S4 Table. List of OR genes in *C.cunea* antennae

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Gene | Unigene | Length of Unigene(bp) | ORF(bp) | BLASTx annotation | Score | E-value | % Identify | RPKM value |
| Male | Female |
| Orco | Unigene11320\_All | 1636 | 1428 | gi|283436213|ref|NP\_001164465.1| odorant receptor 1 [Nasonia vitripennis] | 834.7 | 0 | 93 | 9.2183 | 30.2326 |
| OR1 | CL546.Contig1\_All | 1887 | 1260 | gi|299522910|ref|NP\_001177592.1| odorant receptor 236 [Nasonia vitripennis] | 633.3 | 1.00E-179 | 86 | 2.0843 | 10.6553 |
| OR2 | Unigene13145\_All | 1387 | 1227 | gi|299523221|ref|NP\_001177470.1| odorant receptor 14 [Nasonia vitripennis] | 506.9 | 1.00E-141 | 79 | 1.9361 | 8.612 |
| OR3 | Unigene10017\_All | 1751 | 1236 | gi|299522736|ref|NP\_001177510.1| odorant receptor 78 [Nasonia vitripennis] | 545.4 | 3.00E-153 | 67 | 1.1928 | 7.2218 |
| OR4 | Unigene23316\_All | 992 | ---- | gi|299523264|ref|NP\_001177486.1| odorant receptor 35 [Nasonia vitripennis] | 311.6 | 3.00E-83 | 67 | 0.3281 | 5.8263 |
| OR5 | Unigene19906\_All | 248 | ---- | gi|299522836|ref|NP\_001177556.1| odorant receptor 170 [Nasonia vitripennis] | 57.4 | 2.00E-07 | 58 | 0.5469 | 5.6498 |
| OR6 | CL3151.Contig1\_All | 888 | ---- | gi|299522738|ref|NP\_001177511.1| odorant receptor 79 [Nasonia vitripennis] | 349.7 | 1.00E-94 | 79 | 1.6495 | 5.4042 |
| OR7 | CL971.Contig2\_All | 755 | ---- | gi|283135146|ref|NP\_001164396.1| odorant receptor 80 [Nasonia vitripennis] | 290 | 7.00E-77 | 75 | 1.473 | 5.3355 |
| OR8 | Unigene17447\_All | 1034 | ---- | gi|340725033|ref|XP\_003400879.1| odorant receptor 13a-like [Bombus terrestris] | 151 | 9.00E-35 | 51 | 0.0525 | 5.3187 |
| OR9 | Unigene7290\_All | 1162 | ---- | gi|299522963|ref|NP\_001177618.1| odorant receptor 285 [Nasonia vitripennis] | 341.7 | 4.00E-92 | 71 | 0.5369 | 4.9137 |
| OR10 | Unigene10603\_All | 1336 | 1266 | gi|299523100|ref|NP\_001177429.1| odorant receptor 2 [Nasonia vitripennis] | 657.9 | 0 | 88 | 1.9491 | 4.6408 |
| OR11 | Unigene14300\_All | 1143 | ---- | gi|299522902|ref|NP\_001177588.1| odorant receptor 229 [Nasonia vitripennis] | 319.7 | 1.00E-85 | 64 | 1.5188 | 4.4437 |
| OR12 | Unigene3722\_All | 741 | ---- | gi|299782524|ref|NP\_001177710.1| odorant receptor 289 [Nasonia vitripennis] | 384.8 | 2.00E-105 | 90 | 0.4393 | 4.2545 |
| OR13 | Unigene17625\_All | 559 | ---- | gi|299522720|ref|NP\_001177502.1| odorant receptor 61 [Nasonia vitripennis] | 235.3 | 1.00E-60 | 73 | 0.2911 | 3.7598 |
| OR14 | Unigene10391\_All | 991 | ---- | gi|299522971|ref|NP\_001177622.1| odorant receptor 294 [Nasonia vitripennis] | 156.8 | 2.00E-36 | 56 | 0.5748 | 3.7468 |
| OR15 | Unigene10273\_All | 1132 | ---- | gi|299523266|ref|NP\_001177487.1| odorant receptor 36 [Nasonia vitripennis] | 379.4 | 1.00E-103 | 71 | 0.7668 | 3.6514 |
| OR16 | Unigene9066\_All | 1009 | ---- | gi|299782522|ref|NP\_001177711.1| odorant receptor 296 [Nasonia vitripennis] | 357.1 | 8.00E-97 | 74 | 1.5323 | 3.5063 |
| OR17 | Unigene5579\_All | 464 | ---- | gi|299523229|ref|NP\_001177472.1| odorant receptor 16 [Nasonia vitripennis] | 63.2 | 4.00E-09 | 62 | 1.0522 | 3.4727 |
| OR18 | Unigene27324\_All | 318 | ---- | gi|283135140|ref|NP\_001164395.1| odorant receptor 82 [Nasonia vitripennis] | 168.3 | 9.00E-41 | 89 | 0.3412 | 3.4147 |
| OR19 | Unigene10394\_All | 1323 | ---- | gi|299523212|ref|NP\_001177467.1| odorant receptor 10 [Nasonia vitripennis] | 235 | 7.00E-60 | 64 | 0.6151 | 3.3361 |
| OR20 | CL3740.Contig2\_All | 316 | ---- | gi|299528645|ref|NP\_001177643.1| odorant receptor 288 [Nasonia vitripennis] | 59.7 | 4.00E-08 | 56 | 0.2575 | 3.3255 |
| OR21 | CL4622.Contig2\_All | 243 | ---- | gi|299522928|ref|NP\_001177601.1| odorant receptor 256 [Nasonia vitripennis] | 63.9 | 2.00E-09 | 62 | 0.1116 | 3.3155 |
| OR22 | Unigene24785\_All | 642 | ---- | gi|299522904|ref|NP\_001177589.1| odorant receptor 230 [Nasonia vitripennis] | 114 | 5.00E-24 | 58 | 0.6337 | 3.2737 |
| OR23 | Unigene28282\_All | 678 | ---- | gi|299522934|ref|NP\_001177604.1| odorant receptor 261 [Nasonia vitripennis] | 121.7 | 2.00E-26 | 58 | 0 | 3.2549 |
| OR24 | Unigene28115\_All | 238 | ---- | gi|299522807|ref|NP\_001177541.1| odorant receptor 137 [Nasonia vitripennis] | 70.1 | 3.00E-11 | 59 | 0.3419 | 3.2379 |
| OR25 | Unigene20547\_All | 314 | ---- | gi|299782513|ref|NP\_001177706.1| odorant receptor 198 [Nasonia vitripennis] | 142.1 | 7.00E-33 | 79 | 0.0864 | 3.2351 |
| OR26 | Unigene28417\_All | 223 | ---- | gi|299522815|ref|NP\_001177545.1| odorant receptor 143 [Nasonia vitripennis] | 58.5 | 1.00E-07 | 71 | 0.2433 | 3.1416 |
| OR27 | Unigene4509\_All | 1159 | ---- | gi|283436097|ref|NP\_001164418.1| odorant receptor 246 [Nasonia vitripennis] | 313.5 | 1.00E-83 | 62 | 1.1468 | 2.9921 |
| OR28 | Unigene3459\_All | 450 | ---- | gi|299522831|ref|NP\_001177554.1| odorant receptor 166 [Nasonia vitripennis] | 57 | 3.00E-07 | 45 | 0.8439 | 2.958 |
| OR29 | Unigene20868\_All | 513 | ---- | gi|299522874|ref|NP\_001177573.1| odorant receptor 201 [Nasonia vitripennis] | 102.1 | 1.00E-20 | 51 | 0.1057 | 2.9361 |
| OR30 | Unigene10731\_All | 682 | ---- | gi|299523107|ref|NP\_001177431.1| odorant receptor 5 [Nasonia vitripennis] | 291.6 | 2.00E-77 | 80 | 1.7897 | 2.9276 |
| OR31 | Unigene10134\_All | 1237 | 1167 | gi|299782517|ref|NP\_001177708.1| odorant receptor 241 [Nasonia vitripennis] | 358.2 | 5.00E-97 | 66 | 2.105 | 2.8601 |
| OR32 | Unigene19955\_All | 371 | ---- | gi|299522882|ref|NP\_001177577.1| odorant receptor 207 [Nasonia vitripennis] | 59.3 | 6.00E-08 | 55 | 0.7311 | 2.8325 |
| OR33 | Unigene21167\_All | 433 | ---- | gi|299523119|ref|NP\_001177435.1| odorant receptor 9 [Nasonia vitripennis] | 54.3 | 2.00E-06 | 82 | 0.5638 | 2.8314 |
| OR34 | CL3725.Contig1\_All | 835 | ---- | gi|299522813|ref|NP\_001177544.1| odorant receptor 142 [Nasonia vitripennis] | 33.9 | 1.00E-07 | 66 | 3.9631 | 2.8107 |
| OR35 | Unigene19908\_All | 455 | ---- | gi|299522932|ref|NP\_001177603.1| odorant receptor 260 [Nasonia vitripennis] | 156.4 | 3.00E-37 | 75 | 0.1192 | 2.7715 |
| OR36 | Unigene3936\_All | 382 | ---- | gi|299522844|ref|NP\_001177558.1| odorant receptor 175 [Nasonia vitripennis] | 169.1 | 5.00E-41 | 81 | 0.6391 | 2.7509 |
| OR37 | Unigene2177\_All | 560 | ---- | gi|299522732|ref|NP\_001177508.1| odorant receptor 68 [Nasonia vitripennis] | 123.6 | 4.00E-27 | 79 | 0.7265 | 2.6272 |
| OR38 | Unigene29337\_All | 318 | ---- | gi|299522775|ref|NP\_001177528.1| odorant receptor 114 [Nasonia vitripennis] | 127.9 | 1.00E-28 | 75 | 0.4265 | 2.5335 |
| OR39 | CL4313.Contig1\_All | 498 | ---- | gi|299523244|ref|NP\_001177477.1| odorant receptor 22 [Nasonia vitripennis] | 116.7 | 4.00E-25 | 66 | 0.1089 | 2.5322 |
| OR40 | Unigene19418\_All | 394 | ---- | gi|283436099|ref|NP\_001164419.1| odorant receptor 249 [Nasonia vitripennis] | 173.3 | 3.00E-42 | 81 | 0 | 2.4893 |
| OR41 | Unigene28353\_All | 388 | ---- | gi|299523104|ref|NP\_001177430.1| odorant receptor 3 [Nasonia vitripennis] | 202.2 | 6.00E-51 | 88 | 0.0699 | 2.4376 |
| OR42 | Unigene13499\_All | 289 | ---- | gi|299523217|ref|NP\_001177469.1| odorant receptor 13 [Nasonia vitripennis] | 105.1 | 1.00E-21 | 80 | 0.7508 | 2.4241 |
| OR43 | Unigene22398\_All | 221 | ---- | gi|299522809|ref|NP\_001177542.1| odorant receptor 139 [Nasonia vitripennis] | 63.5 | 3.00E-09 | 67 | 0 | 2.3775 |
| OR44 | Unigene27870\_All | 398 | ---- | gi|299522860|ref|NP\_001177567.1| odorant receptor 191 [Nasonia vitripennis] | 151 | 1.00E-35 | 74 | 0 | 2.3763 |
| OR45 | Unigene8010\_All | 498 | ---- | gi|307171286|gb|EFN63211.1| Putative odorant receptor 13a [Camponotus floridanus] | 120.9 | 2.00E-26 | 57 | 0.817 | 2.3212 |
| OR46 | Unigene30655\_All | 292 | ---- | gi|283436101|ref|NP\_001164417.1| odorant receptor 243 [Nasonia vitripennis] | 53.9 | 2.00E-06 | 77 | 0.0929 | 2.2793 |
| OR47 | Unigene27949\_All | 840 | ---- | gi|299522730|ref|NP\_001177506.1| odorant receptor 66 [Nasonia vitripennis] | 260.8 | 5.00E-68 | 69 | 0.5167 | 2.2101 |
| OR48 | Unigene29150\_All | 431 | ---- | gi|299522722|ref|NP\_001177503.1| odorant receptor 62 [Nasonia vitripennis] | 61.2 | 1.00E-08 | 70 | 0.0629 | 2.0318 |
| OR49 | Unigene31045\_All | 269 | ---- | gi|283945514|ref|NP\_001164659.1| odorant receptor 301 [Nasonia vitripennis] | 71.2 | 1.00E-11 | 72 | 0.1008 | 1.9533 |
| OR50 | Unigene33224\_All | 256 | ---- | gi|299522892|ref|NP\_001177583.1| odorant receptor 222 [Nasonia vitripennis] | 72 | 9.00E-12 | 62 | 0.3179 | 1.9156 |
| OR51 | Unigene15272\_All | 315 | ---- | gi|299522793|ref|NP\_001177534.1| odorant receptor 125 [Nasonia vitripennis] | 138.3 | 1.00E-31 | 79 | 1.7222 | 1.8904 |
| OR52 | Unigene3380\_All | 779 | ---- | gi|299523231|ref|NP\_001177473.1| odorant receptor 17 [Nasonia vitripennis] | 237.3 | 6.00E-61 | 74 | 1.2187 | 1.8886 |
| OR53 | Unigene30182\_All | 378 | ---- | gi|299522754|ref|NP\_001177518.1| odorant receptor 99 [Nasonia vitripennis] | 141.4 | 1.00E-32 | 67 | 0 | 1.8534 |
| OR54 | CL3740.Contig1\_All | 438 | ---- | gi|307207959|gb|EFN85518.1| Putative odorant receptor 22c [Harpegnathos saltator] | 85.5 | 8.00E-16 | 55 | 0.3096 | 1.8394 |
| OR55 | Unigene7526\_All | 1166 | ---- | gi|299782511|ref|NP\_001177705.1| odorant receptor 190 [Nasonia vitripennis] | 157.9 | 9.00E-37 | 57 | 2.7915 | 1.8325 |
| OR56 | Unigene16911\_All | 472 | ---- | gi|283945550|ref|NP\_001164670.1| odorant receptor 76 [Nasonia vitripennis] | 97.8 | 1.00E-19 | 56 | 0 | 1.7811 |
| OR57 | Unigene32162\_All | 219 | ---- | gi|299522757|ref|NP\_001177520.1| odorant receptor 101 [Nasonia vitripennis] | 84.3 | 1.00E-15 | 75 | 0 | 1.7594 |
| OR58 | Unigene33617\_All | 227 | ---- | gi|299522823|ref|NP\_001177550.1| odorant receptor 157 [Nasonia vitripennis] | 67.4 | 2.00E-10 | 86 | 0 | 1.6974 |
| OR59 | Unigene11662\_All | 730 | ---- | gi|283945552|ref|NP\_001164671.1| odorant receptor 77 [Nasonia vitripennis] | 184.9 | 3.00E-45 | 63 | 1.0404 | 1.6315 |
| OR60 | Unigene12141\_All | 979 | ---- | gi|299523236|ref|NP\_001177474.1| odorant receptor 19 [Nasonia vitripennis] | 379 | 1.00E-103 | 77 | 2.1057 | 1.5028 |
| OR61 | Unigene33085\_All | 380 | ---- | gi|283436197|ref|NP\_001164458.1| odorant receptor 98 [Nasonia vitripennis] | 130.6 | 2.00E-29 | 76 | 0 | 1.4749 |
| OR62 | Unigene34410\_All | 240 | ---- | gi|283436095|ref|NP\_001164416.1| odorant receptor 168 [Nasonia vitripennis] | 114 | 2.00E-24 | 82 | 0.226 | 1.4595 |
| OR63 | Unigene5208\_All | 345 | ---- | gi|299523238|ref|NP\_001177476.1| odorant receptor 21 [Nasonia vitripennis] | 89.4 | 5.00E-17 | 59 | 0.7862 | 1.3199 |
| OR64 | CL236.Contig11\_All | 1731 | ---- | gi|299522811|ref|NP\_001177543.1| odorant receptor 140 [Nasonia vitripennis] | 67.8 | 3.00E-59 | 71 | 0 | 1.3141 |
| OR65 | Unigene34498\_All | 287 | ---- | gi|299522728|ref|NP\_001177507.1| odorant receptor 67 [Nasonia vitripennis] | 83.6 | 3.00E-15 | 75 | 0.2835 | 1.2205 |
| OR66 | Unigene34754\_All | 205 | ---- | gi|299522740|ref|NP\_001177513.1| odorant receptor 87 [Nasonia vitripennis] | 80.5 | 2.00E-14 | 74 | 0.1323 | 1.1961 |
| OR67 | Unigene12391\_All | 309 | ---- | gi|299522777|ref|NP\_001177529.1| odorant receptor 115 [Nasonia vitripennis] | 97.1 | 2.00E-19 | 65 | 1.3167 | 1.1336 |
| OR68 | Unigene480\_All | 958 | ---- | gi|299522827|ref|NP\_001177552.1| odorant receptor 161 [Nasonia vitripennis] | 155.6 | 3.00E-36 | 57 | 2.1518 | 1.0238 |
| OR69 | Unigene16517\_All | 312 | ---- | gi|299522779|ref|NP\_001177530.1| odorant receptor 117 [Nasonia vitripennis] | 54.3 | 2.00E-06 | 81 | 1.1302 | 1.0104 |
| OR70 | Unigene11872\_All | 652 | ---- | gi|299522878|ref|NP\_001177575.1| odorant receptor 203 [Nasonia vitripennis] | 247.3 | 4.00E-64 | 77 | 2.2564 | 0.8736 |
| OR71 | Unigene17298\_All | 560 | ---- | gi|299522936|ref|NP\_001177605.1| odorant receptor 264 [Nasonia vitripennis] | 91.3 | 2.00E-17 | 52 | 1.2796 | 0.867 |
| OR72 | CL4220.Contig1\_All | 336 | ---- | gi|299522821|ref|NP\_001177549.1| odorant receptor 151 [Nasonia vitripennis] | 29.3 | 2.00E-07 | 49 | 1.0495 | 0.834 |
| OR73 | CL236.Contig6\_All | 3926 | 1179 | gi|283135164|ref|NP\_001164404.1| odorant receptor 141 [Nasonia vitripennis] | 45.4 | 1.00E-43 | 60 | 0.2625 | 0.687 |
| OR74 | CL662.Contig6\_All | 984 | ---- | gi|299522866|ref|NP\_001177569.1| odorant receptor 193 [Nasonia vitripennis] | 196.1 | 2.00E-48 | 75 | 1.0199 | 0.6764 |
| OR75 | Unigene740\_All | 878 | ---- | gi|299522712|ref|NP\_001177498.1| odorant receptor 53 [Nasonia vitripennis] | 30 | 1.00E-19 | 67 | 2.039 | 0.5585 |
| OR76 | CL2749.Contig2\_All | 698 | ---- | gi|299522908|ref|NP\_001177591.1| odorant receptor 233 [Nasonia vitripennis] | 85.5 | 2.00E-15 | 58 | 0.1166 | 0.4517 |
| OR77 | CL117.Contig2\_All | 1104 | ---- | gi|299522906|ref|NP\_001177590.1| odorant receptor 232 [Nasonia vitripennis] | 219.9 | 1.00E-55 | 63 | 0.1228 | 0.3807 |
| OR78 | Unigene14563\_All | 828 | ---- | gi|299523273|ref|NP\_001177491.1| odorant receptor 44 [Nasonia vitripennis] | 129.8 | 1.00E-28 | 56 | 1.8345 | 0.1269 |
| OR79 | CL2647.Contig5\_All | 995 | ---- | gi|299782507|ref|NP\_001177703.1| odorant receptor 160 [Nasonia vitripennis] | 102.8 | 2.00E-20 | 50 | 0 | 0.012 |