**Table S1 The numbers of genes with GO annotation of three aspects for 20 species**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Database** | **Species** | **Version** | **Gene number** | **Sample number** | **GO number** | **MF number** | **BP number** | **CC number** |
| COXPRESdb | Nematoda | Cel-m.c4-0 | 17256 | 1780 | 3154 | 1254 | 2705 | 2018 |
| Dog | Cfa-m.c3-0 | 16214 | 777 | 96 | 31 | 54 | 79 |
| Fly | Dme-m.c4-0 | 12626 | 4209 | 5317 | 2729 | 4874 | 3495 |
| Zebrafish | Dre-m.c4-0 | 10112 | 1423 | 2477 | 541 | 2324 | 414 |
| Chicken | Gga-m.c4-0 | 13757 | 1502 | 502 | 215 | 383 | 337 |
| Human | Hsa-m2.c3-0 | 20199 | 27655 | 14706 | 9281 | 12362 | 13278 |
| Monkey | Mcc-m.c3-0 | 15782 | 1006 | 0 | 0 | 0 | 0 |
| Mouse | Mmu-m.c4-0 | 20962 | 42916 | 10564 | 5646 | 8909 | 7621 |
| Rat | Rno-m.c4-0 | 13751 | 42752 | 5409 | 3594 | 4387 | 4135 |
| Budding yeast | Sce-m.c3-0 | 4461 | 3593 | 4107 | 3130 | 3934 | 3402 |
| Fission yeast | Spo-m.c3-0 | 4881 | 166 | 2743 | 1303 | 2339 | 1877 |
| ATTED-II | Arabidopsis | Ath-m.c8-0 | 20819 | 12686 | 11602 | 5090 | 7927 | 8656 |
| Field mustard | Bra-r.c3-0 | 26339 | 164 | 0 | 0 | 0 | 0 |
| Soybean | Gma-m.c4-0 | 15746 | 1022 | 0 | 0 | 0 | 0 |
| Medicago | Mtr-m.c4-1 | 20376 | 780 | 0 | 0 | 0 | 0 |
| Rice | Osa-m.c7-0 | 19867 | 1775 | 82 | 59 | 69 | 55 |
| Poplar | Ppo-m.c3-0 | 21910 | 557 | 0 | 0 | 0 | 0 |
| Tomato | Sly-m.c4-0 | 5721 | 392 | 0 | 0 | 0 | 0 |
| Grape | Vvi-m.c4-0 | 9421 | 258 | 0 | 0 | 0 | 0 |
| Maize | Zma-m.c4-0 | 10777 | 606 | 0 | 0 | 0 | 0 |

*Note:* Gene number: the total number of genes in a species; Sample number: the number of experimental samples in microarray technology; GO number: the number of genes with GO annotation in a species; MF/BP/CC number: the number of genes with MF/BP/CC GO annotation in a species.