**Supplementary Table 1. Sequences of the primers used for Real-Time PCR.**

| Gene name | Genbank | Forward | Reverse |
|-----------|---------|---------|---------|
| ChAT      | NC_005115 | GCCTGCTGCAACCAGTTCTT | TCGTTGAGCCATTTTTGA |
| CarAT     | NM_001004085 | ATTGTGCTCTCTTGAGACC | TCTGTTGAGCCCTTCTCATGTC |
| VACHT     | X80395 | GCCACATCGTTCACCTCTCTTG | CGGTTGACCAAGCAACACATC |
| AChE      | S50879 | CTTCCTCAACACCTGTGCTCC | CTGTTCTCTGTAGAGCC |
| BChE      | NM_022942 | ACCTAACTTTGAACACAGAGAAG | TCCACACTTTGCTCCCTTTC |
| CHT1      | NC_005108 | ATGGACATCTTGAGTGAGG | ATGTCTTTGAGGATAGCAG |
| OCT2      | NM_012693 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| OCT1      | NM_012693 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| OCT2      | NM_031584 | ATGGACATCTTGAGTGAGG | ATGTCTTTGAGGATAGCAG |
| OCT3      | NM_019230 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| SLC22a4   | NM_022270 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| SLC25a20  | NM_053965 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| SLC22a8   | NM_031332 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α1        | NM_024485 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α2        | NM_133420 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α3        | NM_052805 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α4        | NM_024354.1 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α5        | NM_017078 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α7        | NM_01010958 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α9        | RR12336 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| α10       | AF196344 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| β1        | X80395 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| β2        | L31622 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| β3        | NM_133597.1 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| β4        | NM_019298 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| δ         | NM_017194 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| ε         | NM_019145 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| M1        | NM_080773 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| M2        | J03025 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| M3        | M16407 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| M4        | NM_031547 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| M5        | M22926 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| RANKL     | NM_057149 | CTGGCGGTAGCCGAGAGG | GAGAAAGTCCGAGTAGCC |
| Gene   | Accession | Forward Primers                  | Reverse Primers               |
|--------|-----------|---------------------------------|------------------------------|
| OPG    | U94330.1  | GCTGGCACACGAGTGATGAA            | CGGTCTGCAGTTCCCTTGCA         |
| β-actin| NM_031144 | CTTCAACACCCAGCCATGT            | CAGAGGCATAACAGGGACAACA       |
| 18S    | M11188    | GCGGTCTATTTTGTGG               | AATGCYTTCGCTCTGGTC           |
Supplementary Table 2. Statistical data from Real-Time PCR results.

| Gene          | 2-ΔΔCt (Mean±SD)                                                                 |
|---------------|----------------------------------------------------------------------------------|
|               | C       | E1     | E3     | E7     | p-value         |
| OPG           | 0.668±0.311 | 0.900±0.418 | 0.776±0.381 | 0.161±0.087 | 0.187           |
| RANKL         | 0.651±0.357 | 11.015±1.302 | 0.229±0.050 | 0.183±0.126 | 0.102           |
| RANKL/OPG     | 0.928±0.270 | 8.354±0.624  | 0.348±0.162 | 1.034±0.320 | 0.014<sup>*</sup>|
| AChE          | 0.740±0.233 | 0.006±0.068  | 0.065±0.012 | 14.562±11.347 | 0.007<sup>*</sup>|
| BChE          | 0.645±0.242 | 0.066±0.049  | 0.132±0.206 | 3.882±1.610  | 0.000<sup>*</sup>|
| CarAT         | 0.520±0.321 | 0.197±0.281  | 0.150±0.218 | 0.205±0.032  | 0.218           |
| VACHT         | 0.702±0.0224| 0.007±0.008  | 0.034±0.010 | 11.769±10.938| 0.012<sup>*</sup>|
| SLC22a4       | 0.717±0.208 | 0.060±0.054  | 0.260±0.263 | 6.610±5.506  | 0.009<sup>*</sup>|
| OCT1          | 0.616±0.325 | 0.006±0.045  | 0.020±0.021 | 26.990±17.263| 0.009<sup>*</sup>|
| OCT3          | 0.486±0.381 | 0.019±0.095  | 0.076±0.115 | 1.487±0.810  | 0.025<sup>*</sup>|
| SLC25a20      | 0.497±0.348 | 0.026±0.017  | 0.289±0.438 | 0.227±0.083  | 0.090           |
| nAChR α1      | 0.807±0.224 | 0.005±0.003  | 0.100±0.098 | 35.44±7.32   | 0.011<sup>*</sup>|
| nAChR α2      | 0.620±0.294 | 0.010±0.0098 | 0.041±0.022 | 13.644±16.194| 0.003<sup>*</sup>|
| nAChR α3      | 0.415±0.409 | 0.064±0.070  | 0.076±0.078 | 2.917±2.242  | 0.027<sup>*</sup>|
| nAChR α5      | 0.856±0.124 | 0.050±0.050  | 0.223±0.108 | 24.474±14.315| 0.012<sup>*</sup>|
| nAChR α7      | 0.663±0.260 | 0.061±0.027  | 0.197±0.146 | 32.164±33.129| 0.014<sup>*</sup>|
| nAChR α10     | 0.459±0.370 | 0.066±0.094  | 0.029±0.024 | 15.363±15.908| 0.012<sup>*</sup>|
| nAChR β1      | 0.617±0.287 | 0.046±0.040  | 0.162±0.164 | 24.120±19.109| 0.009<sup>*</sup>|
| nAChR β2      | 0.702±0.335 | 0.023±0.012  | 0.258±0.198 | 11.771±17.588| 0.013<sup>*</sup>|
| nAChR β4      | 0.422±0.392 | 0.993±0.917  | 4.999±6.654 | 5.325±7.679  | 0.432           |
| nAChR γ       | 0.692±0.0318| 0.006±0.0075 | 0.0003±0.0005| 1.183±0.080  | 0.011<sup>*</sup>|
| mAChR 1       | 0.631±0.332 | 0.056±0.092  | 0.426±0.472 | 14.472±16.859| 0.021<sup>*</sup>|
| mAChR 2       | 0.438±0.354 | 0.058±0.084  | 0.039±0.033 | 7.000±5.898  | 0.007<sup>*</sup>|
| mAChR 3       | 0.779±0.165 | 0.051±0.068  | 0.097±0.088 | 22.186±22.227| 0.009<sup>*</sup>|
| mAChR 4       | 0.773±0.245 | 0.029±0.045  | 0.103±0.149 | 16.180±17.270| 0.009<sup>*</sup>|
| mAChR 5       | 0.576±0.337 | 0.022±0.010  | 0.143±0.078 | 19.734±17.805| 0.009<sup>*</sup>|

* statistically significant