAG

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SET 2. Photoreceptor specification and retinal determination network

>KY974273 Procambarus clarkii Tyrosine-protein kinase Fer (FER) mRNA, partial cds

GGGTCGGTGATGGGGTTCAGCGCGTCCCTGCAGGGAGAGCGGAGCCACGCGGCGCTGCTGGCCCGTCAGG

ACGCAGAGCTGCGCCTGCTGGACACCATGCGGCGGGTGCTGGTGGCCAGGGCCAAGTGCGACAGGGACTA

CGCTGCTGCCCTCACCCACCTGGCCCACACCGCCGCCAAGATGGACGCCCCGGACAACGTTCTCGACGAC

TCCCATCTGCATAAGGCATGGCGCATCATGGTGGAGGGGCTGGACGAGTGGAGCAGCATCATGCGCCAGA

ATGCCGACACCCTGGTGCTGGACACGGTGGAGAAGCTGGCCGCCCTCATCACCGAGAAGCGTGCCTCCAG

GAAGGTCTACTATGAGGAGCACCAGAGGATCACCAATGAAGTAACTAGATTACAAGAAGCTGTTGGAAAA

TCCAAGAATAATTACGAACAGGCACTGGAATTTTACAAGACCTCTAAGACGAAATACGAAGATCAATTTC

TAAAAGGAAAACCAGGACGCAAGTTGGATGAGCTGAAGGAACGGTATCAAAAGGCATGTAAAAAGCTTCA

CCAAGTTCACAATGACTATGTCCTGTTGCTGTGTGAAGCTGCAGACTATGAGAGAGACTTCCGAACAGTA

CTTCTCCCGGGTCTACTCGAGTATCAAGAGCGAGTACAGGAAGATATGATTGACAAATGGCGTTCAATAC

TGACGGAAGTGTGCGAGTTGACAGACACAACACAAGGTCGGTATGCCCAGTTACAAACAGAAGTTGCATC

TTCTGTGTCAGCCATTTCGCCTAAGTCTGAATACTCGTCCTTCTCAGAGACCAATAAGAGTTCCCCGCCC

GACCCAGTATCCTTTGAATTCTGCAGTGAGCTTTTAGGAGATGGTGTTGGTTCCCTTCAGGCTGGTCAGC

TGGCCGTTGACTCGCTCACAGTTGACTCCTTACGACTCAGGCTCAGTGACATTGAACACAGGTTGAGAGA

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GCCGTGAACTGAATGAGTTACGGTGCAAGGAGTCGTGGCTTCAACATCAACACAGCCTCATTCACGACCC

ACTTGCAGCACTGGGCTGTGAAGAGGCTCCTCAGCCTTGGGAGGCTGCACAAGGTCAAGTCAATGGTGAC

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CCTTCAACCGTAAGACTAGCGCCTCACCTGCATCCACACCACCCACCCCCACCAGAGCCAATACCGAAGA

GAGAACCACAGCACCAGACCAACAGTCTCTCACGGAAATGTCTGCAGAAGGCCAAGCAGAAGTCCATTCA

CAAGCAGTTAATGGTATACCAGAATTGACATATGACCCGGACCGTTGCTTAGAGGATGAACCATGGTTTC

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AGCACAGCTGTGGTCTACCGGTCACAAACAAGTCGGGTGCTATACTTCGCACGCCCATCTTCCGTGAACG

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TGGTATATGTGTTCAAAAACAGCCAATTATGATTGTGATGGAATTGGTGCCAGGCGGTTCATTACTAAGT

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ATGAAACAAATACCCATCAAATGGACTGCGCCAGAAGCTCTCAACTTCGGCAAGTACACTTCCTTGTGTG

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CAATACTAAAGCCAGGGAGATGATTGATTCGGGATACCGGATGCTGGCGCCTCCCAGCACCCCAGAAGAG

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CATCTGTTGACAATATATACACGTCACTA

>MN110016 Procambarus clarkii putative retinal homeobox protein Rx2-like mRNA, partial CDS

ATGTTGGGTCTCCCTGCTGACTTCATGGTGGCTCCTTCCCTCGCCCCTGCCCACAGGGAC

TACCAGGAGGGCCTCGCTCAGCCCACGGCCCACAACGCGCCCGTGCCCCACACCCACGCC

AACACGCACCCCAACACGCCCACGCCCCCACAGCAATCGCATTACAGCGCGCAAGCACAG

CACGCCCTCACCAATCTCAGTGCGCAGAACGCGCACACGCACGTGCAAAATACGCACACT

CACACGCCCACGCACGCGCAAAACGCCCACACACACGTGCAGAGCAACCACACCCAGGCA

CAGCCAACCCACGCCCATGCCCACTCCCACGCCGGAGGATCCCTGGAGCCGCCCCTACCT

GGCCCAGTGGTGGGAGAGAAAAGGAAGTTGGATGATGGGGGACCGTCCTATCCGGGCCAG

CCTACCTCCTCTCCGACTAGCCAGACCCAGCAACCTCCCAGCTCCACAGGAGAACCGTCA

ACTAAGAAGACCGACTCTAAATCTAAGAAATCTTCAGATACTCCTGGAGTGAAGAAAAAG

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GCGCCATACCCCGATGTCTTCGCCAGAGAGGAACTGGCGGTAAAATTGAACCTTTCTGAA

TCCCGCGTTCAGGTCTGGTTTCAGAACCGTCGAGCTAAGTGGAGGAAGAGAGAACCACCC

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CCCACCCATCTCAACCTCCTCGGCCCCGCCTCCTACCCATTTTCAGCCAACCACAATCCG

GGATATAGCTACCCTATGCTCTCTCAGCCGATGGGAATCAACGACTCCCTTTTTACGAAC

CCTATCGGCCAGATGCGGGCGGGAGACTTCCAACCGTCGACAGGGATGCGGGATTTCGGG

AACAGCCCTCTCAAGACTTACGATTACCTACAAGAGGTGAAGACGGAGGATTTTCTCCAC

GAGAAGAGGGACGCCAACATGAACAGCGTCCGCCACCAGCCGGCCCCAAAGGAAAACAAG

GATTCTTCCTACATCACGCTGCCTTCTTTTTTAAGC

>MN110021 Procambarus clarkii Krueppel homolog 1-like mRNA, CDS

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GATGTGGATCAGGGCTTTTCCCACGTGGCCCACCATCTCCCTGGACCAATGCAGCCGCCT

CCACAGCCCCTGCAGCAGGCCCAGTACCCATCACCACCTATGCTCCAGAACCACAACGTT

GAAAAACAAGGCCCCTCCGAGCAGATGATGGCTGGAGCAGAACCACCTTACCAGTGTAAG

ATTTGTGGTAAAGGTTTCGCCATCCCAGCTAGGCTAGCGCGCCATCACCGCGTTCACACC

GGAGAGAAACCTTTCAAATGCGAGTTCTGTGAGAAGACGTTTAGTGTGAAGGAGAATTTG

AATGTACATCGTCGTATCCACACCAAGGAACGTCCTTACAAGTGCAATATCTGTGACCGA

TCCTTCGAACACTCTGGCAAGCTGCATCGACACATGCGCACTCACACTGGAGAGAGACCT

CACAAGTGCGAGGTGTGTGGTAAGACCTTCGTTCAGTCCGGACAACTTGTGATTCACATG

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TCCAAGCAACTCAAAGTACACATCCGTACACACACAGGTGAAAAGCCCTACGAGTGTGAC

GTCTGCGGCAAGACCTTCGGATACAACCATGTACTCAAGATGCACAAAATGTCCCATCTT

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CCAACACAACAACAAGATTCACAATGGAAGTTCTCGCCTCTTTCAAGTAATTCAGACGTC

AAGGAAGTCAAGGACACCAACACCTCCAACTCTCCCATCACCAACTCCTCACCAGCCTCC

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AACCTTCTACTGCACCGCATGTACCCAGATCTCCAGGTGCCCAAGCCAGAGTCCTCTCAT

CCTAGTGATACTCCGCGCATGGCAGTCTTCACCACGGAGACTGGCGAACGACTCACTTGT

CCCTATGATCTCCTTTTATGTCTTCAAAGAAAAAAGGAACATAACTTCATGGATGAACAC

AAACTTGTCATGGAGCAGGAAGCCATCCGTCGGCGCCAGCAACAACAACAGTTGGAAGAA

CACCTATTGCGTGAAGAGACGCGTCGTAAGCGTGAGTGTACATTCATCAACACAGTACAG

CGAGTACTGGAAGCACTCATCGGTAATGAACGGCTCGAGCAATTAGGTCATCCACAAACA

TCTGTCGACGAAGTTCTCATGCGGACGCTAAAACTTATGGGCTCACAGCCTTGCAAGGAG

CCTTCACTCTCTGCAATGGACCGGGTCAAGGTCAACCTCAGGCTGCTCCTAGAGTGCAGC

GTACCTGATCAGGACATGTGGACCAAGTTTGGCTGGAGAGGAAAGCCGATTGACGACATT

GTGTCAGAGTTCCTAAATTTCTGCTAG

>MN110023 Procambarus clarkii homeobox protein engrailed-1-like mRNA, partial CDS

TGCTCTACCGGTCTCACCGCTGTAATTCACCGCTCTCTCAAGTTCTCAATCGACTATATC

CTCAAGCCGGATTTCGGCCGCCGGCTGGGCGACGCCGTAGAGACTAGCGATCAACCCGTC

GATCTGTCGCGAGTTACCAACAGAGGGGACCCGAAGAAGGTCTTCGGAGACCCCGCCAGG

AGCCTCGGAGAGGTCGGCCAGGCCCCTAACAGCGTGCTACTGAAGGATCGAGAGGGCGGA

GGCGGCACACTATGGCCCGCTTGGGTTTACTGCACCCGTTACTCCGACCGGCCCTCTGCA

GGGCCGCGGACGAGACGGATTAAGAAGAGAGATAAGAAGGACGAAAAGAGACCAAGAACC

GCCTTTACTTCCGAACAGCTGGCCAGACTTAAGAAGGAATTCCAGGAAAACAGATACCTG

ACGGAGAAGCGACGGCAGGACTTGGCCAGAGACCTCGGACTTAATGAAAGTCAAATCAAA

ATTTGGTTCCAGAACAAACGGGCTAAGATAAAAAAGCAGGCCAAG

>MN110012 Procambarus clarkii neurogenic locus Notch protein-like mRNA, partial CDS

CAGTGCCCTTCAGGTTACTACGATGCCCGATGTCTTTCAAATGTGAATGAATGTGCCAGT

GATCCCTGTCTAAATGGTGGGTCTTGTTATGATGATGTCAACAGATTTAACTGCAAATGC

CGACCTGGGTATACTGGCCACCGTTGTGAGCATGAAATTGACGAATGCCAATCAAATCCT

TGTCAACATGGCGGTACTTGTCGTGATGCTCTTAATGCTTATACTTGTATATGTCCAGCT

GGATACTCTGGACGGAACTGTGAATCGAACATTGATGACTGCCTAAGTCGGCCTTGCAGG

AATGGTGGCACTTGTATTGATCTAGTAAATTCATACAAGTGTGTGTGTGAGCTTCCTCAC

ACCGGGCAAAACTGTGAGGTGCGAATGGATCCATGCTCACCCAACAAGTGTCGGCATGAT

GCTCGCTGTACACCTACAGCTAACTTCCTGGATTTTACCTGTGAGTGTGAACTTGGCTAC

ACGGGCCGTCTTTGTGATGAGGACATAAATGAGTGCAATGTATCACCTTCACCCTGCAAA

AATGGTGCTACTTGCAAAAATGGATATGAAGGCCGGCAGTGCACTATTAACACAAATGAC

TGTGCAATACAGCCCTGCCTTAATGGTGGTACATGCCTTGATGAAATTGGAGAATATAGA

TGTTTGTGTGTTGATGGTTTTGGAGGAATTAATTGTGAAAGTGATCTTAATGAATGCGCA

TCAAACCCATGCCAGAATGGAGCCACTTGCAATGACTATGTAAATTCTTACACCTGTAGT

TGTCCTTTAGGGTTTTCGGGAACTAATTGTGAAATTAATGATGAAGACTGCACTGAAACT

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TACACAGGACAACAGTGTGAACGTCTAGTAGATTGGTGTTCTGCCTCACCCTGCTTTAAT

AATGGAGTATGCAATCAAACCGAGAACCGCTACAAGTGTGAATGTCTATCTGGTTGGACT

GGTTTATTATGTGATGTCGAGATGGTGTCTTGTGCCACAGCTGCAGCTAGCAAACGTGTT

ATTCCCTCAAAACTTTGTCTTCATGATGGCAAATGTCAAGACATTGGAAATACCCATCAA

TGTAAGTGTGCTGTTGGCTATACAGGCTCTTATTGTCAGCACGAAATTAAAGAATGCGAC

TCCCAACCATGCATGAATGGTGCAACATGCAATGACCATATAGGTACTTACTCTTGCTCA

TGCCGCCCAGGGTTTCAAGGTCCAAATTGTGAATATAATGTTGATGATTGTAAACCAAAC

AACCCTTGTCAAAATGGAGGTGTGTGTCACGATCAAGTGAATGGATTCCAGTGCTCCTGT

CCTCATGGTACTCTCGGTAAACTGTGTGAGATCAATACCTATGACTGTTATGAAGGTGCA

TGTCATAATGGTGGAAAGTGTATAGATAAGGTTGGTGGATTTGAATGTCACTGCAAACCC

GGTTATGTAGGTGCAAGATGTGAAGGGGATGTAAATGAATGTTTGTCTTTTCCATGTGTG

AGAGAAGGCACTGCAGATTGTGTTCAGCTTGTAAATGACTATCGTTGCAACTGTCGTCCA

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CGTCTGGCCATTGAAGGCATGGTCGAGGACCTCATAAATGCTGATGCTGACATAAATGCT

GCTGATGATTCTGGCAAAACAGCTCTGCACTGGGCTGCTTCTGTTAATAATGTAGAAGCT

GTCCAGATACTTCTTGCTCATGGTGCCAACCGTGATGCCCAGAACAGCAGAGATGAAACA

TCATTGTTCCTTGCTGCTAGAGAAGGAAGCTATGAAGCTTGTAAAGTGCTGTTGGACCAC

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TCATTAATGTCACAACAGATGACTCCACAACCAGCTCAGCGGACTAATACTCAGCCAAAA

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CCAGTAAGCCCTGATGGTACGACATCGATTAAGCGTAGTTCCAGTGTTAAAAAGAAACGT

GAACCTAATGGGGTGCCCAGTGTGGAATCCCAAACTCAGCCCTCACCTCTCAACTCTTTA

GGTTCACCACATGGAGTATTTGATGCTGCTTCAAGTCCTTTTGAAACAGGCTTATTTACT

GGTGGCATGAGTGGACTGAACCCACATTTTGCAGAGGTGGGAGTAACTCAGCCTCCACCA

TATGAAGAGTGTGTAAAGGGTGCAGTGTCATTGAGTAATCTTCCACACATTGACCATGAT

AATAATCCCTTCAGCTATTCAAATATGATGGGAACTCATCAACACCAGCACCAACAAGGT

CATGTGATTCACCAACGACAGCAGTCGATGCCAGCTTCTTTCTCTCCTCAGAGTCAGACT

ATGTCTCCACCACACCACATGACTCCACCTCACTCATCTCCACAACATGTGCAGTCACCA

CATACATCAAGCCTTGTAACCTCTCCAGGCAAAATGCGGCCTGCTTTACCCGCTTCTCCC

ACACACATGGCTGCATTAAGGCATGCAACAGCTACTTCGGGATTTGAATTCCCA

>MN110017 Procambarus clarkii protein hedgehog-like mRNA, partial CDS

GTCACTCTCGCTGATGGTAAACAGAAAACTATCGCTGATCTTCGATCTGGTGATCAACTC

ATCGCTTTCAATCACAACACAAAACAACTCGTCACCACTGCACTCATCACCATGATGGAC

TTTCAACCACACAACTTCGCTCTTTTCAAACATATCACCACGTCAACAGGTAGACAACTC

TCTCTTACTTCGTCTCATCTTCTTACAACGCCTAACAACGGATATCTTATGGCCAAGAAT

ATCGAAAGTGGCATGAACATCTATGTTGTCAATGAAGAAGGTGCATTGATCGAGGATCGT

GTGTCGAATGTAACTGATGTTGTAAAACAAGGATACATGGCACCTTTGACACAAGAAGGG

ACGTTGATCGTGAATCATGTCGCTGCATCTTGTTATGCAATAATCGATAGTCACGATGTG

GCTCATGCAGTCCTGGCACCGATGCGTTGGTGGTACAATCTCTTTGGTGCAGGATCGAAA

AGAGATGAAACAATGTCTGTTGGTGTCCATTGGTTTCCAAAGATGCTGTTCGATGTCACA

GCATCTGTTTTACCATCGGTGATTCAAAAATAG

>MT942642 Procambarus clarkii homeobox protein Dlx2b-like mRNA, CDS

ATGCCGGATCAAGATCTGGCTTCGAAGTACATGGACCTACCCCAGCAGGGCTTGGCTAGC

ATGGCCCATACCCCGCCCTATGCCCAGCCCTTAGGGTACCAACAGCCTCCCACACCTGGG

TATAACCCACCGGGCTACGGGTTTCCACCCATGTACCCACAGACGTCATACCCAGGCTAC

CCAATGGGTTCATACCTCACTTCGCAATGCCCTTCGCCCTCTGTAGACGAAAAACCTGAG

GACGAAGGTTCTGTGAGAGTAGGCGGAAAAGGCAAGAAAATGAGGAAGCCGAGGACCATC

TATTCATCATTGCAACTACAACAACTCAACAAAATATTCCAGAGAACGCAATACCTCTCC

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TGGTTTCAAAACAAGAGGTCCAAGTGCAAGAAGATTATGAAGACAGTTAACTCAGGCGGG

CCGTGTGTGCCTCAGGGTGCCCCGGTAGGGCCCGGGTCTCCTCTCACCTCCTCTCCCATG

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GCGCTGTCCCCGGCTCAGCCCTATACAACTCTAGCTCCTATCCATCACCCTCGATCCCTA

CCATCGCCTGGGGCCTGTCCACCGGGGCATCCTTACTGGCAGCAGCAGCATGACTCGCCC

CAGCTCCCACCATCCCATTCTATCCCACAGGCATCTCAGCCTGGGTCACCTATCCCACAT

GTCCAACAGCAACTCCATCACCATCACTCAGTTTCTTCAGACTCCCTTTCACAGTCTTCT

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>MT942643 Procambarus clarkii homeobox protein DLX-6-like mRNA, CDS

ATGTTGGACCAGGAGCTACTAGCCAAGGGCGGACTGTCTGACAGCCAGCAACAGCCGCCA

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AACAATATGGGCTATGGTTTCCCGGCGATGTATGCCCAAAATGGCTATGGGTACCCGCTC

CCTGGCTATCCACATGCCCCAAGTCCGCCCTCAGATGTGACGGAGAAGACAGAGGGAGGA

GAGGTTCGTGTGACAGCCAAGGGCAAGAAGGTTAGGAAGCCTCGCACCATCTACTCCTCC

TTGCAGCTACAGCAACTCAACAAGATGTTCCAGAGGACTCAGTATCTGGCCCTGCCGGAG

CGCGCCGAATTGGCCGCTAAACTTGGTCTTACGCAAACACAGGTTAAGATCTGGTTTCAG

AACCGCAGGTCCAAGTATAAGAAGCTTTACAAGGCGGCTCAGAACGGCCAGCTGCCGGGA

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TCTGTCGGACCCGACGGTGGCCCACTTTCTCCTCCGCCCGACGACCGCCCACAGTCTCAA

ACTCCAACGGTATCGAGCCACGGGGAGATGACGTCTCCTATGATGTCGGCTCCACGGGAC

ATGATGGTGTCTCCACCAGCTCATCCGTCCAAGGACATGATGGCGATGAATCAGGCAATG

GCCGCTTGCGAACAGCAGCGACGGGATCAAGCTATGATGCCGCCCCATCACCAGTGGGAT

CCGGCCCACTATATGTCATACTGGAACCACTATGGGGACATGGCGGCCCATCAGATGACC

CATCAGATCATGACCTAA

>MT942647 Procambarus clarkii zinc finger E-box-binding homeobox protein zag-1-like mRNA, partial CDS

AAGAAAATGTTAGAAAGTGTCAACACAAGTGTCACAAAACATCAGTTTGAAGAAACAGTA

TCATCAGCTTCTCAGGGCTTTGCACTAGACTCTGCAGCCATTGCTGATGACCTTTCTTGT

AGGCTGTGTGGCAGTACCTTCAGAAATCGTAGTGAAGCTTTTCTACATGCCTGCCGCCAG

TGTCCGCGTCTTCCTGAAGTTACCTCTGCCAAGGGACATCTAATTGAGGGTCTGGCAGCA

AGGTTACACGAGCTAGCAGAAAATCAGAAACCTCAACGCCATCAACAACGGCAGCAACCA

TCTCAACATATTTCTCAGTCCCAATATATGCATAGTCGGGTCATTTTGAGTAGGGATGAG

GAGAGAGATGCAGATTCTGGCCATATTGTAGATGATGAAGAGACCACCAGTGATGGAAAG

AAGGTTCGTGTACGTTCTCACATCCGTGAGGAGCAGCTTATTGTCCTGCGAGCCCACTAT

GCTATTAACCCCCAACCTAAGAAAGAAGAATTGCTAACCATTGCTGAAAAGATTGGTTTT

CCAGTTCGAGCGGTGCAGGTATGGTTCCAGAATGCTCGAGCTCGTGACCGTCGTGAGGGT

CGGTCAATTACC

>MT942648 Procambarus clarkii zinc finger homeobox protein 3-like mRNA, partial CDS

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CGCATCCCAAAGGAGCAGGAAGAGCCAGCCCCTGAACGCGCCGCCGCCATGTCTCCGCTC

AACAAAGTTCCTAGTCTTAACCAAGACAATAGCCGAGTACAAGAAAAGAGCGGGGACGGC

TTAGGTGGATCAGGTGGCCTGAATAGTCAGCAACAACTCCAGCAACATCAGTCACGGGAA

CAACAACATCAACAACAACTGTTGGAACAACAACAACAACAACGGGAGCAGCAGTCACAA

CCATTGCTTCCTCCACATCACCAACAACAAGTAAGCAGTGGTCCCCAACTGGTGTCGTCA

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CAGTCATCAATGTCACTCACCTCACTCATTACCTCCCAGCTTGAGACCAACCCCATGCTG

GCTCACAAGCTGCCTCACACACCACCCACAGTTCCTAGTTCTGGCCTTATTCCTCCAAGC

TCAGGTGTGAGTCCCACGCCGCCCCATTTGTCCTTCCCATCAACTCCACTCTCTGCCCCT

CACACCCCTACCTCTTCCTGCTCCAGCACGGGCAAGCGAGCCAACCGCACCCGCTTCACT

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AGGTTTGAACAGTGGCGGGAACACCAAATTGTTCACCTTATGAACCCTGCACTCTTTTTA

AACAAGGGTGCTGATTCTCCCTTTACCAGCATACAGCAGCAGCAACAGCAGTCTCAACCT

CCACAGCAGCCACAACAGGCGCCCACATCCATACCTCAGCCCCAGCCCAGCCCCCTCTTG

CCCCCTGCCTCGCCTCTGAAGCGTAAAGCTGACGAGAGTGAGGATGAGAGAGAGAGCATG

ATCGGGGCCAGTGAGGCCCAGAGGGACAAACGGCTCCGCACCACCATCCTTCCGGAGCAG

CTGGACTACCTATACCAGAAGTACCAGATGGAGGCCAACCCGTCGCGGAAGATGCTCGAG

ACCATTGCTCAGGAAGTGGGTCTCAAGAAGAGGGTCGTCCAAGTCTGGTTCCAGAATACA

CGAGCGCGAGAACGGAAAGGTCAGTTTAGAGCTCATGCACAAGTGATTAACAAAAAATGT

CCCTTCTGTCCTGCTATCTTTAAAGTCAAGTCTGCTCTTGAGTCGCACCTTTCCACTAAG

CACGCGGAGCATTACTCTAAGGGAGATGTGGACATTGATGCACTACCTGATGTAGAAGAC

TCTGGTGTTGGGAACTTCGGCCTGTCTTCAACTCCTTCTGCAACTCAAGCTTCTCAAGTG

ATGCCCTCTTCTCTCTTCTCCTCAGAAGTTCCGGAAGACTCGATAGCCATGTACCACGAG

GAGGCAATCCGGCGGTACCTGAACGATGTCAACTTGTCATCAGATGGTACCCGACGAGAA

GGTGAGAGTCCCCTTGATCTCAGTAAACCCTTAGACATTGTGCGGCCGTTGGGGTTTGAC

TCATCTATACTGGACAACACCAACGAGCAGCTGGACGACCACTCTGACGAGGAGAGCTAC

CACCTGGACATGTGCGAGCACGACGAGGGCGACACCGGCTTGAACTCTCACGAGAGCAAC

CCGACCTCGCCCGCCTCCTCCACCACCAGCTCCGCCAAGCAGTCCGGGTTCATGCATGGG

GCTCCCAACAAACGGTTCCGCACCCAAATGTCGGCAACGCAGGTCAAAATCATGAAAAGT

GTGTTTCAGGATTATAAGACGCCTACAATGGCGGAGTGTGAGTTGCTGGGGAGGGAGATA

GGGCTAGCCAAGCGTGTGGTGCAG

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SET 3. Phtototransduction, Rhabdomeric

>MN110024 Procambarus clarkii serine/threonine protein phosphatase 1 mRNA, partial CDS

ATGGCTGAGACCGATAAGCTTAATATAGACACCATAATTGCCAGATTATTAGAAGTGCGA

GGATCTCGGCCTGGAAAGAATGTCCAGTTGACAGAAAATGAAATTCGTGGTCTCTGCTTA

AAATCCAGAGAAATCTTTCTCTCTCAACCTATCCTATTGGAATTGGAAGCGCCTCTTAAA

ATTTGTGGTGACATTCACGGACAGTATTATGATTTGTTGCGACTATTTGAATATGGAGGG

TTCCCACCAGAGTCAAACTACCTTTTCTTGGGAGACTACGTGGACCGTGGTAAACAGTCA

CTTGAAACGATATGTCTGCTACTGGCCTACAAAATAAAGTATCCTGAGAACTTCTTCCTT

CTCAGAGGCAACCATGAGTGTGCTTCAATCAACAGAATCTATGGCTTCTATGATGAGTGC

AAACGACGGTACAACATCAAATTGTGGAAAACCTTCACAGACTGTTTCAATTGCTTACCA

GTTGCAGCGATTGTTGATGAAAAGATCTTTTGTTGTCATGGTGGGCTGAGCCCCGACTTA

CAAAGTATGGAACAGATTCGTCGCATTATGAGGCCCACTGACGTCCCCGACCAAGGGTTA

CTCTGTGATCTCTTGTGGTCTGACCCAGACAAGGACACTATGGGATGGGGGGAAAATGAT

CGAGGGGTCTCTTTCACATTTGGCGCAGAAGTTGTTGCCAAATTCCTTCACAAACACGAC

TTTGACCTCATTTGTCGTGCTCATCAGGTTGTTGAAGATGGCTACGAGTTCTTCGCAAAG

AGACAGTTAGTGACACTCTTCTCGGCACCAAACTATTGTGGAGAGTTTGATAATGCTGGA

GCAATGATGTCTGTAGATGAAACACTCATGTGTTCTTTCCAGATACTTAAGCCTGCTGAC

AAAAAGAAGTTTCCTTATGGAGGTTTGAATACCGGCCGACCTGTTACGCCACCAAGAGGA

GCTGCCAATCAGAAAAACAAAAAGAAA

>MN110029 Procambarus clarkii serine/threonine-protein phosphatase 2A catalytic subunit beta mRNA, partial CDS

ATGGATGACAAAACACAAATGAAGGAGTTAGACCAATGGATAGACCAGCTGATGGAGTGT

AAACAGTTGGCGGAGAATCAAGTGAAAACACTATGTGAGAAGGCTAAAGAAGTTCTGGCA

AAGGAGAGCAACGTTCAGGAAGTAAAGTCTCCTGTCACAGTTTGTGGAGATGTTCACGGA

CAGTTCCATGATCTTATGGAACTATTCAAGATTGGAGGACGGTCTCCAGACACAAATTAC

CTCTTCATGGGAGATTATGTTGATAGAGGCTATTATTCTGTAGAGACTGTTACATTGTTA

GTTTGTTTAAAGGTGAGGTTTCGTGAACGGATTACAATCCTCCGTGGCAACCACGAATCC

CGACAGATCACGCAAGTTTATGGTTTTTATGATGAATGCTTGCGAAAATACGGAAATGCA

AATGTTTGGAAGTATTTTACGGATTTATTTGACTATCTTCCCTTAACGGCGTTAGTAGAT

AGTCAGATATTCTGCCTGCATGGTGGACTTTCACCATCTATAGACACACTTGACCACATA

AGAGCACTTGACCGGTTGCAGGAAGTACCTCATGAGGGTCCAATGTGCGATCTTCTATGG

TCTGATCCAGATGATCGTGGTGGTTGGGGTATTTCTCCACGAGGCGCTGGTTACACTTTT

GGCCAAGATATATCGGAGACCTTTAATCACTCCAATGGTTTGACTTTGGTCTCGCGTGCA

CACCAACTGGTTATGGAGGGTTACAACTGGTGCCACGATAGAAACGTAGTCACAATCTTC

TCCGCACCTAACTACTGTTATCGTTGTGGCAATCAAGCAGCTATTATGGAGCTTGACGAC

TCCTTGAAATATTCATTCCTGCAGTTTGACCCAGCACCTAGGAGAGGGGAGCCTCATGTT

ACACGCCGAACACCAGACTATTTCTTG

>MF279133 Procambarus clarkii strain Pc02122016 guanine nucleotide-binding protein G(q) subunit alpha (Gnaq) mRNA, partial cds

ATGGCGTGCTGCTTAAGCGAAGAAGCCAAGGAACAGAAGAGGATAAACCAAGAGATAGAGCGACAATTAC

GCAAGGATAAGAGAGATGCTCGAAGAGAACTTAAACTACTGTTATTGGGCACTGGAGAATCTGGCAAATC

AACATTTATCAAACAAATGCGAATTATCCATGGTGCTGGTTACAGCGATGAAGATAAGAGAGGGTTCATC

AAGCTGGTCTTCCAGAATATTTTCATGGCCATGCAGTCTATGATCAGGGCTATGGATCTCCTACAGATAT

CGTATGGAGATTCAGCCAACATTGAACATGCAGATTTGGTAAGATCAGTGGACTATGAGTCGGTAACTAC

ATTTGAGGAACCATATGTGACTGCTATGAAATCATTATGGCAAGATACAGGCATCCAACATTGCTATGAC

CGACGCAGAGAGTACCAGCTTACAGATTCCGCAAAATACTATTTAACAGATTTAGACCGCATAGCTGCCA

AGGACTATGTTTCCACACTACAAGATATTCTAAGAGTGAGAGCACCCACAACAGGCATTATAGAGTATCC

CTTTGACCTAGAAGAAATCAGATTTAGAATGGTAGACGTGGGTGGTCAGCGATCTGAGCGGCGGAAGTGG

ATCCATTGCTTTGAGAACGTCACTTCTATCATCTTCCTTGTTGCTCTCTCGGAATATGATCAGATTCTCT

TTGAATCTGACAATGAGAACCGAATGGAGGAATCTAAGGCCCTTTTTAAGACTATCATCACCTACCCCTG

GTTCCAGCACTCTTCTGTTATCCTTTTCCTTAACAAGAAGGATCTGTTAGAAGAGAAGATCATGTACTCA

CATCTTGTTGACTACTTTCCAGAATATGATGGCCCACGGAAGGATGCCATTGCAGCCCGAGAGTTCATCC

TACGGATGTTTGTAGAATTAAATCCTGACCCTGAGAAGATTATCTATTCTCATTTCACATGCGCGACAGA

CACTGAGAACATAAGGTTCGTCTTCGCTGCTGTCAAAGATACGATCCTGCAGCTAAATCTAAAGGAATAC

AACTTGGTG

>MN110031 Procambarus clarkii Guanine nucleotide-binding protein G(s) subunit alpha mRNA, CDS

ATGGGTTGTTTTGGTAGCGCTGGGGCGAAAGGTGACGCCGAGGAAAACAAAAGGCGGAAA

GAAGCAAACAAGAAGATAAACAAGCAAATCCAGCAAGACAAGCAGGTGTACCGAGCGACG

CACAGATTGTTATTACTAGGAGCCGGAGAATCAGGGAAAAGCACCATTGTGAAGCAGATG

AGAATTCTACATGTCGATGGATTCAGTGAAGAAGAAAAAAGAGAAAAGATCCATGCCATC

AGGTGCAATATCCGCGATGCCATCTTGACCATCACCGGCAATATGTCTACCTTAACGCCC

CCAATAGCGCTCGAAAACCCAGCCCACCAGTTCCGCGTCGACTACATCCAGGACGTGGCC

TCGCAGAAAGACTTTGACTACCCGGAGGAATTCTACGAACACACCGAGATGTTGTGGAAG

GACAAGGGAGTACAGGCCTGCTACGAGCGTGCTAACGAGTACCAGCTCATAGACTGTGCC

AAGTATTTCCTTGACCGGGTCCACATTGTCCGACAGCCAGACTACACTCCCACTGAGCAA

GATATCCTACGCTGCCGAGTCCTTACACTAGGAATTTTTGAGACCAGATTTCAAGTAGAT

AAAGTTAATTTCCATATGTTTGATGTGGGTGGACAGCGAGATGAAAGGAGGAAATGGATC

CAATGCTTCAATGATGTCACCGCCATTATATTTGTCACCGCTTGCTCGTCTTACAACATG

GTTCTACGAGAAGATCCCAGTCAAAACAGGCTACGGGAATCTTTAGATCTCTTCAAAAGT

ATATGGAATAACAGATGGCTACGCACAATAAGTGTTATCTTGTTTTTAAATAAGCAAGAC

CTGCTGGCAGAAAAGATCCGGGCAGGCAAGAGTAAGCTTGAAGAATATTTCCCCGATTTT

GCCCGGTACCAGACCCCACTAGATGCCACTGTTGAACCTGAAGAGGTACCGGAAGTGGTA

CGCGCAAAGTACTTCATCAGGGACGAATTTCTAAGGATAAGCACAGCCAGTGGTGATGGG

AAGCACTACTGCTATCCTCACTTCACATGCGCCGTGGACACTGAAAACATCCGCAGAGTG

TTCAATGACTGCAGGGACATAATACAAAGGATGCATCTCAGACAATATGAACTTTTG

>MN110025 Procambarus clarkii Guanine nucleotide-binding protein G(i) subunit alpha mRNA, partial CDS

ATGGGGTGTGCGATGAGTACAGCTGCTGACAAAGAAGCAGCAGAAAGAAGCAAAAAAATT

GACAGGGACCTGAGACTTGCTGGAGAACGTGCTGCCAGAGAAGTGAAGCTTCTGCTCTTG

GGTGCTGGTGAATCTGGCAAAAGTACAATTGTAAAACAGATGAAGATTATACACGAGACA

GGATATTCCCGGGACGAATGTGAACAGTACCGACCGGTCGTGTATTCCAATACAATCCAG

TCACTCATGGCAATAATCAGAGCCATGGGGCAACTAAAGATTGACTTTAAAGATTCTAGT

CGAGCGGATGATGCCCGGCACTTTTTCACATTAGCAAGTGCAGCAGATGAAGGTGAATTG

ACTCCTGAATTAGCAAACATAATGAAGCGATTGTGGAATGAGAGCGGTGTCCAGCACTGT

TTTAGCCGGTCGAGGGAGTATCAGCTAAATGATTCCGCTGCCTATTACCTAAATGCCCTG

GACCGGATTGCTCGGCCTGGCTATGTTCCCACACAGCAAGATGTCCTCCGCACCAGAGTT

AAAACAACAGGCATTGTGGAGACAAAATTTTCTTTCAAGAACCTAAACTTCAAGCTGTTT

GATGTAGGCGGACAGAGATCCGAGAGAAAAAAGTGGATCCACTGCTTTGAGGGAGTGACG

GCCATCATCTTTGTTGTTGCTTTATCAGGGTATGACTTGGTACTAGCAGAGGATGAAGAG

ATGAACAGGATGATTGAAAGTATGAAGCTCTTTGACTCCATTTGCAACAACAAATGGTTT

GTGGAGACGTCAATAATTCTCTTCCTAAACAAGAAAGATTTGTTTCAAGAAAAGATTACA

AAATCGCCATTAACGATCTGTTTCCCAGAGTACCAAGGCAACAACACGAACGAAGATTCC

GCCAACTACATCCGTATGAAGTTTGAGAACCTCAATAAGCGGAAGGATCAGAAAGAGATC

TACACGCACTTCACCTGTGCTACCGACACTAGTAACATTCAGTTTGTGTTTGATGCTGTA

ACAGATGTAATCATCAAGAATAACCTCAAGGATTGTGGTCTTTTT

>MN110018 Procambarus clarkii guanine nucleotide-binding protein G(o) subunit alpha mRNA, partial CDS

ATGGGCTGTGCCATGTCTGCGGAGGAGCGCGCCGCGCAGGCCCGCAGCAAACAGATCGAG

AAGAACTTGAAGGAGGACGGCATCCAGGCAGCGAAAGACATCAAACTGCTGCTGCTGGGC

GCGGGAGAATCCGGCAAGAGCACCATCGTAAAACAGATGAAGATCATCCACGAGTCCGGG

TTCACGAGCGAGGACTTCAAGCAGTACCGGCCGGTGGTGTACTCCAACACCATACAATCC

CTGGTGGCCATCCTGCGGGCCATGCCCAACCTGGGCATCTCCTTCGGCAACAATGAGAGG

GAGCCGGATGCCAAGATGGTCTTTGACGTAATCTCTCGGATGGAAGACACGGAGCCCTTC

TCTGAGGAGCTCCTGTCGGCGATGAAGCGGCTGTGGGCCGACACGGGCGTCCAGGAGTGC

TTCGGCCGCTCAAACGAGTACCAGTTGAACGACTCTGCTAAGTACTTCCTTGACGACCTT

GACCGCCTGGGGGCCAAGGAATACCAACCCACCGAACAAGACATTCTCCGGACCCGTGTC

AAGACCACGGGCATCGTCGAGGTTCACTTCTCCTTCAAAAATCTCAACTTCAAGTTGTTT

GATGTAGGTGGGCAGCGATCAGAACGCAAAAAGTGGATACATTGTTTTGAAGATGTAACT

GCTATCATCTTTTGCGTTGCCATGTCTGAATATGACCAAGTTCTTCATGAAGATGAAACC

ACGAATCGCATGCAAGAGTCATTAAAACTATTTGATTCCATCTGCAATAATAAGTGGTTC

ACCGAA

>MN110034 Procambarus clarkii guanine nucleotide-binding protein subunit beta-5-like mRNA, partial CDS

CCTACTGGAACCATGGTTGCTTGCGGAGGCCTGGACAACAAGGTCACGGTCTACCCTCTC

AGTTTTGACGAAGATGTCACTCAAAAGAAGAAGGCTGTCGGCACCCACACGTCTTACATG

TCCTGCTGCACCTTCCCTTATTCCGACCAGCAGATCCTGACGGGCTCTGGGGACTCTACG

TGTGCTCTGTGGGACGTGGAATCCGGGATGATGTTGCAGAGCTTCCACGGCCACCAGGGG

GATGTAATGGCCCTAGACTTGGCCCCTTCAGAGACAGGAAACACATTCGTCTCCGGTGGA

TGCGACAAGATGGCACTCATCTGGGACATGAGAACTGGTCAGTGTGTACAGACGTTCGAA

GGTCACGAATCTGACATCAACACCGTCAAGTTCTACCCGTCGGGAGACGCCATTGCCACG

GGTTCAGATGACGCCACGTGTCGGTTGTTTGACCTGCGGGCGGACCGAGAGATCGCCGTC

TACACGAAGGAAAGCATAATTTTCGGTGTCAATTCCGTCGACTTCTCCGTCAGAGGACGA

CTGCTGTTTGCTGGCTACAACGACTAC

>KY974308 Procambarus clarkii Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1 (GNB1) mRNA, partial cds

ATGAATGATTTGGATAGTTTACGACAAGAAGCAGAAAGACTAAAGAACACAATACGAGATGCACGCAAAA

ATGCACTTGACACGACACTGGTCCAGGCCACAGCTGGCATGGACCCTATTGGCCGAATTCAGATGCGAAC

CCGGAGAACGCTTAGGGGACACTTAGCCAAAATATACGCCATGCACTGGGGATCCGATTCTAGGAATTTG

GTGTCGGCATCTCAAGATGGCAAGCTTATAGTGTGGGACAGTTACACAACAAACAAGGTGCATGCCATCC

CCCTTCGGTCCAGCTGGGTCATGACCTGTGCCTATGCTCCCTCAGGCAGTTACGTTGCCTGTGGTGGCCT

TGATAATATCTGTTCCATATACAGCCTAAAGACAAGAGAAGGCAATGTGAGAGTGAGTAGGGAGTTGCCT

GGTCACACTGGTTACCTAAGTTGCTGTCGGTTCGTAGATGACAACCAAATAGTCACAAGCTCTGGAGATA

TGACTTGTGCTCTTTGGGATATTGAAACTGGTCAGCAGTGCACACAATTTACAGGACATACTGGGGATGT

GATGTCCCTATCTTTGTCGCCAAACATGAGGACCTTCACATCGGGTGCCTGTGATGCCTCGGCAAAGTTG

TGGGATATCCGTGATGGCATGTGCCGCCAGACTTTCCCAGGACACGAATCAGATATCAACGCAGTAACAT

TCTTCCCTAATGGGCATGCATTTGCTACGGGCTCAGACGATGCCACCTGCCGCTTATTCGACATTCGTGC

AGATCAAGAACTGGCCATGTACTCTCATGATAACATAATCTGTGGCATCACATCAGTGGCATTCAGCAAG

TCTGGCAGACTTCTGCTGGCTGGTTACGATGATTTTAACTGCAATGTTTGGGACTCCATGAGGACAGAAA

GAGCTGGAGTTTTGGCGGGCCATGACAATCGCGTCAGTTGCCTGGGTGTTACAGAAGATGGCATGGCAGT

GGCCACTGGCTCGTGGGACAGTTTCCTCAAGATCTGGAAC

>MT601685 Procambarus clarkii Guanine nucleotide-binding protein subunit gamma-1 mRNA, partial CDS

AGCAAAGGCACTACAAATCACTTTGGCAAAGCCCGTTCCTCTGTCGCCAGCAAGATTGTG

CGTACCGCAGTGGAATACACACTCAACAACATCATGATGGATCAGATGTCGAGTCATCAG

CAGTTACGCGTTCTCGTAGAACAGCTGCAGCGAGAAGCTAATATAGATCGCATGAAAACC

TCGGAGGCAATCAACCATCTCAAGAGGTACATCTCGGAACACGAGGCAGAGGACTATCTT

CTGGTCGGCTTCACCTCTCAGAAGGCCAACCCATTCCGCGAGAAGAGCTCCTGCACCGTC

CTGTAA

>MN110015 Procambarus clarkii protein no-on-transient A-like mRNA, partial CDS

ATGGAGAACGGTTCCCCGCAGAAGAGTCGTGATGGAGGAGGCAACATGGGAGGCCGTGGA

GGTGGTAACTACCAGGGAGGCCACGGAGGCCACGGAGGAGGAGGTGGAGGCGGCGGCGGC

GGCCAGGGAGGCCAGAAGCGTGGAGGGCCGCCGCCCTATGGCCGCCACCCTCAGTATGGC

TACGACAAGATAAAGGAGAGAGTGAACACAGAACTGAGTGGTCCACAGCTTGATTTGCCT

CCCCTTGACCTAGCAGAGAAGAAGTTTAATGCTAGTAGCCGCTTGTTCGTGGGTAATCTA

CCCCGGGACTTGCCTTATGAAGAACTCAAGGAAGTCTTTTCTCAGTATGGAGAGTTGGGT

CAAGTGTATTTCAACAAAGATGGAGCATATGCCTTCATTAATTTTGATTACCGAGCTAAT

GCCGAGAAGGCTAAGCGCGAATTGCAAGGAAAGAATTGTCGCAATCGTCCCATGAAGATC

AGATACGCATCAATATCTACGGGTGTGAGAGTCAAGAATCTAACCCCTTGCGTGTCGAAT

GAGTTGCTGGAAAAAGCCTTCAATGTATTTGGTCAAATCGAGGCGTGCCGTGTGATTGTT

GACGACCGGGGAAAAACCACAGGTGATGGCATCGTGATATTTGCTGACAAGAAAGGTGCC

ACACTTGCCATCAAGAAGTGTCAGGAGGAGTGCTTTTTCCTCACCAGTGCTCTGCGTCCT

GTAATTGTCGAGCCCCTTGAGGCTCGGGATGAGGAAGAAGGCCAACCTGAGAGTTCCATG

CATAAGAATGAGCAGTACAAGCAGGAACGCAAGGAGGGCCCCAGATTTGCTGATCGAAAC

TCCTTCGAATATGAATATGGAATTCGTTGGAAGCGTCTGTATGAAATGTACAAGGAAAAG

AAATTGTTGCTAGAGTCTGACCTGCAAGCAGAGATGGAACAGCTGGAAAGACGACTGGCT

ATTGTGAAGCACGAGCATGAGACGGAGAAGTTGAGAAGAGAGTTGATGGCACGTGAACAA

GAGGCAATGCAGCTCGGGAGATCGCTGTACGGGCGCCAGGGAGGCTATGGAATGGATCGT

TATCAGGGATCACAGGATGAACGCTATGGAGAACGCTACGATGCTTCACGGGATGAACGA

TATCAGCAAGCCATGCAGGAAGAACGTTATCAGAGAATGCAAGAGGAACGGTATCAGCAA

GCCTTACAGGAGGAGCGGTATCAAGCTATGCGCAATGCTGGCTATCAACAAGGTGGTAAC

GCACAAGAGGAACAGTTCCAGCAACAGGGAACTAAGAGAGAGGCTCCAGCAGCATCGGCA

CAAGTAGCTGCCGGAGGGCCAGCGGCAGCAGCAGGACCCGGGGCAACATCTGACGAATCT

GAAATGAAGCGAGGGAGATAC

>MF279134 Procambarus clarkii strain Pc02122016 eye-specific diacylglycerol kinase isoform X3 (rdgA) mRNA, partial cds

TCTAATGCCGCTCAACCTCTGAAAATTGAGCCAAGGAAAGCGATCAACTCTGAGGTGGAGATCCAGTGTG

AGAATGGGGAGCGGCGCGTCCTGCGGTCCACCTGCGACTGGAATGAGGGAGCTATCAATGGGGACCACCT

GTGGTGCCCGACCTCCGCCTCCGGCGACTTCTGCTACGTCGGCGAGGACTTCTGCTGTAAGTCGGGGGCC

CGGATGAAGTGTTCCGCCTGTAAGATCATCGCCCACACGGGTTGCATCGCGGCGCTGGTGGAGCGGGTCA

AGTTCCCCTGCAAGCCCACTTTCCGCGACGTCGGTCCGCGCCAGTACAGGGAGCAGACGGCGACGCACCA

TCACTGGGTCCACAGACGAAGCCAGAAGGGCAAATGCAAGCAATGTGGCAAGGGATTCCAGTCCAAACTG

CTCTTCGGCTCCAAGGAGATCGTGGCAATCAGCTGTTCCTGGTGCAAGTCTGCTTACCACAACAAGGAAA

GCTGCTTCAACATCAGCAAGATTGAGGAAACCTGCTCTCTGGGCCTCCACACAAGCATTATCGTGCCGCC

ATCTTGGATCGTTAAGCTACCTCGCCGCGGCTCCTTCAAGTCGTCTCTCCGGAAGTCTCCCAAGAAGAGA

GCCTCAAACAAGCGTAAAAGCCGAGATAAGCAAAACGATAAAGAGACGCGGCCCTTCGCCATCAAGCCAA

TCCCCAACGCCAACATCAAACCGCTGATAGTGTTCATCAACCCCAAGAGTGGAGGCAACCAGGGCGCCAA

GCTTATGCAGAAGTTCCAATGGCTCCTCAACCCAAGACAGGTGTTCGACCTCACCCAAGGAGGGCCCAAA

GCAGGACTAGAGATGTTCCGGAAAGTGAGCAACCTGCGGGTGCTGGCGTGTGGCGGGGACGGCACTGTGG

GCTGGGTGCTCTCCGTGCTCGACCAGCTCAACTTCCAGCCTCCCCCGGCCGTGGCTGTCCTGCCCCTGGG

CACGGGCAACGACCTCGCCCGCTCCCTCGGCTGGGGAGGAGGGTACACAGACGAGCCCATCAGCAAGATC

CTTTGCAATATCGCTGATGGAGAGGTGGTTCATCTGGACCGGTGGCGTGTGGATGTTGTCAAAAACGAAG

AGTACGAACCTACTGAAGAAGGCAGAGACACTCTCCCCCTTAGTGTTGTCAACAATTATTTTTCCTTCGG

TGTCGATGCCCACATTGCTCTCGAATTCCACGAGGCAAGAGAGGCCAACCCACAGAAGTTCAACTCTCGG

CTTCGCAACAAGATGTTCTATGGGCAAGCTGGAGGCAAGGACCTGCTGCAGCGTAAATGGAAGGACCTCT

CCGATAACTGCACACTAGAGTGTGATGGCAAGGACATGACCCCTATACTGAAGGAAAATAAGGTCCATGC

TGTGGTTTTCCTCAATATACCCAGCTATGGCTCTGGCACCCATCCTTGGAATCGTAGTAGTGGAGTGGAA

CAGCACACAGATGATGGCATCATTGAAGTTATTGGGCTCACCACATACCAGATGCCACTGCTACAGGCCG

GGGGTCATGGGACAACAATCTGCCAGTGCAAGAGAGCCAGGATTATCACCAGAAAGACTATTCCCATGCA

GGTGGATGGTGAGGCAGCGAGGGTCAATCCTAGCATCATTGAGCTTACTCACCTCAACAAGGCTTCCATG

GTGACTAAGAAGAAAGCTAAGTCTGTCACGATGCCTCATCTGGAACAGCTTCGTTTGCAAGTCTCAAGGA

TCACCATGTATGACTACGAACAGCATCATTATGACAAGGAGAAGTTGCGAAGTGCTTCTTCTTCCATTGG

TGTCATTATGAGTGACCAGGATGCTGACCTTGAGCAGGTTCGGAAGCACATAAATCGTATGATGGAGGAC

GCGTCAAATAAGGGCAGGTCTGCTCGGCCCTTGAGTGAGAGTTGGTGCTTCCTTGATTCATGCACAGCTG

AAAGGTTCTTCCGTATTGATCGGGCCCAGGAACACCTCCACTACGTGACGGACATTTGCACCGAGGACCT

CTTCGTGCTGGACCCAGAACTCACCGACCCCACCAGCGTCAGCAGTGGCGCCATTGTGAGAGCAGATGTT

AGCGTGGACAACGACATAGATCATAGCGAGAGGATGGCCATGGTAAGCGACAGTGACTCTGGCGTGGGTG

GAACTGATGCGGAGCAGCGAAACCCTACCTCTGCCCTCACCGCCAGCCAAGACTCCTCCGACACCGGGGA

GGAGGAGGCCCTGGAGGCCCGGGTACCCAGCCACCTACTTGAGAAGAACTCTGATGGAATCATAAAGGCT

GCCAAACAAGGTGATTTGAAGATGCTAAAGGACCTCCATTCTCAAGGATACTCATTGCTGTCAATTGATG

GACATGGACAGACTGCACTTCATTTTGGTGCACGCCATGGACACAAAGACATTGTGCGCTACCTAATTGC

ATCTGCCCCACCATCCATCCTCGACATGGTGGACACAGAGAGAGGCCAGACAGCACTTCACCAGGCTGCA

CATAACCGACGGCGGACAGTATGTTGCATGCTGGTGGCAGCGGGTGCATCCCTAACCATCAGGGATCTGC

AGGGCAATACGCCGAGGGCTCTTGCCCAGCGTGCAGATGACCAGGAGCTGGCTGCCTATCTGGAGAGCCA

GGAGCAGTTTCAGACCATGGTTCATGAGGACTTGGAGACAACCGTA

>MN110020 Procambarus clarkii 1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase delta-4-like mRNA, CDS

ATGGAAGACGTAGTACAGAAAATCCACGAAGGTAGCACACTATGGAAGGTTCGTGGTGTC

AACAAATGGTTCCATCGTCATTACAAAGTTGACATTGACAACATGAGCCTTGTTGGGGAA

TCTAAGAAATGGTGGTCCCCTGGTGGGGGTACAGGCAGCGATGGACCAGAAAATGCAGTT

CCTTTGATAGAGATCACAGAGGTCCGTGAAGGCTGGAAGACGGACACATTCAACAAAGTT

AGTAGCCACTCTGAGAAGACCAAAGATAAAGCGGCAGCTGGCGATGAACCGTCATTAGAA

GAAAACAAGTGCTTTTCAATCATCCACGGACCAGGTGGGAGGGAGGTGTTGGACCTGGTT

GCAGCTACTGAAGATGAGAGGGATGCTTGGGTGTCGGGTCTGACACACCTTGTTCAGTCT

GTCAAGGCTCTTCATGAAGAGAAACAGTATGATGTGTGGTTACGGCAACAGTTCGAAGAA

GCTGACAAAGACAATAATGGATCTCTTAATTTTAATGAGTGTTGCACTTTGCTCAAGCAG

TTAAACATCAAAATGGACAAAACACATGCCAAGAAGCTATTCAATCAAGCTAACACCAGT

AAGCAGAAGAGAGATGGCGACCAAGTTCTGGAAGTTGGAGAATTTGTTAACTTCTATCAT

GCACTACTGAAAATGCCAGAAATTGAAAAGTTGTTCAAAAAACATGCAAGTGAGAAAACT

CAGCTAATGAGTGCAGACCAGCTGTGTGCCTTCCTCCATAAAGAACAGGGTCTCATTGAC

TTGGATGAGAGCCAAGCAACCAAGCTCATTCATGAATTTGAAATCAGTGACCTTAAAGAC

CAAGGATATATGACGCAAGATGGCTTCTACCATATGCTCCTCTCGGATATGTTTGATATA

TTCAACCACGAACACAAGAGCAAAGTTCATCAAGACATGACCCAGCCACTTGCACATTAC

TACATCTCTTCTTCCCATAATACGTACCTGACTGGTCACCAACTTGCTGGAGAAAGTAGC

GTTGAGGGCTACATAAGTGCACTTAAACGAGGATGTCGGCTTCTGGAATTGGATTTGTGG

GATGGAGACGAAGGAGAGCCAATAATCTACCATGGTCATACCTTGACCACTAAAATAACT

CTTGCTGATGTTCTGAGAGATGGTATCAAGGCCTATGCTTTCGAGGCCTCGCCTTACCCA

GTCATTCTCTCTATTGAGAATCATTTAAGTGTGGAACAGCAGAAAGTCATGGTGCAACTG

CTGAAGGATATCCTTGGAGATATGCTTGCAACTGATCCAGTGTCAGAAGACATTACAGCT

GTCCCCTCTCCAGAGGCGCTAAAAAACAAAATAATCATCAGGGGCAAAAAACCTCAAGGG

TCTGAAGTGGAGTCGGATGATGACGATGATGACCAGGATGCCATTGATTATATTGATAGT

GATGATGGTGCTGCACAAACTAAAAAGAAGCCACACAAGCCTCTCGCTCCAGAATTAAGA

GAGATTATCAATGTATGTGAAGGGAAAAAGTTTACTACTTTCCATGATGCCTTTGAAAAT

TATAAATGTGTTCACACTCCATCGCTAGGAGAGACGAAAGCAAAAGGATTAATTGAAAGC

AGTCCAGATGACTTCATTAGGTTCACTGAGAGGCACGTTACCAAGGTGTACCCCCTTGGT

ACCCGGACAGACTCTTCTAATCTGAAGCCGTACCCCTTCTGGAGTGTAGGATGTCAGATA

GTGGCGCTGAATATGCAGACAGAAGACAAGGCCAACTTCTATGGTGATGCTCTCTTTACC

ACCAATGCAAATTGTGGCTATGTTCTCAAGCCAGATATTATCCTTAAAAAGGTACCCTAT

GATCCGACAGACCTCTCAGACAGATACACCAAAATTGTTCGTGTTACGGTGTTGAGTGGC

CAGCATCTACCAAATTCGGCCAAAAAGGGTGACATTGTTGATCCTTATGTACAAGTAAAA

GTTCGAGGTCACCCGCTTGACAAACAGAAACAGCGTACTAAAGTTATTAAAAACAATGGT

TTCAATCCAGTTTGGAATGAGGCATTAGAGCTGTCCATCAAGGTA

>MN110019 Procambarus clarkii cAMP-dependent protein kinase catalytic subunit 1 mRNA, CDS

ATGGGAAATGCGGCCACAGCCAAGAAAGGCGACCCTGCAGAGAATGTCAAAGAGTTCCTC

GAAAAGGCGAAAGAAGAATTCGAAGAAAAATGGAAAAGTCCCACAAAGAACACGGCGTGC

CTGGACGACTTCGAGCGTCTCAAGACGCTGGGGACGGGTTCCTTCGGGCGGGTCATGCTG

GTCCAGCACAAGGCCACCAAGGAGTACTATGCTATGAAGATACTCGACAAACAGAAGGTG

GTTAAGTTGAAACAGGTGGAACACACGCTGAACGAGAAGCGCATATTGCAAGCCATCACC

TTCCCCTTCCTCGTCTCCTTAGAGTTCCATTTCAAGGATAATTCCAATTTGTACATGGTG

TTGGAGTACGTGCCGGGTGGCGAGATGTTCTCTCATCTCAGAAAGATTGGCAGGTTTAGT

GAGCCTCACTCTCGGTTCTATGCGGCCCAGATCGTGCTAGCATTTGAATACCTCCACTAC

CTTGATCTCATATACAGAGATCTCAAACCAGAGAACCTACTTATAGACAGCCAAGGATAC

CTCAAGGTGACAGACTTTGGGTTTGCCAAGCGAGTCAAGGGACGAACGTGGACGCTGTGT

GGAACCCCAGAGTACCTAGCCCCAGAGATAATTCTTTCTAAGGGCTACAATAAGGCAGTG

GACTGGTGGGCCTTGGGTGTCTTGGTCTATGAAATGGCTGCTGGCTACCCTCCGTTCTTT

GCTGACCAACCCATCCAGATATATGAAAAGATTGTCTCGGGAAAGGTGCGGTTCCCAGGT

CATTTCTCTTCTGATTTGAAGGACCTACTAAGGAACCTCCTACAAGTTGATCTAACTAAG

CGGTATGGAAACTTGAAGAATGCTGTAAACGACATTAAGAATCACAAGTGGTTCGCATCG

ACAGATTGGATCGCTGTATATCAGAGGAAGGTTGAAGCTCCATTTATACCTAAATGCAAA

GGACCTGGAGATACTAGCAACTTTGACGACTATGAAGAAGAAGCCCTTCGTATCTCCTCC

ACAGAAAAATGTGCCAAGGAGTTTGCCGAGTTTTAG

>MN110035 Procambarus clarkii protein kinase C-like mRNA, partial CDS

ATGTTCACGGGCAACATTAGAGTGAAAATATGCGAAGCTGCAGATCTGCGCCTTACCGAC

TGTATGACTCGTTATGTCGGAGTGGCAGGGGTTGGAAAGGGCCCACAGGACCAAACCCTG

GATCCCTATGTTAGCTTAGATCTTGACGAAGTGCACTGGAACAAGACCCAGCCGCGGCAG

AAGACGTTGACGCCCGTGTGGAACGAGTGGTTCGAGCATGAGGTGGTCGGGGCCGTCCAA

CTCGGCCTCAAGATCTTCCATGATTCTCCGGTCGGCAACGACGACTTCGTAGCCGATGCC

ACCGTGCCCTTCGAGGAGATATGTGCCGATAATCAGACCCACGCCGATATATGGGTGGAC

CTAGAACCTCAGGGGAAGCTACATGTTGTAATTGAATTAAAATGGGCCGAACCAGAAGAT

GGAAGTATCCGCCCACGAGAATTCAGGGAACGGCAGGGTTTCAACCGCCGACGTGGAGCG

ATGAGGCGGCGAGTTCATCAGGTCAATGGTCACAAGTTCATGGCTACTTTCCTACGACAG

CCAACCTTTTGTTCGCACTGCAGAGATTTTATATGGGGTTTAGGGAAGCAGGGTTACCAA

TGTCAAGTATGCACCTGCGTTATTCACAAACGTTGTCACCAGTCTGTCGTCACACGATGT

CCAGGAAGCAAGAGTATAGACCAAATCTCAGAGGAGCCATCTGTAAAGGGAAGTGGTCAG

CAACGGTTCAATGTCAATGTGCCGCACCGGTTTTCTGTTCACTCATACAAGCGGTTTACG

TTCTGCGACCATTGTGGCTCATTGCTTTATGGCCTTATTCGTCAGGGTCTCCAGTGTGAA

GTATGCAATATGAATGTTCACAAGAGATGCCAGAAGAATGTAGCCAACAATTGTGGAATA

GATGTAAAACAATTATCTGAAATCCTCACAGCCATGGGAATACGTCCTCAAGATGAGTCA

GGGAAACGTAAAAAGAAGTCTATCAGTGAGCCATCGAAATTACCTGCATCAGCCACAGCC

TCTGTGAGTGTTCCAGGAAGTATCAGTGAGATAGAGGAGCTAGGAACAATGAAGGAGGAA

GAACTAAGACTACGGATTGAAGCTCAAAGATTTATGGAAGAGAAAATGAAAGATCGATGT

CCAGAGGAAGAACAGGATTTAAAGCCGAGAACACTAGACACTGACTTAGACATGGTGCTC

GGTGGGAAGAAGCTCGGGTTAGACGACTTCAACTTCATCAAAGTACTGGGCAAGGGAAGC

TTTGGCAAAGTTATGTTAGCTGAACTAAAAGGAACGGATGAAGTTTATGCCGTCAAGGTG

CTGAAAAAAGATGTCATCCTTCAAGATGATGATGTAGAATGTACAATGACTGAGCGACGC

ATCTTAGCCCTGGCCGCCCACCATCCTTTTCTCACCGCCCTCCACTCTTGCTTCCAAACT

AAGGACCGG

>MN110013 Procambarus clarkii beta-arrestin-1-like mRNA, CDS

ATGGACGACAACAGCAAGCGGCAGGGGACCAGAGTATTTAAGAAAAGTTCTCCGAATGGA

AAAATCACCGTCTACTTAGGGAAGAGAGACTTTGTTGACCACATCACACACGTAGACCCA

ATAGATGGCGTAGTGTTGATCGACCCCGAGTATCTGAAGGACAGAAAGGTATATGGACAT

GTCTTATCTGCCTTTCGGTATGGCCGCGAAGACCTGGATGTGTTGGGCCTCACATTTCGC

AAGGACCTGTACCTAGCGTCAGAGCAGATCTTTCCCCTTGACACTGCCAGCAAGAGGGCC

CTCACTAGGTTACAGGAACGCCTCATCAAGAAATTAGGACCAAATGCCTTTCCGTTCTTC

TTTGAGCTTCCCCCTCACTGCCCAGCGTCAGTCACGCTGCAGCCTGCACCGGGGGACATG

GGCAAACCCTGTGGGGTTGACTATGAACTTAAGGCATATGTTGGGGACAGTGTCGATGAC

AAACCTCATAAAAGGAATTCAGTGCGGCTTGCAATTAGGAAGGTTATGTATGCTCCCATG

AAGCAGGGAGACCAGCCCAGTGTGGAGGTCAGCAAAGAGTTCATGATGTCTCCCAACAAA

CTTCATCTTGAAGCATCTTTAGACAAAGAGTTATATTATCATGGAGAAACAGTAGCCGTT

AATGTCCATATACAGAATAATTCTAATAAGAGCGTCAAGAAAATTAAAGTATCAATTCGG

CAGTTTGCGGACATATGCCTATTTTCAACGGCTCAGTATAAATGTACAGTGGCTGAAACG

GAGAGCGAG

>MN110014 Procambarus clarkii phosphatidylinositol transfer protein beta-like mRNA, partial CDS

ATGCTCGTCAAGGAATTTCGAGTCATCCTTCCAGTCACAGTTGAAGAGTATCAAGTGGCA

CAGTTGTACAGTGTAGCTGAAGCGAGTAAAAATGAAACAGGTGGAGGAGAAGGCATTGAA

GTTCTCAAGAATGAGCCCTTTGACAATTATCCATTACTTGGGGACAAGTACAGCAAGGGA

CAGTACACCTACAAAATCTACCACCTTAAAAGCAAAGTACCATCTTTCATCCGGATCCTA

GCACCAGAAGGGTCACTAGAGATTCATGAAGAAGCATGGAATGCCTACCCCTACTGTAGA

ACCATCATCTCGAATCCAGGCTACATGAAGGAGAGTTTTTATATTACTATAGAGACACTT

CATGCAGCTGACGATGGGGAGTCCGAGAATGCTCACAAACTGACGGGAGAAAAGCTGAAA

ATACGCGACGTAGTGACAATTGACATTGCCAATGATCCAGTTAAATCTTCAGATTATAAA

CCTAAAGAGGACCCAACAAAGTTCAAGTCTGAGAAAACTGGCCGTGGTCCTCTGAAAGGT

CCACAGTGGTGGAAGAAGTGTGATCCCGTGATGACATGCTACAAGTTGGTGACATGTGAA

TTCAAGTGGTTTGGGCTGCAGGCACGCGTAGAGAAGTTCATCCAGGATGCTGAGCGCAGA

CTGTTTACCAACTTTCATCGACAAGTGTTTTGTTGGATGGACGAGTGGCATGGCATGACC

ATGGATGATATCCGGCGGTTAGAAGATAAAACAAAGGAAGAACTGGATCAGCAGAGACAG

ATAGGAGAAGTTCGAGGCACAATGGATGAG

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SET 4. Opsins

>MT601688 Procambarus clarkii G-protein coupled receptor moody-like mRNA, partial CDS

GCTAACTTGGCGAACGTCACCCATGGCAGGGAGCCGCTCTTCGCAGACTATCCTCCACCT

CTCTTAGACTTCGCGGTGTTCTGCTGCGTTCTGTTCATCGTTCTGGGTGTCCCCGGTAAC

CTGATCACCATCATTGCCCTCGTCAAGTGTAAAAAGGTCCACAACGCTACCGCTGTCTTC

ATCATCAACCTGACGCTCTCCGATCTGATGTTCGGGGTGTTCAACCTGCCTCTTGCTGCC

TCGTTGTTTGGGCATAGAGCCTGGGTACATACGGGCTTCCTGTGCCTACTCTTCCCTATC

CTGCGCTATGGGCTGGTGGCAGTATCTGTCTTCACCGTTCTGGCTATCACTATCAATCGT

TATGTTATGATTGCTCATCCCAGACTGTACCACAGGCTGTACACTCGGACGTGGTTGGCT

ATCATGGTCGTGGCGACGTGGATAGGTGCCTTTGGAGCCCTGGTGCCTACGCTGCTAGAA

TTCTGGGGCACCTTTGGCCTGGACCCGGCGATTGGCTCCTGCACCATCTTACCCGATCGG

GACGGAAACTCGCCCAAGGAGTTTCTCTTCGTCTTCGCCTTTGTGCTGCCCTGTGTGGCC

ATCTGCGTCTGCTACGCCCGCATCTTCTGCATCGTGCATAGAGCGGATAAGAAGAGCCAC

AGCCACAGTCAGCATTTTCTCAAGGTTAACGGCAAGCGTCACAAGAATGTTGCTTCGCCT

TGTACGGCTGATCCACCGACGTTGCAGACCCTTCATGCAACTCCGCTACACGATCGTCTC

CAGCTTGAGACGCTCGTCAAGCTCTCCACCAGCAGTAATTCCGTTAAGGTGGAGATAGTT

GAACCACAGGAGGAGTCTCAGAAAAATGAGGAGAGCTCGTTAGACGGTAATGGAAGGGGG

GGCTGTGGGAGCAAGGAAGGCACGCGGACGCCATCTCCTGAAACCACTCCTGCAGGAATG

ACCACTGACGCCAGTTCGTTGCTGAAGACGGAAGCCAATGGCTTTTCCGGTCATTCTTCA

AACGAGGGAGTTGGCGCCTCGTCAGCGGCCTGTTCTCCTATCCGGATAAGTCCTCCAACG

GCGCCTGAATCTCCCGCTTCAGTGAAGTCGGATAGAAAAATAAGTACCAACATCGAGAGA

CGGCCGTCCACTATATCCGGCCGTGGTGGCACTTTCAGCCACCTCCGTGGCACTTTCCGA

AGGACACGCGCCGGTTCCTTCATTGCCAGACAACCTACATTGAGTGCCAAGGACCGGCGT

CTCCTGAAGATGATCCTAGTGATCTTCTTGTCATTCGTAGCGTGTTATCTACCCATCACG

CTCGTCAAGACCTTCAGTAAGGATGACAACCCCGTGCTAAACATCCTGGGTCTCCTCCTT

ATCTATCTAACCACCTGTATCAATCCTATCATCTACGTGGTGATGTCTTCGGAGTACCGT

CAAGCCTACGTCAGCCTCCTGACCTGCAAGCGTGACCACGATCCCGCTAATCGCTCCGTC

ACTAAAATTTCCTGA

>MT601689 Procambarus clarkii G-protein coupled receptor moody-like isoform X2 mRNA, CDS

ATGGAGACCCTCAGGTCGTCTGCAGACTACCCCGACTATCCTCATTTCTTCAACGACAGC

TGGGACGAGCCCCCTTGGGACGAGGCGGCCGAGTCAGAGATTGCCAAGATGTCGCGGGGC

GTGGCCAGGGTCATCGCTGTGCTCTTCATAGGCTACATGGTGTTGGGGCTGACTGGCAAC

TTCCTCACTATCCTGGCCCTCCTGCGCTGTCCTCGGGTCAGGAACGTCACCGCTGCTTTC

ATTATCAGTCTGTGTGTGGCCGACTTCCTGTTCTGCGTGTTAGTACTGCCTTGGGAGGTG

TCAAGATTCCTTGCTGGCAAGTGGGTCTGGGGAGAAGGCTGGATCTGCACCCTTTTCCCG

CTTCTCAGGTACTGGAACGTTGCCGTCTCTCTACTGTCCATCGCCATGATCACTATCAAC

AGGTACATCATGATAGCCCACTTCAGCGTGTACAAACTGGTGTACAGGAAGGGTTGGATC

GCCCTTATGATCGCCTTCTGCTGGGTCTTCGCCTTCGTCATGCTTCTCCCTACCCTTCTC

AGCAAGTGGGGACGCTTTGGCTTGGACCGACGGCTACAGACCTGCTCAATCCTGGACGAC

AGCAACAAGTCGCCCAAGCAGGTGCTCTTCGGGTTGGGCTTCTGTGTTCCCGCCATAGTC

ATCGTCATCTGCTACTCCCTGATATTCTTCGTCATCCACAAGTCTGAGAAGCGGATGCGT

CAGCACAGCACCCGAGGCATGAACGGGGCGGCGCCCCCCTCCGGACCTACCCTCCAGCCA

CAGTCCAGAGTCACCACCAAGGTGGAGCGAGAGGCCCGGCGCCGCAGGAATGAGTGGAGG

ATCACCAAGATGGTGCTCATCATTTTCATCGCTTTTCTCATCACCTACCTGCCCATCACC

CTCGTTAAGAACCTGGACAAGAAGGTGGATTATCCAGGGCTCCACGTGCTCGGCTACGTA

CTTATCTACATCTCGGCGTGCATCAATCCTGTCATCTACGTCATCATGAACAGACAGTAT

CGACAGGCCTACAAGACGGTGCTGTTGTGTCGACGTCCCCGTCTCCCGTCTCTCACCTCC

TCCCACACAGAGCGCGGGAAGGGTCGGAACAAGATGGTGATGGAGGAGCTGAATGATAAG

ACCATGATGTCTCAAGTCTCTCTCTCCGACGCCGGCCCCTTGCCCGAGTGCCACGAGCTT

CCTGAGGTCTTCCTCGACAAGTGA

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SET 5. Phototransduction, Ciliary

>MN110027 Procambarus clarkii neurocalcin homolog mRNA, partial CDS

ATGGGCAAGCAGAACAGCAAACTCAAACCAGAAGTGTTGGAAGATCTTCGTTCCAATACA

GAGTTCACAGACGCTGAGATCCAAGAATGGTACAAAGGTTTCCTTAAAGATTGTCCAACA

GGCCACCTTTCAGTTGAAGAATTCAAGAAGATATATGGGAACTTCTTTCCATATGGCGAC

GCATCAAAGTTTGCGGAGCATGTGTTCCGGACCTTCGATGCAAATGGGGACGGCACCATA

GACTTTCGAGAGTTCTTATGTGCCCTTTCTGTCACATCAAGAGGAAAGCTGGAACAGAAG

TTGAGGTGGGCCTTCTCAATGTATGACCTCGATGGAAATGGATACATCAGTCGACAGGAG

ATGCTGGAGATCGTTACAGCAATTTACAAGATGGTTGGCTCTGTGATGAAGATGCCAGAA

GATGAAAGTACCCCTGAAAAACGTACAGACAAAATCTTTCGTCAGATGGATAAGAATAAG

GATGGCAAGCTAAGTCTTGAAGAATTCATCGAAGGGGCTAAGAGTGACCCATCCATCGTA

CGCCTGCTGCAGTGTGACCCTCAATCATCTCAG

>MN110022 Procambarus clarkii neuronal calcium sensor 2-like mRNA, partial CDS

GGGTGTTTCGGGAGCAAGGAGAAGCTCTCTAAGGAGGACCTGGAATTCCTCAAGACGCAC

ACCAGATACGACGAACAGATGATCAAGGAATGGTACAAAGGCTTCAGGCAAGACTGTCCG

AGCGGCCGTCTTACCCCAGACAAGTTCGTCGACATGTACAAAATGTTCTTCCCATCCGGT

AATGCGGAGGAGTTTTGCGACCACGTCTTCAGAACCTTCGACATGGACAAGAACGGTTAC

ATAGACTTCAAGGAGTTCCTGCTGGCCATCGACGTGACGAGCGCCGGCACCCCGGAGGAG

AAGCTCAAGTGGGCCTTCCGCATGTACGATGTTGACGGCAACGGTGTTATCGACGTCTCC

GAGATGACCAAGATTGTTCAGGCCATCTATGACATGCTTGGGACCAACTCTGCTAGTCGT

CCAGCGGACAGTGCTGAAGAGCGAGCAAAAGCCATTTTCTCAAAGATGGACGAAAATAAT

GATGGCAACCTAACTCAGGAAGAGTTCCTGAAAGGGTGCTTGCTAGATGAGGAGCTCTCT

AAGATGCTCACACCGGGAGCT

>MN110033 Procambarus clarkii regulator of G-protein signaling 9-like mRNA, partial CDS

GAGCGTCTGGAGATCGAGGACTCAGCGGAGGCCATCCACCTGGCCAACCTGCTCTGTCAG

TACGGCTACTTCTTCCCAGTGGGGGAGTCTCGTTCCCTCATCGTCAAGGATGACTCCTCC

CTATACAGGTTCCAGACGCCGTACTACTGGCCCTCTCAGAACCACAGCGCCGACACCACC

GACTACGCCATCTACCTCACCAAACGACTCTCCAGGAACAAGCAGAAACATGGCCTGGAG

GACTACGAGGTGGACGCGTACAACAAGCTGAAGAAGGCGCTCTCCCACAAGTGGGACTTT

ATCTCCATGCAGGCGGAGGAACAGGTAAAGCTAGCGAAGGACAGGAAGAAGGGTGACAAG

ATAGTGACGGACTCCCAGGAGCGGGCCTACTGGCGGGTCTACCGTCCTCCTCCGGGCTTC

ACCAACTGCCTAGAGACCGCCCCCGTCCCGGACAAAACAAATATGGCCAACAGAGTCCGC

AAGAAAACGGTCGACGATCTCAAGAAA

>MN110036 [organism=Procambarus clarkii] regulator of G-protein signaling 7-like mRNA, partial CDS

GAACAATATCAAGAATATGATCCTTTCATCCCTGCAACTGACCCGCCTAATCCCTGGGTT

TCAGACTGTCCTGATTTCTGGGAAGCTGAGAAAATTGCGAAGGAAATCCCATCTAAACGA

GTAAGAAGATGGGGCTTCAGTGTACAAGAACTGCTCAAAGACCCACTTGGACGTGAGCAG

TTTGTCAGATTCCTTGAGAAAGAGTTCAGTGGAGAAAACCTAATGTTCCTTACTGCCGTT

CAGGAACTGAAGTGCCTCCCACAAAAGGACGTCCATGATAAGGTCCAAGCTATCTGGGAT

GAATACCTCGCCCCTAGTGCCCCTGTGCCCGTAAACATCGACTCTAAGTCCATGAATATT

ACAAAGAAAAACATG

>MN110028 Procambarus clarkii putative regulator of G protein signaling mRNA, partial CDS

TTCAGGAAGGACAAAAGACTCAGTATGATTATGGCAGCTGGTTTAGATCCAGGCAAGCCT

CCAGCAGCCACTAGCAGGTCCTTGGAGCATCTAGCGGTTGATGGTGGTGTTGAAAAGAAG

TGGACTCGAAGCACCTCTCTCCGCCGTCACTTCCACAGTTCAAGACACAATGGTAGCCAC

CAACAAGATCCTTCAGCTCACTCTGATACTGAAATTGGCAAGATATCGGCACCACACAGC

CTCCTAGATGGTGAATGTGGTTCTGTAGGAGGAAGCGTATCCTCTGAGAGAGCTATTGAC

GTTGGAAGAGTGGGTGCTTGGGCTACATCATTTGAGAAGCTCTTAGAAGATCCCGCAGGG

CTGCATACCTTTGCTGAATTTTTGAAAAAAGAATATAGTCATGAAAACATTTACTTTTGG

ACGGCTTGTGAACGATACAAGCGAGTCTCCAACCCTGATGAGCTTCGAGCCATGGCCAAG

GAGATTTTTGAGAGACACTTGTACAGTGGCGCCCCTGAACCTGTCAACGTTGACTCGCAA

GCAAGACAGGATGCTGAAGAAGGCCTTCATACTCCAAATCAATTTTTATTTGATCAGGCC

CAGAAACAGATTTTCAATCTCATGAAGTTTGACAGTTATTCTCGATTCTTGAAGTCAAGT

TTATACCAAGATTGTGTATCTCGGGATATGAGAGGTCAAACTCTGCCCTACCCTGGGGAT

GATAACCTTGACCCGGATCTAAGAATTGCACAAGAAGATTCACATGTAAAGTTGAAAAAA

AGCAGATCAGATGCAGAGGAACGTCGTCGGAAGTCATTATTACCGTGGAATCGCAAGGAT

CGTAGTAAGAGCAAAGACAGA

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SET 6. Melanin Synthesis

>MN110038 Procambarus clarkii cysteine sulfinic acid decarboxylase-like mRNA, partial CDS

ATGAACGGTGGACCCACTGCGCTTAACAGCCACAAGAACAATGAATCTACTACGCTTAAA

CAACCCACCACCAACGGCTACGTGACATCAGAAACCAGTATACAGGAGGAGGACGGACTA

GACGAGCGAGGGGCCCTGCTAAAAATAGTGCTAGACATCGTACTGAAGGCCAACCTCGTT

ACCGGCATCAACCCCACGGAAAAAGTTGTCGAGTTCAGACACCCCAAGGAACTAAAGGAA

GTGCTGCAAGTTGGGGTGGGGGTGAACGGGTGTTCCCAGGAGGAGATGGAGGCCGCGCTG

GAGCAGGTTGTGCACTACAGCGTCAAGACTCAACATCCTCACTTCTACAACCAGTTATAT

GGAGGCATCGACGAGGTGGCGCTCACTGGAGCCTGGATGACAGAGGCGCTCAACACTAAC

CAGTACACGTTCGAGGTGGCCCCGGTGTTTATGTTGGTGGAAGATTACGTCATCTCCAAG

CTGGCCAACCTTTACGGATGGCCCAATGGTGACGGTATCTTCGCTCCTGGTGGAAGCTTG

AGTAACATGTACGGTATGGTGATGGCCAGATACAAGAAGTATCCAGACGTGAAGAGGACC

GGAGTGTTTGGCCTCAAACCCCTCGTGGCGTTCACCTCAGATCAGGGACATTATTCAGTG

AGCAAGGGCGCCTCGTGGCTGGGTGTTGGGATGGACAATGTTGTAAGTGTTGCTTCAGAC

AGTCAGGGGAGGATGAAGGCGGAAGAGCTGTCTGCGCGGGCGACGTATCTGTTCCAGCAA

GACAAACACTACGACGTGAGTTACGACACTGGCGACAAGAGCGTCCAGTGTGGGCGCAAG

GTCGACGCCTTCAAGCTATGGGTCTTCCTAAAGTTCCACGGCTTGGACGCCCTCGAGAAG

AGGGTTGATGCTGCCTTCAGCGCCTCCAGGTACTTGAGTAAGAAGGTAGCCGGCCGTCCT

GGCTTCAGGCTGGTACAAGAGCCACAGTGTACCAACGTCTGCTTCTGGTACATCCCAGCG

AGCCTCAGGGGCCTCCCAGAGACCCCAGAGTGGTGGGTCAAACTCTCAAAGGTTGCTCCA

GAACTGAAGGCGCGGATGGTGAAGCAGGGAACTATGATGGTCGGGTACCAGCCCATCGCC

TGCAAGAATCTAGTCAACTTCATCCGGATGGTCACCACCTGCACGCCTACGCCCACACAC

GAGCACATGGACTTCGTAATTAGTGAGATTGAGAGACTGGGAGCCGATCTG

>MH156427 Procambarus clarkii prophenoloxidase (proPo) mRNA, partial cds

ATGGCTAACGTTCAGGCGCAAATGCTTAAACTGTTCGAGCGGCCGTACGACCCTATGAACTTGCGGCGAA

GTGATGTTCCCACAGGATCAGCAGGCACCGTGGGGACCAGGTTCGGTGGTGCGACGGTCCCATCACTTTC

AGATGCTGATAAGAACCAACTGGGAAAGGCTCTCTCCGTCCCTCGCGGCAGCGTTTCTCCTTCTTCATA

AGGTCCCATCGCGAGGCCGCCAAGGACCTCTGTGCTTTCCTGATGAAAAGTACAAACGCCAGTGAACTGA

TGCAGTCGGCGGCCAAAGTGAGGGAAGAGGTCAATCAGTCTCTCTACAATTACGCCCTCTCCTTCACCAT

ACTTCACAAGCAGGATTTGCGAAATGTTCGCCTGCCGGCAGTCGTGGAGGTCTTCCCTCACAAATTCATA

CCACAGGAAGAACTGACAAAAATGCAGATTGAAGTGAATCGGACTCCATCTACTGCGACAACACCGCTGG

TGATTGAACACGGAGCAGACTTTGCCAACACCACCCTGAAGCCAGAGCACCGAGTGTCATACTGGAGGGA

GGACTACGGCATCAACTCCCACCACTGGCACTGGCATCTTGTTTACCCCGCTGGCATGAATGTCAACCGG

GACCGTAAAGGAGAACTTTTCTATTATATGCATCAGCAGATGGTTGCCAGGTACGACATGGAGCGGCTCA

GCGTTAACCTCAAACGTGTGGAGAAGCTGGAGAACTGGCGCGAGCCCATCCCAGATGGTTACTTCTCCAA

GCTTACTGTTAACAACTCCGGTCGGCCCTGGGGCATCCGTCAGGACGGTACCTTCCTGAAGGATTTGAGA

CGTAACGATGCCGGGATTGATTTTTTGGACATTAGTGATATGGAGCTCTGGCGGTCCCGACTGATGGACG

CCATCCACCAAGGATATATGCTAAATCCGAATGGTGAGCGCATCCAACTCTCTGATAACGTCACGACAGG

AAAGCGAGGGATTGACATCTTAGGAGACGCATTTGAGGCAGATGATAGGCTGAGCCCACATTACCTCTTC

TATGGCGACCTTCACAACATGGGCCACGTGATGCTGTCATTCTGTCATGACTTCGACAACGCACATAGGG

AGGAGATGGGAGTAATGGGAGACTCGGCGACTGCCTTGAGAGACCCAGTCTTCTACCGCTGGCACAAGTT

TGTGGACGACGTCTTCCAGGAGTACAAGCTGACGCAGCCGCCCTACACCATGGAGGACCTGACTCTGCCG

GGCGTGGTGCTTGACAAGGTGGGTGTTGTGAGGGACAACCAGCTCAACACTCTCACAACTGGC

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SET 7. Pterin synthesis

>MN110003 Procambarus clarkii Aldehyde oxidase mRNA, partial CDS

ATGGAGGCTCATGCTGGTCGGGTTGTGCCAACAGAAGATGGATATAATGTGTTCAGTACA

TCTCAGTGGCCAACAGAAACACAGGCAACTGCGGCTCAGGCACTGGGCATATCGACCAAT

AGCATCAATGTGTCTGTGCGTCGAATTGGTGGTGGTTACGGATCCAAGATTAGCCGTCAG

CATATAGTTTCGACAGCAGCAGCAGTTGCAGCCAGAAAACTGAAACAGCCAGTGCGTGTT

GTGATGGACCTCACTGCTAATATGACTTATGCAGGCTGGAGAGAACCCTATTACTCAAAG

TATGAGGTTGGCTTTGATGGTAAGGGGAAAATTGAAGCTCTGAAGATTGAATTATATGGT

GATGCTGGCCATATCTCCAATGAATCTGCTGTAGGGTTCTTATTTGCTGCCATCCAGAAT

TCCTACTATATTCCCAATTTCAATTTTACACCTGCCAATGTGAATACTGATACTGCTGCC

AATACTTACTGCAGGACACCTGGCCATGTGGAGGCTGTTGCTACAATAGAAAACATCATG

GAGCATATAGCAAATTATTTAAAGCTTGACAAGTTGGAAGTGCGACTTATTAACATGGTC

CCGCCTCAAGTCCCTCGCATGAAAATTCCACCACACGAGAGGAATGTTGTAAAGGAAGAT

ATTCTTCCATTGCTGATGAAGAAGGCTTCAGTCGTGCAGCGGCAACAGGAGGTGGATACA

TTTAACATGAACAACAGATGGAAGAAACGAGGACTGTCTGTTCTTCCATTGTGGTATGGG

TTTGACTACCCATCAATGTTCCGCTACGGTATGCAAGTCACCATTTATGAACATGATGGT

ACAGTAGCCATCTCTCATGGAGGGATTGATATGGGACAAGGAATTAACACAAAGGTGGCT

CAAGTTGCAGCGTACGTCCTGGGCATACCTCTGGAGCAGGTTGTGATCAAAGCCTCCGAT

ACAATGGTGGGGGCCAACTCCATAGTGACTGGGGGCTCCTTTGGATCAGATCTCTGTGCT

CATGGTGTGAAAATTGCCAGTACAGCCCTTCGTCAGCGTATGGATGTCATAAAGGAAAAA

ATGAAATCAGAGACGGGAAAAGATCCGTCTTGGCTGGAGCTGGTTAAAAAGTGTCACGCT

GAAGATGTGGACCTGTCAGAGCGTTACTGGACTGCTGGCAAGGAGCACCCAAAGCGTTAC

GACATCTGGGCCGCTTGCTGTCTTGAGGTTGAAGTTGATGTTCTGACTGGGGTATACATG

ATTAGACGTGCTGATCTGATAGAAGACAGTGGCCGAAGCATGTGC

>MN110004 Procambarus clarkii Indole-3-acetaldehyde oxidase-like mRNA, CDS

ATGACCTTAGTGGGCTGGCGAGAGCCATACATGTCTAAGTATGAGGTTGGGTTTGACGAC

GCGGGCAGACTGGAGGCGGTGAAGGTGGACATGATCTCCGACGTGGGCCACGTGGGCAAC

GAGGCCTCCGTGGGCTCCCTAGCCAGTCGGCTCCGCAACACCTACTACCTTCCCAACGTC

TTGTTTCGCCCCGTCATTGTCCGCACCAACACGGCCGCCAACACCTGGTGCAGGACGCCA

GGTACTGTGGAGGCTATTGCGACCATGGAGAATATCATTGAACACGTGGCTAGCTATCTG

AAGAAGGACCCACTTGAAGTGCGACTTGTCAACATGGTGGCTCCAAATGTGGCTCGACTT

ATGACTCCACCTCATGTGAGAAATGTGGTCAAGGATGATATCTTGCCACAGTTGATGCAG

AAGTCTATGTACGAGCAGAGGCAGGAGGAGATCCAGATATTCAACCAGGAAAACAAGTGG

AGGAAGAGAGGCATGTCTATTGTCCCTCTGTGGTACGCCCTCAACTATCCTTCAGTGTTC

CGGTACGGCATCCAAGTGTCCATCTACGAGCACGATGGCACCGTTGCTGTCTCTCACGGA

GGCATCGAGATGGGGCAGGGCATCAATACTAAGGTGGCCCAAGTTGTTGCGTATGAACTT

GGCATCCCACTGAGCTCTGTTATACTGAAGGCATCTGACACCATGATTGGCTCCAACTCT

ATTGTCACGGGCGGGTCTTTTGGCTCAGACTTGTGTGCTCATGGAGCGAAAGTAGCGTGT

GAGGCCTTACGTAAACGTATAGACGTGGTCAGGGAGAAGATGAAGAAGGACACTGGTGAT

GACCCGTCTTGGGTGGAGCTCATTAAGAACTGTCACGCTGAAGACATTGACATCTCTGAA

CGGTACTGGACTGCCGGACGGGAGCACCCCGAGCGCTACGACATCTGGGCCGCCTGTTGT

CTCGAGGTGGAGATTGACGTCTTAACCGGACAGTATCTGTTCCGCCGTGCAGATATAATT

GAAGACTGCGGGAGGAGTCTGAATCCGTATGTGGACATTGGTCAAGTGGAAGGAGCCTTT

GTCATGGGCATGGGGCTCTACACATCAGAAATGGTGAAATACGATAGCAGTACCGGCCAA

AAGCTGTCAAATAGCACTTGGGAATACAAACCACCAACAGCTCTGGACATCCCGGTTGAC

ATGAGGATTAGTCTCTTATCTAATACGTCAAACGCTCACGGCGTCCTTGGCTCTAAAGCA

ACTGGGGAGCCGGCGCTGTGCCTCTCCTACGCTACAGTCACGGCTCTCCGCGCCGCCATA

ACTGCATTCAGGGCTGCAAATGGAGACGATGAATGGTTTGACATGGACACGCCAATAACC

GTGGAGAAGGTGCACCAACTGTGTGGAGTGAGACCAGAGCAGTTCACACTCGTCAGCTCC

CTGCACGAGTCCTTCGATGACTTCTGTCTTGTCACCAAGGACCAACTTCCAACAGAAGCT

GCCACCTTCTGCCCTATTAAT

>MN110006 Procambarus clarkii pyrimidodiazepine synthase-like mRNA, CDS

ATGACCACCAAGCATCTCAGTACAGGATCAGCATGTCCTCCACTGGGAGATGGAGTTATG

CGATGCTATAACATGACATATTGCCCATATGCCCAGCGAACACGCCTTGTTCTCGCTGCC

AAAAACGTTACACATGAGATTGTTAATGTTAACTTGATCACCAAACCAGAGTGGCTATTT

GAGAAGAATCCCTTTGGTAAGGTACCAATTCTAGAGCAAAATGGGCGGTGCATATATGAG

TCACTGATAACATGTGATTATTTAGATGAGGTCTATCCTGAGCCACCACTCTACCCAGCT

GATCCTTTGAAAAAAGCAGAGGATCGAATGTTCATCGAGCGCATCTCACAGATAACTACA

CCTTTATACAAGTTATACTATTCAAAGGAGGACGAGCAGACTCAAAAATCCTGCGATGAT

ATCAAATCTGGACTTGATGTGTTTGAGAATGAGCTTGTAAAAAGAGGCTCTGAATTCTTT

TGTGGTGGTAGGCCTGGTATGCTAGATTACATGATATGGCCATGGATGGAGAGGCTTCCT

ATGGTTCAAATGTTTGCTGGAAATGCTGGAATCATCATCCAGGATCGTTTTCCAAAACTG

CTGTCTTGGATGGATACCATGAAGAAAGATGCAGCTGTAAAGGTCTCATTCATATCACCA

GAGACTCACTTCAAGTTTATCAAGACACATTTGAATGGAAGTCCAGATTATGACATGGAG

CAA

>MN110005 Procambarus clarkii Dihydropteridine reductase-like mRNA, CDS

ATGTCTGCTGGTAAGGTTGTGGTCTACGGTGGCCGGGGCGCCCTCGGGGCCGCTGTCGTC

AAGCACTTCAAGCAGAAGGGTTTTTGGGTTGGAACTGTTGACCTGGTAGCCAATGATGAA

GCAGATAAGAGTATCATAGTCTCCAAGGATGGAAATTGGTCAGCACAAGCAGCAGAAGTT

ATTTCTGGATTGGAGGCTGCATTAGGTGAAAGCAAGGTAGATGCTATCATCAATGTTGCT

GGTGGTTGGGCTGGTGGCAATGCTAGCAGTAAGGATTTTCTGAAGAACTGCGAATTAATG

TGGTCCCAGAGTGTGTGGTCATCTACCATCACAGCCCAGGCTGCTTCACGCTTTCTCAAA

GAAGGGGGATTGGTGTCTCTCCCTGGTGCACAACCTGCAATCAATGGAACGCCAGGCATG

ATTGGATATGGTATGGCCAAGGCTGCTGTGCATCAGCTAACAAAGAGTCTTGGTGAGGAA

AAGTCTGGACTACCACAGGGGGCCACAGCAGTTGCCTTGCTTCCAGTCACCTTGGATACA

CCTATGAATAGGAAGTGGATGTCCAGTGCAGACTTCTCCACTTGGACCTCACTTGAGTTT

GTTGCCGAGCTCCTCCACAAGTGGACAACTGGGAGTGACCGACCAGCATCTGGCAGTCTT

GTGCAGCTCATCACCAAGGATAACAAGACAGACTTGGTTGTGGCT

>MN110007 Procambarus clarkii Pterin-4-alpha-carbinolamine dehydratase-like mRNA, CDS

ATGGCACAAAAACTAACAGCAGGGGAGCGAGAGTCAAAACTAAAGCCTCTACTGGACGAC

AGCTGGACAATGGTAGATGGTCGTGATGCTGTGAAGAAAACATTCCTCTTTAAGGACTTC

AATGAGGCCTGGGGATGGATGGGTCGTGTTGCACTGAGAAGCGAGAAGATGGACCACCAC

CCAGAATGGTTCAACGTATACAACAAGGTGGAAGTTACTTGGTCGACACATGATTGTGGT

GGATTGTCTTCCAAAGATATCAATATGGCCACCTTTTGTGATGACACCTTCAAGCTGTCC

AGCAAG

>MN110009 Procambarus clarkii Sepiapterin reductase-like mRNA, partial CDS

CTTGGTACCGCTAGTAAGGAAAATCTAGAGAAGGCCCTGGATAAATTGCTGATAGTAGGACAGGATCCTC

CTCCAACTCGATGTGTCATATTCCACAATGCTGGGTCCCTTGGAGATCTTGTATACCTGCGGAATCTCAA

GGACCTTGACCATGTCAACAGTTATTTCCAAATGAATGTTAGCTCTGTGGTGATGCTGAATGCAGTGGTC

ATAGAAATTATGTCAAAACAGCCTAATGTGGCACTAGAGATTGTGAACATCTCGTCCTTGTGTGCTGTAC

AGCCCTTTAAATCCTGGGGACTTTATTGTGCTGGAAAAGCTGCTAGGGATATGCTCTTTAAGGTTTTGGC

AGATGAGGAACCCAACATTCTGGTGCTTAATTATGCACCAGGGCCCTTGGATAATGAAATGCAGGAGATT

GCTCGTAGAGCAACAACAGATAAAGAACTAAGGTCAACTTTTGCATCGTTAAAGGAGGAAGGCAAACTTC

TTCCCTGTAATGTGTCTGCCAACAAACTCTTGGATATATTGAAGCAACGTAAATTCAAGTCTGGAG

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SET 8. Ommochrome synthesis

>MN110008 Procambarus clarkii ATP-binding cassette subfamily G member 1-like mRNA, CDS

GGCAGACATAGAGGTTACAAGACCATTCTGAAGGGTGTAAGTGGGAAGTTCAAATCTGGT

CGACTGACGGCTATCATGGGTCCTTCTGGTGCGGGAAAGTCCACTCTTATGAATATTACT

GCTGGATACAGGATTAGTAATGTTGTTGGGACAATCACTGTTAATGGCAGAGAACGAAAT

CTGCGAAAGTTCCGCAAGATGTCTTGTTACATAATGCAAGATGATCACCTCCATCCACAT

CTCACTGTAATGGAGTCGATGAATGTTTCTGCCAACCTTAGACTAGGTGACAGAATGAAA

AGACAGCAAAAGGAAGAAGTGATCAATGAAATACTGGAAACCCTGAGCTTAACAGAATGC

AGAGATACAAGAGCAATTAATCTTTCCGGTGGCCAGCGCAAAAGGCTGTCCATTGCCCTG

GAACTTGTTAACAACCCGCCTGTTATGTTTTTTGATGAGCCAACGAGT

>MT942646 Procambarus clarkii ABC transporter, subfamily ABCB/MDR mRNA, partial CDS

TCACACATATTTACTATGCTTGAACGCCAACCTGCAATTACAGCATCGCCTAGTGTGGGT

CTACGACTTAACACTCCCGTAACCAGCATAGAGCTAAATGGTGTGCATTTTTCTTACCCG

ACAAGATCTGATGTGCCCATATTATCAGGACTGAATGTTAAAGTGGATAGAGGACAAACT

CTAGCCCTGGTTGGAAGCTCAGGGTGTGGCAAGTCCACCATCATTGGCCTACTGGAGAGA

TTTTATGATGCAAGCAAAGGGAAAGTTTGCATTAGTGGTAAAGATGTACAAGCCCTAAAT

GTTGGCTGGGTGAGAAACCAGCTAGGTCTTGTGTCTCAGGAACCTGTGCTCTTTGATCTC

ACTATTGCCGAAAATATTGCATATGGTGAAAATTGCCGGGAAGTGGGGCATGACGAAATT

GTTAATGCTGCCAAACAAGCCAACATTCACTCATTTGTAGAGTCTCTACCAAATGGCTAT

AATACAAGAGTCGGTGCAAAGGGCACACAATTGTCTGGTGGTCAAAAGCAACGTATAGCA

ATAGCACGAGCACTAATAAGAAACCCAAGTGTGTTGCTACTTGACGAAGCTACCTCTGCT

CTGGACACCGAAAGCGAAAAGGTTGTCCAAGAGGCCTTGGAACAAGCCCAGAAGGGCCGT

ACTAGTATTGTCATCGCTCACCGTCTGTCAACTGTCCAAAATGCCGACACTATTGCAGTA

GTTCAAGGCGGCCGGGTGGTAGAATTTGGTACTCACAAGCAGCTCATCGAGAAGAAGGGA

CACTATTTCTCTCTCTACCAGACTAACAAATAA

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SET 9. Heme synthesis

>MN110039 Procambarus clarkii delta-aminolevulinic acid dehydratase-like mRNA, partial CDS

ATGACATCTTATGAACCCCCTGCAAAACGCATCCTTCACAGTGGTTACTTTAGCCCTACC

ATGAGACAATGGCAGACATCAAACACGGAAATCCATCCTTGGAATTTGATGTATCCTATA

TTTATTGTGGATGAAGCAGATGCAGAGCAACCCGTGGAAAGTCTACCAGGGGTGACCCGA

TATGGTGTCAACAAACTTGAAGCTGCCCTTAAGCCACTAGTGAAGAATGGTCTTTCCTCT

ATTTTGTTATTTGGCGTTCCCTCAAATATGCCAAAAGATGAACGTGGTTCCAGTGCCGAT

TCACCCAATACGCCAGTTATTGTAGCAGTGAAGATCATTCGTAAAGCATTTCCTGATCTT

CTTGTGGCATGTGATGTGTGTTTGTGCGCCTACACTAGTCATGGTCACTGTGGGATTCTG

AAGAAGGATGGAACTATTGATAACATCCCGAGCATCAAACGGTTGGCTGAACAAGCTGCC

CCTTCGGATATGATGGATGGCAGAGTTGGTGCAATAAAGGCTGCACTTCAGGAAGCTGGT

TTATCAAATAGCGTTTCAGTGCTCTCTTATGCCGTCAAGTTTGCATCTTCTTTCTATGGA

CCATTCAGGGACGCGGCAAAATCTGCTCCAACATTTGGTGATCGGCGATGCTATCAACTG

CCTCCAGGATCATCAGGACTTGCAGCAAGAGCAGCAGATCGTGATGTGGAGGAAGGTGCC

GATATGTTGATGGTGAAACCAGGCATGGCATATCTTGACATTGTGCGTCAGACTAAGGAC

AGATACCCACACTATCCTCTCTTCATCTACCAGGTTTCGGGAGAATATGCTATGTTACAT

>MT942644 Procambarus clarkii 5-aminolevulinate synthase, erythroid-specific, mitochondrial-like isoform X5 mRNA, CDS

ATGCCGTGCCCATTCATGTCACGCCTGTCGGCACAGTTTGTACGTCACTACAGCTCGGCA

TTGGTACGCCAGTATGGGGAGATGTGCCCTGTCATCAGCTCTATGACCTCTACCCGAGCA

TTCAACTCCCTCTCCTCCAACAAGGACCCTGAAGGAGAGAAGAAGTGCCCCTTTTTGAAC

GGCAAGAATTTGGTGAAGCAAGCTAGCCGAGAAGTGCAAGAGGATGTCATTGATCTTTCT

GCTAGGGAACAAGAATTGAGTCTATTCCCATACAATGAATTTTTCCAAGAGCAAATTGCA

CAGAAAAAGGCTGACCATTCCTACCGTGTGTTCAAGAAGGTTGCCCGCAGTGCTAGTGAA

TTCCCCCGAGCTAAGGAGTATTCATGGGGGTACCCGACGGTACCCAGAGGCCATGAAAAG

CTTCGTATAGCTCCTACGCCCCAGCATACACCAGCCATGATAGATTGCTTTGTTGCTGAC

CTAATAACTGTGTGGAAAGATCTCGGATTACCATTATGGAATAGCAGCTGCCCTGAGGAA

TGCACCTTTTGCAAGAAGCCCCTTCTCTTTAATGCATTGGAAGCACGAGAGCGATGCAAC

GCAGACTGTGACAAGCCATACTGTCCCTTGTTGGTGGAATGCCTGTAA

>MH156441 Procambarus clarkii uroporphyrinogen-III synthase-like protein (uros) mRNA, partial cds

ATGAGCAACGTGTGGCTCTTTAAATCAGAAGATAAAAATGACACGCAATATACTGACAAACTTTCTCGGT

CTGGGTTCTCTCCTTTTCATATCCCTGCCCTTTGCTTCAAATTCTGCAACCAAGAATCTCTGAAGAGCTC

ACTGCAGAGTCCCCAAGACCATAGTGGCATTATCTTTACAAGTCAGAGAGCAGTAGAAGCAGTTGCTGAG

ATATATATAAAGTTGCCCCTTAGTTGCCATGCTGGGTGGATTGAGAAAAAGATATTTGTTGTCGGAGATG

CTACTGGAAGAGCTGTTCAAAGTTTATTGAAGCTTACATGTATAGGACATGAATCGGGAAATGCACAACA

ACTCGTTCCAATCATAATTAAGGAGACAGTAGCATTTGACAAACCTCTCTTATACCCTTGTGGCAGTTTA

GCGAAGGATGAATTGCCAAGGCTGCTTGTTAATAATGATCGAGATTTTAAAGCTCTTGTGGTGTATGAAA

CATCACAGCACCCACAACTGAAGTACACTATACAGAAACTGATCTCTGGTGGTCAGAGGCCTACACACAT

GGTGTTTTTCAGTCCATCTGGTGTCAATTTTGCTTTGCCTGTTCTTCAGTCTTTGAGTGTTGATATAACA

GGAGTCAAAATGATTGCAATTGGACCAACAACAAATATTGCTCTGGTTCAACACAAAATTCCGGTGTTAG

GAGTGTGTCCGTCTCCAACTGCAGACAGTCTTGTGCATCTTCTAAATTGTCCACCG

>MN110037 Procambarus clarkii uroporphyrinogen decarboxylase-like mRNA, partial CDS

ATGACAGTGTTTCCCAAGGGTGGCCACTATGCACTCAAGGACCTTGCTGCTCTGAAGTAC

GAGGTCATTGGCATTGATTGGACGGTGGATCCTGTCTTAGCGCGGAAAATTGTGGGCCCA

AATAAAACACTTCAAGGAAACTTGGATCCATGTGCTCTTTATGCAGATAAGAAACACATT

GATACAGCCGTGAAAGAAATGGTGGAGAAGTTTGGAAGGGAGCGCTACATTGCTAACCTG

GGCCATGGGATGTATCCTGATATGGATCCAGAACAATTGGCTGCATTTGTTGAAGCTGTT

CATAAATACTCAAAGAAA

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SET 10. Diurnal Clock

>QIA97593 Procambarus clarkii calcium-activated potassium channel transcript variant 4 mRNA, CDS

ATGTCCACTGTGGGTTATGGTGATGTCTACTGTCATACTGTCTTTGGAAGAACATTTCTC

GTCTTCTTCCTCCTCGTCGGTTTGGCAATATTCGCAAGCTGTATCCCTGAAATTATAGAC

CTGGTTGGGACTAGATCCAAGTACGGCGGAACACTCAAGAACGAGAGGGGAAGAAGACAC

ATCGTGGTGTGTGGCCATATTACCTACGAGTCTGTCAGCCATTTCCTGAAAGACTTTTTA

CACGAAGATCGTGAGGACGTGGATGTAGAAGTTGTGTTTCTTCACAGAAAGCCGCCGGAT

CTGGAGCTAGAAGGATTATTTAAGCGACACTTCACTACTGTAGAGTTCTTCCAAGGATCC

ATTATGAGTCCCATTGACCTACAACGTGTTAAGGTACATGAAGCTGATGCGTGCCTTGTG

CTGGCTAATAAGTACTGTCAAGATCCTGATGCTGAGGATGCTGCCAATATTATGCGTGTT

ATCTCCATCAAGAATTACTCAGATGATATTAGAGTTATTATTCAGCTAATGCAATATCAC

AATAAGGCCTATCTTTTAAACATTCCCTCTTGGGACTGGAAACGTGGTGATGATGTTATC

TGCTTAGCAGAGCTCAAATTAGGCTTCATTGCACAGTCATGTCTAGCTCCAGGATTTTCT

ACAATGATGGCCAACCTTTTTGCCATGAGATCCTATAAAACTTCTCCAGACATGCAGGCA

TGGCAGAATGACTACCTCTGTGGCACTGGCTGCGAAATGTATACGGAGACACTGTCACCA

AGTTTTGTG

>QIA97594 Procambarus clarkii RNA-binding protein lark-like mRNA, partial CDS

ATGCCTGTGCGGGGAAATACTTTTAAGATATTTGTTGGAAACCTAAGTGACCGTGCAACT

GGCTCGGATATCAGAGAACTCTTTGAAGCTCATGGTACTGTAGTTGAAGCTGATGTTGTG

AAAAATTATGGTTTTGTTCACATGGAAAAGGAAGATGAGGGTCAGGCAGCCATAGAAGCA

CTGAATGGTCACTCTATTCATGGAAAGCCAATGGTAGTTGAGGCCTCCACTGGTGCTAGG

AAGGGTGGAAATCAGAAGACAAAAATATTTATTGGCAATCTTCATAAGGATTCCAAACTT

GAGGAACTGAAAAGCCTGTTTGAAGTATATGGCAGTGTAGTAGAGGCTGACATTTTGACC

AACTATGCCTTTATTCACATGGATGATGAGGCTCAGGCACAACGAGCCATTCGGGAACTA

GATGGATATGAGCTTCATGGTCTGCGCCTTAGGGTCCAAGAATCTACTTCTCGGGTCAGG

CAGCAGGCTGGGATGGGAAATCCAGACATGTGTTACCGCTGTGGGTCAGGTGGTCATTGG

TCCAAGGAATGTCCCAGGGATGGACGCATAGGAGGCTTTCGTTATCCTGATCGAGAGCGA

GGAGGCCGTAGCTTCGGTAGCAGATATGATCCTTATCCACCACCACCACCACCCAGTTAC

GCTAGAGAGCGCATGTTGCGGTATAGGGATGATTTTGACAGATATGATCGTTACGATCGC

TATTATGATGAAGGCTTGTATGAACGTCGTGGTGATCATCCTCCACCACCACCACCCATG

CTAGATGATTTATACGAACGACGGTTGCCACCGCTACCTCCACATCCTGATTATCTGCGA

TATGGTAGACGCTCTCCACCACCTCGTTACCCTCCTCCCCCTCCACCAATGCGTGGTTAC

GGCCCACCGGACCGCCGGCCATAC

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SET 11. Crystallin

>MH156430.1 Procambarus clarkii glutathione S-transferase theta (gst-theta) mRNA, partial cds

ATGACTGCTACTTTGACACTGCATGTGGACTACATATCACAGCCTGCCAGAGCTCTCTTGCTCTTGTGCA

GGGCAATCAACGCGCCACACCAGGAAAAATACATGGAGCTATTGCAAGGAGATCATCTGAAGAAGCCGTT

CACCGACCTGAACCCCTTCAGGAAGGTCCCTGTGGTGCAGGACGGAGACGTCCTTATCCTGGAGAGCTGT

ACGGGGTTGCGGTACATCGCGAGCAAGTACGACTCTTCAGGAAAGTGGTACCCGAAGGAGCTGAAGGCGA

GGTGTAAGGTGGACGAATACCTGGACTGGCAGCACCTCAACACCAGGGCCCATGGCGTGGGGTACTTCTA

TAACAAGATTATAGTGCCCATCCTGAAGAAGAGTGAGCCTGACATGAATGTGGTCAACGAACACGAGCTC

AAATTAGGACAAGTTGAAACACAATTTGCAAGTTACTTTCTGGGCTCTAAACCATTCATTACTGGGCAGA

ACATAACTATTGCTGATCTGCTGGCCGCCTGTGAATTCGAGCAGCCCTCGGCAGGTGGCTACCAGCTGTC

CCAACCCATCCTGGAGTACCTCAGCAGAGTCAAGGAGGCGGTAGGCCCGGACTACGATGAACTCCATACT

GCTTCGAGGCAGCTTGCTCAGAAACGGCTCGCT

>MN110030 Procambarus clarkii aldehyde dehydrogenase mRNA, CDS

ATGTTACGGGCCTTCCTCCGTCACTCCTCCCTGCTGAGAGCAGCAGCCACACCCAACCTG

CCCTCAGCGGCAGCGTACTCAGCTCCTGCCATCCCTCAGCCACTGACAACCCCTGATATT

CCCTACACTGGGATCTTCATCAATAATGAGTTCCATAAATCCTTGAATGGGAAGCAGTTC

CCAACTGTCAATCCAACTACAGGAGAGGTCATCACTATGGTGGAGGAGGGTACCAAAGAT

GATGTCGACAAAGCAGTGAAAGCAGCTCGTCAAGCCTTTGAACTCAACTCAGAATGGCGG

CAGATGGATGCAAGCGATCGTGGTCGCCTCCTATACCGTTTGGCTGATCTTATTGAACGT

GACAAAGTTTACCTAGCAAGTCTTGAGACCCTTGATAATGGAAAGCCCTATACGAATTCT

TTTGCGGTCGATGTTGAACTCACCGTTAAAAATCTTCGCTACTTTGCGGGTTGGGCCGAC

AAAATTCATGGTCAGACCATTTCTACTGATGGTCCACACTTTGCATATACAAGGCATGAA

CCAATTGGAGTGTGTGGTCAGATCATCCCCTGGAACTTCCCTCTTCTTATGCAGGCTTGG

AAGTTTGGACCTGCTCTTGCTACAGGCAACACCATTGTTATGAAACTGGCTGAACAGACC

CCACTGACTGGCTTGTATGTGGCTAAACTGGTAGCAGAGGCTGGCTTCCCAGCAGGTGTA

GTTAATGTCATCCCTGGCTATGGTCCAAGCGCTGGAGCGGCCATTGCTTCACATATGGAT

GTTGACAAGGTTGCTTTCACGGGGTCAACAGAGATTGGACATCTGATCCAGCAGGCAGCT

GGAGCTAGCAACCTAAAGCGTGTGACACTGGAACTTGGAGGGAAGAGTCCAAACATTGTT

TTCAAGGATGCTGATTTGGACTATGCTGTTGAACAGGCTCATTTTGGACTATTTTTCAAT

CAGGGTCAGTGCTGCTGTGCTGGATCAAGGATCTTTGTCGAGGATGGCATTTATGATGAG

TTTGTGGAGCGCAGTGTTGAACGTGCCAAGACTCGCAGTGTGGGAGACCCATTTGATTTC

AAGACTGAACAAGGACCACAGGTGGATGGAGAGCAGATGAAGAAGATCTTATCCCTTATT

GAATCTGGCAAGAAGGAAGGAGCCAAAATGTGTACTGGGGGTAAACGTGTCGGCGAGAAA

GGCTTCTTCATTGAACCTACTGTTTTTGCCGATGTGAAAGATAACATGCGTATTGCTAAG

GAGGAAATTTTTGGGCCAGTCCAACAGATCTTTAAGTTTAGTGATATTAATGATGTGATA

AAACGTGCCAACTCCTCGGAGTATGGTCTAGCAGCAGCAGTCTTTACGAAGGATTTGGAC

AAGGCTAACGTGTTCGTGCAAGGCCTTCGTGCTGGCACTGTCTGGATTAACTGCTATGAT

GTACTGAATGCTCAAACTCCTTTTGGAGGCTACAAAATGTCTGGACAAGGACGAGAGAAC

TCCGAGTATGCCTTGCGTAACTACTATGAAGTCAAGGCTGTCATAACCAAATTACCTGTG

AAAAATGCT

>MT601686 Procambarus clarkii alpha-crystallin A chain-like mRNA, partial CDS

CCAATTCGTCGATATCGTCTCTATGATGATCCATTCGATCGCTTCTTTGGTGATCAATTG

GATCTCTTCGATCCATGGAATGATTTCGATGTCTTTCCAACAGCATTAACCATGCGACCC

AATGCTTTTCGATGGGTCAATCAACCCCAACGATTGACTCATTCGTCTTGCAGTGGACAA

AATGGCCATGCTCTGCAATCATCATCACCAGCACCCCATGCTGAAAAATTCCGTGTTCAA

CTCAATGTGGCTGGTTTCAATCCTGAAACCGTCAAAACACATGTCGAGGGTCGCAAAGTC

ATCGTCGAAGCCAAACAGGAAGATCGACAAGGTGAAGGTGATTACAGCATTCGTGAAATT

CGTAAAACATACGATTTACCTGAACATGCTGATGCATCACAATTGGCTTCGTATGTT

>MG910470 Procambarus clarkii small heat shock protein (ibpB) mRNA, partial cds

ATGGAAGGTTTCAAGCACATTCCCGTGAAACTCGGAGACTTCAGCGTCATTGATCAGGAATTCAACTCTA

TTCGCGAAAGATTCGATTCTGAAATGAAGAAAATGGAAGATGAGATGGCTCGCTTCCGAAATGAACTGAT

GAATCGAGAATCGTCTCTCTTCCAGCGCTCCATGCTCACATCTTCCAGCCAACAAGATCAAGCCAGTTCC

AACCAGGGTACTGGGTCTTGGCTGGAAGGGATGAATTCACCTCTTATCCAGCAAGATGGTGACTGTAAGC

AGCTAAAGCTACGGTTTGATGTAAGCCAGTACAAGCCAGAAGAGATCGTTGTTAAGACTGTGGATAATAA

ACTCTTGGTCCATGCCAAACATGAAGAGAAGACAGATAGTCGCTCTGTTTACCGTGAATATAATAGAGAG

TTCCTGCTTCCCAAGGGTACAAACCCAGAACTGATCAAATCTTCACTCTCTAAAGATGGAGTGTTGACTG

TGGAATCGCCACTTCCAGCAATCGTTGGAGGTGATGAAAAAGTCATTCCCATTGCACAGAAC

>MW981273 Procambarus clarkii hypoxia inducible factor 1 alpha gene

ATGTGCTTGAGGAATAACTTGGAGGGTCTTGAGCCCGCTCCTCGGCCCTTCTTAGGACCT

GGCACCTCCAAGACCCAGAAGAACAGTGAGAAGCGGAAGGAGAAGTCTCGGGATGCAGCA

AGATGTCGACGCGGGAAGGAGAGCGAGATCTTCACGGAGCTGGCCAGCGCCCTCCCACTC

CCGCCCCAGACGGTCGCCCAGCTGGACAAGGCCTCCGTCATGAGGCTCACCCTCGCCTTC

CTCAAGACCCGCGCCCTCTGTCAGGCAGGGTTCAGCAAGACGGGTGAGGGCGGAGGCAGC

AAGCTGGATATCGAGATGGACGGACTGCTGCTCAAGGCGCTGGACGGGTTCCTCCTCGTC

CTCTCCACCGACGGCGACATTGTCTTCACCTCCGAGAACATTGTGGCCTTCCTCGGCCTC

CCTCAGGTGGACGTGATGGGCCAGTCACTGTACGAGTACACACATCCCTGCGACCACGAG

GAGGTGCGGGAGCTCATGTCTGTCAAGGAGCACCACGAACCTCGTCACGCCTTCCTTAGG

CTCAAGTGTACCCTTACTGCCAAGGGTCGCTCCGTCAACCTCAAGAGTGCCTCCTACAAG

GTGGTGCAGGTGAGCGGGGAGCTAGTGGGAGGAGAGGAGCAGGCATGGCTGGTGGCTCTG

GGCACTCCTGTACCTCACCCATCCAACATAGAGTTCCCGCTGGACAAGCAAACCTTCGTC

AGCAAACACTCCCTCGACATGAAGTTTACCTACGTCGATGATAACGTGGGAGAGTACTGC

GGGTACACAACGGAGGAGCTGATGGGCCGCTCCCTCTACGAGATGCACCACGCCCTCGAC

TCTGACCTGGTCAAGGACGCGTACAAAACATTGAGAAGCAAAGGCCAGGTGGAGACCGGC

CGCTACAGGTTCCTGGCCCGGGCCGGCGGCTACGTCTGGCTTGTCACTCAGGCCACACTC

ATCCACGGACCCAAGGACAATAAGCCCCAGTACGTCGTGTGTCTCAACTACGTCGTCAGT

GGTGTAGAGTCTGCTGGTGAAATTCTGTCAGAGCTGCAACTGTTGTGTAATAGCAGCAGT

AACATTGACACTAAACACGACGATGGCAGCAGCACCACTAATAACAACAACAACAGCAGC

AGCAGTGTTTCCAACAAGCCAGCTGCACCTGCAGCAGTTGCTGCTCCTCTAGTGTTGAAC

ACCACACCAGCCGTACCACTTCCCAAGCTGGACACACAACCGAAGGTTGAGGAACGAAAG

AGTAGCACAGGTGTAAGAGTGAACCCAGCACCACCTCCAGTTGCAGCCACCTTCAAGATC

TTTACTCCTCGTACAGATGACATGACCAAAGGATACCTTATGTTCTCTGATAATGACCCA

CATTACACAGTGCTGAAAGAAGAGCCCGAGGACCTCACCCACTTGGCACCCTCAGTTGGT

GATACATGTGTGCCTCTTCTAGAGGTTCCTTCCCTAATTCCCGACCACGACCACACCTGT

ATGCTACAGGAGGTCTCTACACTAATCCCTGAACTGGACGATATGTTCACCCTTGACTAT

CACATGCCCATTACTAGTTCTGATGTATTAATCACAACAAGTCCTGATAGCAGTGAAGAT

CGAGAAGAAGCTCAAAAATACCTGTATGATGAAAGTAAACTAATCAGTGGTATCAAGTGC

ATGAACAGTTTAAGTGGAGGAAAGATACTGATAGACAAGAGTGGTTGCTGTACGCCATCG

TCGGACTGTGGAGTGAGCTCCCCAGAACCCCCAAAACCTCTTCTAAGTCAAGCTGCATTA

TCCCCAATACGGGAAAGGAAACAAAATACGGTTTTGTGTGGGGGCAGCCATCCCAGAACA

TCAACAGAGAGCCTCTTCACACACTTGGATGAGATCCGCACACCGGGCTCATCAGAGTCA

TTTGGCAAACTGGATCTCAAACTTGAAGAACGGAACATGGACTCAGATGAGTTTGAGATG

AGAGCTCCATACATTCCTCTCAGTAATGAGATGTTGATGCTGAGCCCTGATGACTTTCTG

TGGGGAGCAGAGCCTGAGCCACTTATATCGCCGAAACACTCTGCATCATCCAGCCGAGAT

GCAAAATGTTGTCATAGTATTATTGACAAGGATGATTCCAACTTGGCTCAGCTTCTGCGT

GACACAGATCCTCACATAACTGGTAGTGGCCCAGGAAGGAACTTGCACATCGAGAATTCC

ACAGGTACTCGAAGTCAGTACCAGCAGAGTAAATTTCTCGATGGTGGAGGGAATTTTGTA

GATCCAAACAAAGTTCTACCAGGACACTCGGGAAGTAAAGATGATTTGGAAGGATCACCA

GGTAGTACATTACTAGTTGATCCGCCACCTGTGATGGTGCAAGAGACTGTTGACCCCCCA

CCTCCATTACTTACTGTTGATACTCACCTTGTAACTTTACCCGTCAAACGGGGACACTCC

CCAAATTCATCTCCCCTCCTCAATCATAAGAAACTGTGTTCACCCTTGTGCCAGCGACAG

CATCCGACCTCGCAACACCATCCTCAAGATGGAGCTGTGCCTCGCCAACTACAACCTGGA

GGCGTGCGCCTCCTAGAAACGCCCAATGCTCCAACTATGCAACAATTATTGATTAGCAAG

GAGCCAATCACAGTTCGAGGAGGACGTCCAGGCGGAGGCATTTCAGCCTCCCAGAATTTC

ATCACAAATAAGAGTCATTCAGTACTTCGCAATCTTCTGAATGTGAATGGCGATGGCAGT

ATAGTCATTGGAGAACCCCAAGCAGGCAGCAGTGGCCTTGCTTCTGCAACATTACGCATC

CCTAGGGACAAGATGACTATGTTGTTAGCTGGTAATGGGGGAATAAATGCTGATGGCCAG

TTGATGTGCTCCAAACTGAGATTAGTGACTGGAAACCACAGTGCCCTCATGCAAGCTGGC

CATTTTGCATTCAAACTGGCTACTAACCCAAATGGGCAGTCTGGCCAAGGCTTGGTGAGG

CGAGGACGGCGACAGGACCCACTTTTGCTGATGGATCCCGAGACTACTATTCCCAACCTG

CTGGATCTGACACAGCAAGACTATGAGGTTAATGCTCCAGCCAGTAATTGTACTTTGCTG

CAGGGGGCAGACTTACTCATGGCACTTGACCAGAGCCTTTAA

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