**Table S4**. Annotation of highly expressed genes.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gene** | **Predicted gene\*** | **mRNA (bp)** | **Protein (aa)** | **Number of exons** | **Best tblastx hit(NCBI non-redundant)** | **Identity/ similarity (%)****(blast)** | **E-value (blast)** | **GenBank accession number** |
| Pro-opiomelanocortin(*pomc*) | g8378g8379 | 1202 | 220 | 3 | *Anguilla japonica*proopiomelanocortinAY158010.1 | 99%/99% | 0E00 | JX441983 |
| Prohormone convertase 2 copy 1(*pc2a*) | g4316g4317 | 4699 | 640 | 12 | *Salmo salar*Neuroendocrine convertase 2BT045314.1 | 85%/91% | 0E00 | JX441984 |
| Prohormone convertase 2 copy 2(*pc2b*) | g21571g22548g22549 | 1176 (partial) | 334 (partial) | 9 | *Salmo salar*Neuroendocrine convertase 2BT045314.1 | 91%/96% | 0E00 | JX441985 |
| Secretogranin IIa(*scg2a*) | g38980g39957 | 972 (partial) | 324 (partial) | 1 | *Ctenopharyngodon idella*Secretogranin IIAY634230 | 67%/86% | 4E-46 | JX441986 |
| Secretogranin IIb(*scg2b*) | g10799 | 2256 | 596 | 2 | *Salmo salar*Secretogranin-2BT059470 | 48%/64% | 6E-44 | JX441987 |
| Secretogranin III copy 1(*scg3a*) | g592g593 | 2863 | 475 | 12 | *Danio rerio*Secretogranin IIINM\_200757.1 | 68%/83% | 1E-146 | JX441988 |
| **Gene** | **Predicted gene\*** | **mRNA (bp)** | **Protein (aa)** | **Number of exons** | **Best tblastx hit(NCBI non-redundant)** | **Identity/ similarity (%)****(blast)** | **E-value (blast)** | **GenBank accession number** |
| Secretogranin III copy 2(*scg3b*) | g93529353 | 2853 | 470 | 12 | *Danio rerio*Secretogranin IIINM\_200757.1 | 77%/86% | 1E-168 | JX441989 |
| Neuroendocrine protein 7b2 copy 1(*7b2a*) | g1682 | 1866 | 209 | 6 | *Acipenser sinensis*Neuroendocrine protein (7B2)HQ634259.2 | 79%/90% | 4E-88 | JX441990 |
| Neuroendocrine protein 7b2 copy 2(*7b2b*) | g6117 | 2441 | 220 | 6 | *Oreochromis niloticus*Neuroendocrine protein 7B2-like, XM\_003446267.1 | 93%/96% | 1E-116 | JX441991 |
| Carboxypeptidase e(*cpe*) | g6941g31187g32801 | 2640 (partial) | 367 (partial) | 8 | *Oreochromis niloticus*prohormone-processing carboxypeptidase EXM\_003449689 | 90%/97% | 0E00 | JX441992 |

\* Original genes from the draft genome of the European eel predicted by Henkel et al. 2012 [15].