**Table S2.** Detailed information of the transcripts of candidate genes of *Anguilla japonica*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Gene name | Encoded protein | Function | Contig\_name in online database | NR BLAST | Hit\_organism | Identity to NR BLAST | E value |
| *gria3* | glutamate receptor 3 | ionotropic glutamate receptor activity | comp215467\_c0\_seq1 | XP\_006007237.1 | *Latimeria chalumnae* | 96.3% | 6e -86 |
| *s100b* | protein S100B | calcium ion binding | comp184240\_c0\_seq2 | XP\_006636835.1 | *Lepisosteus oculatus* | 86.3% | 3e -53 |
| *neurod1* | neurogenic differentiation factor 1 | regulation of transcription, DNA-templated; eukaryotic translation initiation factor 3 complex | comp185709\_c0\_seq1 | XP\_006636541.1 | *Lepisosteus oculatus* | 89.7% | 0 |
| *dio2* | Type II iodothyronine deiodinase | thyroxine 5'-deiodinase activity | comp186468\_c0\_seq1 | BAE54452.1 | *Anguilla japonica* | 100% | 1e -63 |
| *sMYH* | slow skeletal muscle myosin heavy chain | myosin complex; motor activity | comp189063\_c0\_seq3 | AHB33632.1 | *Siniperca chuatsi* | 92.6% | 0 |
| *fMYH* | fast skeletal muscle myosinheavy chain | myosin complex; motor activity | comp206904\_c1\_seq2 | XP\_002667379.3 | *Danio rerio* | 91.7% | 0 |