**Supplementary Table 4.** The evolutionary divergence between groEL gene of *Ehrlichia*.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | **E. canis, OP006708** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | **E. canis, OP006713** | 0.003 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | **Ehrlichia\_sp., OP006712** | 0.093 | 0.096 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | E. canis, CP025749 | 0.008 | 0.005 | 0.102 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | E. canis, MG953295 | 0.008 | 0.005 | 0.102 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | E. canis, LC556383 | 0.008 | 0.005 | 0.102 | 0.000 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | E. canis, JN391408 | 0.008 | 0.005 | 0.102 | 0.000 | 0.000 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | E. canis, MW428319 | 0.019 | 0.022 | 0.096 | 0.016 | 0.016 | 0.016 | 0.016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | E. canis, MG953295 | 0.008 | 0.005 | 0.102 | 0.000 | 0.000 | 0.000 | 0.000 | 0.016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Ehrlichia\_sp., KX987387 | 0.104 | 0.107 | 0.011 | 0.107 | 0.107 | 0.107 | 0.107 | 0.102 | 0.107 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Ehrlichia\_sp., KY705065 | 0.104 | 0.107 | 0.011 | 0.107 | 0.107 | 0.107 | 0.107 | 0.102 | 0.107 | 0.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | E. chaffeensis, KJ907753 | 0.071 | 0.074 | 0.080 | 0.074 | 0.074 | 0.074 | 0.074 | 0.071 | 0.074 | 0.085 | 0.085 |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | E. chaffeensis, JQ085941 | 0.069 | 0.071 | 0.091 | 0.071 | 0.071 | 0.071 | 0.071 | 0.063 | 0.071 | 0.096 | 0.096 | 0.011 |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Ca.E.ovata, DQ672553 | 0.082 | 0.085 | 0.104 | 0.085 | 0.085 | 0.085 | 0.085 | 0.082 | 0.085 | 0.104 | 0.104 | 0.060 | 0.058 |  |  |  |  |  |  |  |  |  |  |
| 15 | E. muris, KF312362 | 0.077 | 0.080 | 0.096 | 0.080 | 0.080 | 0.080 | 0.080 | 0.077 | 0.080 | 0.102 | 0.102 | 0.058 | 0.055 | 0.036 |  |  |  |  |  |  |  |  |  |
| 16 | E. muris, GU358690 | 0.077 | 0.080 | 0.096 | 0.080 | 0.080 | 0.080 | 0.080 | 0.077 | 0.080 | 0.102 | 0.102 | 0.058 | 0.055 | 0.036 | 0.000 |  |  |  |  |  |  |  |  |
| 17 | E. ewingii, AF195273 | 0.088 | 0.091 | 0.066 | 0.091 | 0.091 | 0.091 | 0.091 | 0.085 | 0.091 | 0.071 | 0.071 | 0.069 | 0.071 | 0.077 | 0.069 | 0.069 |  |  |  |  |  |  |  |
| 18 | E. ewingii, KJ907744 | 0.088 | 0.091 | 0.066 | 0.091 | 0.091 | 0.091 | 0.091 | 0.085 | 0.091 | 0.071 | 0.071 | 0.069 | 0.071 | 0.077 | 0.069 | 0.069 | 0.000 |  |  |  |  |  |  |
| 19 | E. ruminantium, DQ647014 | 0.135 | 0.137 | 0.140 | 0.132 | 0.132 | 0.132 | 0.132 | 0.126 | 0.132 | 0.140 | 0.140 | 0.121 | 0.118 | 0.129 | 0.129 | 0.129 | 0.115 | 0.115 |  |  |  |  |  |
| 20 | E. ruminantium, U13638 | 0.137 | 0.140 | 0.132 | 0.135 | 0.135 | 0.135 | 0.135 | 0.129 | 0.135 | 0.132 | 0.132 | 0.115 | 0.113 | 0.135 | 0.135 | 0.135 | 0.115 | 0.115 | 0.022 |  |  |  |  |
| 21 | Ca.N.mikurensis, EU432375 | 0.184 | 0.181 | 0.159 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.154 | 0.154 | 0.162 | 0.162 | 0.173 | 0.162 | 0.162 | 0.176 | 0.176 | 0.179 | 0.179 |  |  |  |
| 22 | Ca.N.mikurensis, KJ663733 | 0.184 | 0.181 | 0.159 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.154 | 0.154 | 0.162 | 0.162 | 0.173 | 0.162 | 0.162 | 0.176 | 0.176 | 0.179 | 0.179 | 0.000 |  |  |
| 23 | Ca.N.mikurensis, EU810407 | 0.184 | 0.181 | 0.159 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.176 | 0.154 | 0.154 | 0.162 | 0.162 | 0.173 | 0.162 | 0.162 | 0.176 | 0.176 | 0.179 | 0.179 | 0.000 | 0.000 |  |
| 24 | E. equi, U96727 | 0.208 | 0.205 | 0.202 | 0.205 | 0.205 | 0.205 | 0.205 | 0.205 | 0.205 | 0.208 | 0.208 | 0.188 | 0.191 | 0.191 | 0.199 | 0.199 | 0.194 | 0.194 | 0.222 | 0.219 | 0.216 | 0.216 | 0.216 |