**Figure 1-Source data 1.** Genomic data compiled in this study and their attributes.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Reference** | **Resource** | **Platform** | **# Sequencing Reads** | **Insert length** | **# contigs** | **length [min/max]** | **mean length** | **# proteins** | **length [min/max]** | **mean length** | **# clusters > 100 aa (after CD-HIT)\*** | **mean length** |
| *Acropora digitifera* | (Shinzato et al. 2011) | NCBI SRA DRP000456 | Roche 454/Illumina GAIIx | 895 M | 200 bp - 20kbp | 24967 | 250/19622 | 1091 | 17133 | 99/6412 | 365 | 16977 | 367 |
| *Acropora hyacinthus* | (Barshis et al. 2013) | NCBI SRA SRP017155 | Illumina | 528 M | NA | 44236 | 250/6581 | 474 | 12172 | 99/744 | 152 | 11589 | 153 |
| *Acropora millepora* | (Moya et al. 2012) | NCBI SRA SRP010485 | Roche 454/Illumina GAIIx | 559 M | 99 bp - 188 bp | 56260 | 226/35256 | 1367 | 35205 | 99/9792 | 358 | 28463 | 366 |
| *Acropora palmata* | (Schwarz et al. 2008) | NCBI EST DR982333–DR988505 | Sanger ABI-3730 | 14 K | NA | 14647 | 68/4502 | 727 | 7832 | 99/701 | 189 | 7522 | 191 |
| *Acropora tenuis* | http://www.bio.utexas.edu/research/matz\_lab/matzlab/Data.html | http://www.bio.utexas.edu/research/matz\_lab/matzlab/Data.html | Roche 454 | NA | NA | 65278 | 250/4809 | 554 | 19969 | 99/1105 | 170 | 18419 | 170 |
| *Amphimedon queenslandica* | (Srivastava et al. 2010) | NCBI BP PRJNA66531 | Sanger ABI-3730 | 2.2 M | 3kb - 36 kbp | \*\* | \*\* | \*\* | 29883 | 5/15891 | 392 | 22699 | 466 |
| *Anemonia viridis* | (Sabourault et al. 2009) | NCBI GB FK719875 - FK759813 | Sanger ABI-3730 | 50 K | NA | 10575 | 101/3378 | 645 | 5113 | 99/841 | 193 | 3235 | 201 |
| *Anthopleura elegantissima* | (Kitchen et al. 2015) | NCBI SRA SRP063463 | Illumina HiSeq2000 | 30 M | 330bp - 550 bp | 145832 | 201/58996 | 857 | 71700 | 99/13591 | 347 | 28527 | 285 |
| *Astreopora* sp. | Gruber et al., unpublished data | http://comparative.reefgenomics.org | NA | NA | NA | 55796 | 201/14117 | 940 | 35491 | 99/4705 | 268 | 23921 | 294 |
| *Edwardsiella lineata* | (Stefanik et al. 2014) | http://cnidarians.bu.edu/EdwardBase/cgi-bin/stock.cgi | Illumina GAIIx | 376 M | NA | 84400 | 100/32122 | 482 | 23662 | 99/8598 | 315 | 22492 | 316 |
| *Ephydatia muelleri* | RNA-seq assembly provided by Daniel J. Richter, Jennyfer Mora and Scott A. Nichols (sa.nichols321@gmail.com, University of Denver). | http://compagen.org/datasets/EMUE\_T-PEP\_130911 | NA | NA | NA | 85971 | 201/32493 | 809 | 29154 | 49/10830 | 326 | 20551 | 432 |
| *Favia* sp. | (Pooyaei Mehr et al. 2013) | NCBI BP PRJNA176860 | Illumina GAIIx | 78 M | NA | 121159 | 251/9823 | 663 | 63363 | 99/3236 | 252 | 26627 | 232 |
| *Fungia scutaria* | (Kitchen et al. 2015) | NCBI SRA SRP063463 | Illumina HiSeq2000 | 21 M | 330bp - 550 bp | 157884 | 201/37748 | 902 | 77289 | 99/8439 | 340 | 28265 | 304 |
| *Gorgonia ventalina* | (Burge et al. 2013) | NCBI SRA SRP014886 | Illumina GAIIx | 70 M | NA | 90230 | 257/8345 | 964 | 79078 | 99/2748 | 295 | 31334 | 248 |
| *Hydra magnipapillata* | (Chapman et al. 2010) | NCBI BP PRJNA12876 | Sanger ABI-3730 | 9.3 M | 3kb - 10 kb | \*\* | \*\* | \*\* | 19845 | 17/1724 | 192 | 15239 | 223 |
| *Madracis auretenra* | http://people.oregonstate.edu/~meyere/data.html | http://people.oregonstate.edu/~meyere/data.html | Illumina | NA | NA | 192296 | 201/10557 | 574 | 62118 | 99/2927 | 222 | 42119 | 214 |
| *Mnemiopsis leidyi* | (Ryan et al. 2013) | NCBI SRA SRP014828 | Roche 454/ Illumina GAIIx | 14.1 M | 400 bp - 4 kb | 15752 | 151/963 | 670 | 9048 | 99/313 | 177 | 2183 | 200 |
| *Monosiga brevicollis* | (King et al. 2008) | NCBI BP PRJNA19045 | NA | 0.6 M | 2 kb - 40 kb | \*\* | \*\* | \*\* | 9196 | 49/17829 | 598 | 8971 | 608 |
| *Montastraea cavernosa* | (Kitchen et al. 2015) | NCBI SRA SRP063463 | Illumina HiSeq2000 | 26 M | 330bp - 550 bp | 222244 | 201/73708 | 997 | 120867 | 99/14453 | 378 | 39938 | 280 |
| *Orbicella faveolata* | (Schwarz et al. 2008) | NCBI EST EY021828–EY031784 | Sanger ABI-3730 | NA | NA | 11611 | 100/2410 | 738 | 6038 | 99/599 | 182 | 5565 | 184 |
| *Nematostella vectensis* | (Putnam et al. 2007) | NCBI BP PRJNA19965 | Sanger ABI-3730 | 5.9 M | 3 kb - 35 kb | \*\* | \*\* | \*\* | 24780 | 49/8745 | 335 | 20123 | 383 |
| *Oscarella carmela* | (Nichols et al. 2012) | NCBI SRA SRP033441 | Illumina GAIIx | 388 M | NA | 67767 | 100/107672 | 853 | 22108 | 99/13178 | 198 | 21711 | 200 |
| *Platygyra carnosus* | (Sun et al. 2013) | NCBI SRA SRP010342 | Illumina HiSeq2000 | 59.6 M | 200 bp | \*\* | \*\* | \*\* | 103146 | 20/4307 | 181 | 66449 | 226 |
| *Pleurobrachia pileus* | (Moroz et al. 2014) | NCBI SRA SRP001155 | Roche 454/ Illumina GAIIx + HiSeq 2000 + MiSeq | 1,158 M | NA | 5983 | 103/2753 | 861 | 5726 | 99/868 | 267 | 4629 | 271 |
| *Pocillopora damicornis* | (Traylor-Knowles et al. 2011) | http://cnidarians.bu.edu/PocilloporaBase/cgi-bin/pdamdata.cgi | Roche 454 | 1.1 M | NA | 67254 | 250/10512 | 873 | 29875 | 99/646 | 192 | 20509 | 195 |
| *Porites astreoides* | (Kenkel et al. 2013) | <http://www.bio.utexas.edu/research/matz_lab/matzlab/Data.html> | Roche 454 | 0.29 M | NA | 38498 | 250/8171 | 559 | 16550 | 99/2398 | 173 | 15755 | 173 |
| *Porites australiensis* | (Shinzato et al. 2014) | NDBI SRA DRP000939 | Illumina HiSeq2000 | 71 M | NA | 62412 | 301/54798 | 1471 | 53470 | 99/14601 | 397 | 19567 | 454 |
| *Porites lobata* | http://comparative.reefgenomics.org | http://comparative.reefgenomics.org | Illumina HiSeq2000 | 50 M | 180 bp | 52990 | 250/34867 | 879 | 27906 | 99/9514 | 253 | 21062 | 279 |
| *Pseudodiploria strigosa* | http://people.oregonstate.edu/~meyere/data.html | http://people.oregonstate.edu/~meyere/data.html | NA | NA | NA | 107924 | 201/10217 | 587 | 33416 | 99/3211 | 221 | 24345 | 215 |
| *Seriatopora hystrix* | (Kitchen et al. 2015) | NCBI SRA SRP063463 | Illumina HiSeq2000 | 27 M | 330bp - 550 bp | 214882 | 201/56757 | 696 | 104573 | 99/9243 | 259 | 27680 | 246 |
| *Seriatopora* sp. | (Drake et al. 2013) | http://comparative.reefgenomics.org | Illumina MiSeq | 31 M | 425bp - 950 bp | \*\* | \*\* | \*\* | 46420 | 1/6540 | 261 | 35409 | 303 |
| *Stylophora pistillata* | http://comparative.reefgenomics.org | http://comparative.reefgenomics.org | Illumina HiSeq2000 | 1000M | 200 bp - 11kbp | \*\* | \*\* | \*\* | 22025 | 99/10583 | 395 | 21810 | 398 |
| *Trichoplax adherens* | (Srivastava et al. 2008) | NCBI BP PRJNA30931 | NA | 1.2 M | 2 kb - 40 kb | \*\* | \*\* | \*\* | 11520 | 49/7710 | 453 | 11000 | 467 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\*\* From genomic protein set

\* Used for ortholog detection

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