



# AquaBiomics tankDNA Test Report



## About this report

Generated on: Sun Dec 19 18:38:30 2021

This report summarizes an analysis of [eDNA \(environmental DNA\)](#) in an aquarium water sample. Universal genetic markers were amplified from [Eukaryotic](#) DNA in the sample, and thousands of individual DNA molecules from this mixture were sequenced. Each sequence was then compared with public DNA databases to identify its origin. (You can read more about this method [here](#)).

This report summarizes the kinds of organisms detected in this sample, with a special focus on pathogens and parasites of concern in the saltwater aquarium industry and hobby.

## Information about the sample

|             |                     |
|-------------|---------------------|
| Sample ID   | 1000816             |
| Sample Name | November2021        |
| Tank Name   | Peninsula           |
| Sample Date | 2021-11-24 05:40 PM |

## Parasites

None of the DNA sequences from this sample matched known parasites.

► [View the full table](#)

## Dinoflagellates

| Type    | Percent of eDNA | Group                        | Name                         |
|---------|-----------------|------------------------------|------------------------------|
| sq4833  | 0.908           | Pelagodinium                 | Symbiodinium microadriaticum |
| sq3838  | 0.281           | <a href="#">Symbiodinium</a> | Symbiodinium sp.             |
| sq24604 | 0.187           | <a href="#">Symbiodinium</a> | Symbiodinium sp.             |
| sq22670 | 0.107           | Pelagodinium                 | Symbiodinium microadriaticum |
| sq25213 | 0.080           | <a href="#">Symbiodinium</a> | Symbiodinium sp.             |
| sq25416 | 0.067           | <a href="#">Amphidinium</a>  | uncultured eukaryote         |

|         |       |                              |                              |
|---------|-------|------------------------------|------------------------------|
| sq25417 | 0.067 | <a href="#">Symbiodinium</a> | Symbiodinium sp.             |
| sq24893 | 0.053 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq25683 | 0.053 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq25690 | 0.053 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq21237 | 0.040 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq21238 | 0.040 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq26153 | 0.040 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq26879 | 0.027 | Pelagodinium                 | Symbiodinium microadriaticum |
| sq28727 | 0.013 | Pelagodinium                 | Symbiodinium microadriaticum |

Most saltwater aquaria contain some Dinoflagellates, so the presence of this group should not be interpreted as a problem at low levels. High levels (>5% of the DNA, as a rule of thumb), may suggest a potential problem. Please note that Symbiodinium are included in this category but these are symbiotic, and do not pose any risk to the aquarium.

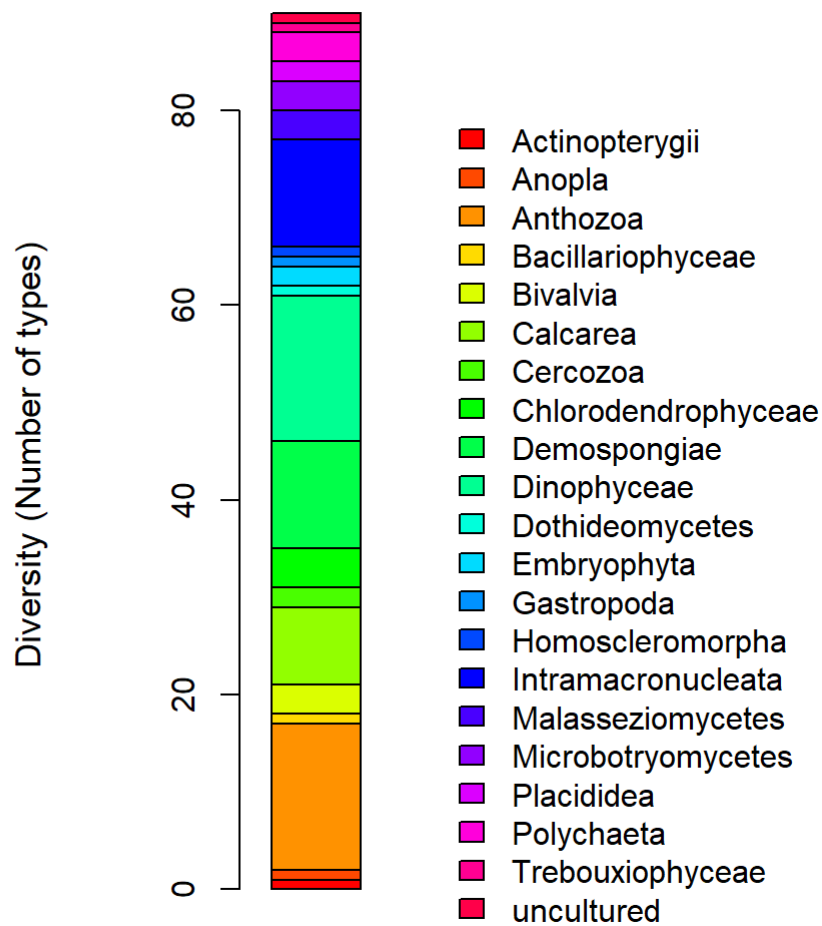
## Diatoms

| Type    | Percent of eDNA | Group      | Name           |
|---------|-----------------|------------|----------------|
| sq24571 | 0.2             | Entomoneis | Entomoneis sp. |

Most saltwater aquaria contain some Diatoms, so the presence of this group should not be interpreted as a problem at low levels. High levels (>5% of the DNA, as a rule of thumb), may suggest a potential problem.

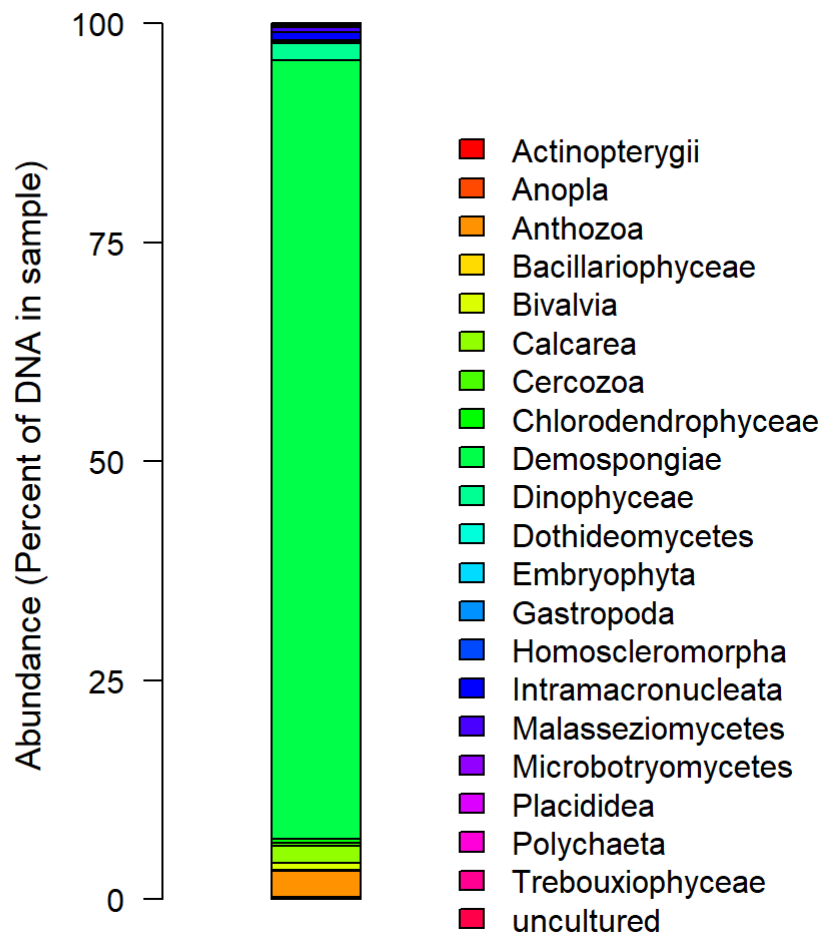
## Eukaryotic Biodiversity

|                                       |     |
|---------------------------------------|-----|
| Diversity (Number of different types) | 135 |
| Number of Phyla                       | 15  |
| Number of Classes                     | 21  |



This graph shows the diversity of each Eukaryotic group in the DNA sample. Each slice represents a different Class, and the size of the slice is proportional to the number of different types in that class. Unidentified sequences lacking any match in public databases are not shown.

## Sample Composition



This graph shows the relative abundance of each Eukaryotic group in the DNA sample. Each slice represents a different Class, and the size of the slice is proportional to the fraction of DNA in the sample from that class. Unidentified sequences lacking any match in public databases are not shown.

## Complete list of Eukaryotes identified

These tables, arranged by Class, list all Eukaryotic species that were detected in the sample and identified based on comparison with public DNA sequence databases. DNA sequences that lacked any matches in public datasets could not be identified, and are not shown here. “Type” is an arbitrary number assigned to each unique sequence found in the database.

▼ Complete Table

### [Actinopterygii](#)

| Type | Percent of eDNA | Family                         | Name                                  |
|------|-----------------|--------------------------------|---------------------------------------|
| sq1  | 0.214           | <a href="#">Actinopterygii</a> | <a href="#">Maccullochella peelii</a> |

*Note:*

This category includes all fish DNA in the sample, since the marker used here does not distinguish between fish species.

### [Anopla](#)

| Type    | Percent of eDNA | Family                         | Name               |
|---------|-----------------|--------------------------------|--------------------|
| sq28729 | 0.013           | <a href="#">Palaeonemertea</a> | Palaeonemertea sp. |

### [Anthozoa](#)

| Type    | Percent of eDNA | Family                       | Name                                  |
|---------|-----------------|------------------------------|---------------------------------------|
| sq24367 | 0.815           | <a href="#">Alcyonacea</a>   | Xenia sp.                             |
| sq4893  | 0.468           | <a href="#">Scleractinia</a> | <a href="#">Acropora secale</a>       |
| sq391   | 0.387           | <a href="#">Scleractinia</a> | Leptoria phrygia                      |
| sq66    | 0.347           | <a href="#">Scleractinia</a> | <a href="#">Stylophora pistillata</a> |
| sq321   | 0.307           | <a href="#">Scleractinia</a> | <a href="#">Stylophora pistillata</a> |
| sq21241 | 0.147           | <a href="#">Scleractinia</a> | <a href="#">Acropora secale</a>       |
| sq13460 | 0.120           | <a href="#">Scleractinia</a> | Mycetophyllia aliciae                 |
| sq15268 | 0.107           | <a href="#">Anthozoa</a>     | Clavularia sp.                        |
| sq304   | 0.053           | <a href="#">Scleractinia</a> | <a href="#">Stylophora pistillata</a> |
| sq2469  | 0.053           | <a href="#">Scleractinia</a> | Pavona varians                        |
| sq26159 | 0.040           | <a href="#">Anthozoa</a>     | Clavularia sp.                        |
| sq26885 | 0.027           | <a href="#">Scleractinia</a> | <a href="#">Stylophora pistillata</a> |

|         |       |                              |                            |
|---------|-------|------------------------------|----------------------------|
| sq2566  | 0.013 | <a href="#">Scleractinia</a> | Leptoria phrygia           |
| sq28738 | 0.013 | <a href="#">Scleractinia</a> | Stylocoeniella armata      |
| sq28751 | 0.013 | <a href="#">Scleractinia</a> | Acropora chesterfieldensis |

### [Bacillariophyceae](#)

| Type    | Percent of eDNA | Family                            | Name           |
|---------|-----------------|-----------------------------------|----------------|
| sq24571 | 0.2             | <a href="#">Bacillariophyceae</a> | Entomoneis sp. |

### [Bivalvia](#)

| Type    | Percent of eDNA | Family                    | Name                                 |
|---------|-----------------|---------------------------|--------------------------------------|
| sq24379 | 0.668           | <a href="#">Mytiloida</a> | Leiosolenus malaccanus               |
| sq26157 | 0.040           | <a href="#">Mytiloida</a> | Leiosolenus malaccanus               |
| sq28728 | 0.013           | <a href="#">Mytiloida</a> | <a href="#">Septifer bilocularis</a> |

### [Calcarea](#)

| Type    | Percent of eDNA | Family                        | Name               |
|---------|-----------------|-------------------------------|--------------------|
| sq18    | 1.082           | <a href="#">Leucosolenida</a> | Grantiopsis heroni |
| sq97    | 0.508           | <a href="#">Leucosolenida</a> | Leucandra nicolae  |
| sq42    | 0.080           | <a href="#">Leucosolenida</a> | Grantiopsis heroni |
| sq25212 | 0.080           | <a href="#">Leucosolenida</a> | Sycon capricorn    |
| sq25419 | 0.067           | <a href="#">Leucosolenida</a> | Sycon capricorn    |
| sq25685 | 0.053           | <a href="#">Leucosolenida</a> | Leucandra nicolae  |
| sq26158 | 0.040           | <a href="#">Clathrinida</a>   | Leucetta sp.       |
| sq25177 | 0.013           | <a href="#">Leucosolenida</a> | Grantiopsis heroni |

### [Cercozoa](#)

| Type    | Percent of eDNA | Family                   | Name               |
|---------|-----------------|--------------------------|--------------------|
| sq1036  | 0.307           | <a href="#">Cercozoa</a> | Gromia oviformis   |
| sq26872 | 0.027           | <a href="#">Cercozoa</a> | Metromonas simplex |

### [Chlorodendrophyceae](#)

| Type    | Percent of eDNA | Family                          | Name                                   |
|---------|-----------------|---------------------------------|----------------------------------------|
| sq352   | 0.294           | <a href="#">Chlorodendrales</a> | <a href="#">Tetraselmis convolutae</a> |
| sq1457  | 0.134           | <a href="#">Chlorodendrales</a> | Tetraselmis sp.                        |
| sq26160 | 0.040           | <a href="#">Chlorodendrales</a> | <a href="#">Tetraselmis convolutae</a> |
| sq28749 | 0.013           | <a href="#">Chlorodendrales</a> | Tetraselmis sp.                        |

### [Demospongiae](#)

| Type    | Percent of eDNA | Family                         | Name              |
|---------|-----------------|--------------------------------|-------------------|
| sq24319 | 85.785          | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq13407 | 1.149           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq25689 | 0.053           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq26152 | 0.040           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq26874 | 0.027           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq26877 | 0.027           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq26880 | 0.027           | <a href="#">Dictyoceratida</a> | Dysidea avara     |
| sq26881 | 0.027           | <a href="#">Haplosclerida</a>  | Haliclona cinerea |
| sq28731 | 0.013           | <a href="#">Demospongiae</a>   | Axos cliftoni     |
| sq28732 | 0.013           | <a href="#">Haplosclerida</a>  | Haliclona cinerea |
| sq28741 | 0.013           | <a href="#">Dictyoceratida</a> | Dysidea avara     |

### [Dinophyceae](#)

| Type    | Percent of eDNA | Family            | Name                         |
|---------|-----------------|-------------------|------------------------------|
| sq4833  | 0.908           | Suessiaceae       | Symbiodinium microadriaticum |
| sq3838  | 0.281           | Suessiaceae       | Symbiodinium sp.             |
| sq24604 | 0.187           | Suessiaceae       | Symbiodinium sp.             |
| sq22670 | 0.107           | Suessiaceae       | Symbiodinium microadriaticum |
| sq25213 | 0.080           | Suessiaceae       | Symbiodinium sp.             |
| sq25416 | 0.067           | Gymnodiniphycidae | uncultured eukaryote         |
| sq25417 | 0.067           | Suessiaceae       | Symbiodinium sp.             |

|         |       |             |                              |
|---------|-------|-------------|------------------------------|
| sq24893 | 0.053 | Suessiaceae | Symbiodinium microadriaticum |
| sq25683 | 0.053 | Suessiaceae | Symbiodinium microadriaticum |
| sq25690 | 0.053 | Suessiaceae | Symbiodinium microadriaticum |
| sq21237 | 0.040 | Suessiaceae | Symbiodinium microadriaticum |
| sq21238 | 0.040 | Suessiaceae | Symbiodinium microadriaticum |
| sq26153 | 0.040 | Suessiaceae | Symbiodinium microadriaticum |
| sq26879 | 0.027 | Suessiaceae | Symbiodinium microadriaticum |
| sq28727 | 0.013 | Suessiaceae | Symbiodinium microadriaticum |

### [Dothideomycetes](#)

| Type    | Percent of eDNA | Family                         | Name                  |
|---------|-----------------|--------------------------------|-----------------------|
| sq14081 | 0.12            | <a href="#">Uncertae_Sedis</a> | Heliocephala gracilis |

### [Embryophyta](#)

| Type    | Percent of eDNA | Family                      | Name                              |
|---------|-----------------|-----------------------------|-----------------------------------|
| sq28747 | 0.013           | <a href="#">Embryophyta</a> | <a href="#">Triticum aestivum</a> |
| sq28748 | 0.013           | <a href="#">Embryophyta</a> | <a href="#">Triticum aestivum</a> |

### [Gastropoda](#)

| Type    | Percent of eDNA | Family                         | Name                             |
|---------|-----------------|--------------------------------|----------------------------------|
| sq25684 | 0.053           | <a href="#">Vetigastropoda</a> | <a href="#">Sinezona confusa</a> |

### [Homoscleromorpha](#)

| Type    | Percent of eDNA | Family                            | Name                                |
|---------|-----------------|-----------------------------------|-------------------------------------|
| sq25049 | 0.094           | <a href="#">Homosclerophorida</a> | <a href="#">Oscarella lobularis</a> |

### [Intramacronucleata](#)

| Type    | Percent of eDNA | Family                            | Name                 |
|---------|-----------------|-----------------------------------|----------------------|
| sq1381  | 0.214           | Euplotia                          | Euplotes rariseta    |
| sq13817 | 0.174           | <a href="#">Oligohymenophorea</a> | Metanophrys sinensis |
| sq1912  | 0.120           | <a href="#">Oligohymenophorea</a> | Vorticella sp.       |

|         |       |                                   |                         |
|---------|-------|-----------------------------------|-------------------------|
| sq1049  | 0.094 | Euplotia                          | Aspidisca aculeata      |
| sq25050 | 0.094 | <a href="#">Hypotrichia</a>       | Holosticha cf.          |
| sq25211 | 0.080 | Euplotia                          | Aspidisca aculeata      |
| sq13239 | 0.027 | Euplotia                          | Gastrocirrhus monilifer |
| sq26878 | 0.027 | <a href="#">Hypotrichia</a>       | Holosticha cf.          |
| sq28720 | 0.013 | <a href="#">Phyllopharyngea</a>   | Heterohartmannula fangi |
| sq28722 | 0.013 | <a href="#">Oligohymenophorea</a> | Metanophrys sinensis    |
| sq28723 | 0.013 | <a href="#">Oligohymenophorea</a> | Metanophrys sinensis    |

### [Malasseziomycetes](#)

| Type    | Percent of eDNA | Family                         | Name                                 |
|---------|-----------------|--------------------------------|--------------------------------------|
| sq172   | 0.307           | <a href="#">Malasseziaceae</a> | <a href="#">Malassezia restricta</a> |
| sq190   | 0.240           | <a href="#">Malasseziaceae</a> | <a href="#">Malassezia globosa</a>   |
| sq28742 | 0.013           | <a href="#">Malasseziaceae</a> | <a href="#">Malassezia globosa</a>   |

### [Microbotryomycetes](#)

| Type    | Percent of eDNA | Family                           | Name                  |
|---------|-----------------|----------------------------------|-----------------------|
| sq25579 | 0.040           | <a href="#">Sporidiobolaceae</a> | Sporobolomyces roseus |
| sq25687 | 0.013           | <a href="#">Sporidiobolaceae</a> | Sporobolomyces roseus |
| sq28739 | 0.013           | <a href="#">Sporidiobolaceae</a> | Sporobolomyces roseus |

### [Placididea](#)

| Type    | Percent of eDNA | Family     | Name                   |
|---------|-----------------|------------|------------------------|
| sq26155 | 0.040           | Placididea | Placidia cafeteriopsis |
| sq26875 | 0.027           | Placididea | Placidia cafeteriopsis |

### [Polychaeta](#)

| Type    | Percent of eDNA | Family                     | Name                               |
|---------|-----------------|----------------------------|------------------------------------|
| sq24605 | 0.187           | <a href="#">Opheliidae</a> | <a href="#">Ophelina acuminata</a> |
| sq48    | 0.040           | Palpata_Incertae_Sedis     | Trochonerilla mobilis              |
| sq26156 | 0.040           | <a href="#">Polychaeta</a> | Dinophilus gyrotilatus             |

[Trebouxiophyceae](#)

| Type    | Percent of eDNA | Family                           | Name                      |
|---------|-----------------|----------------------------------|---------------------------|
| sq25688 | 0.053           | <a href="#">Trebouxiophyceae</a> | Edaphochlorella mirabilis |

uncultured

| Type    | Percent of eDNA | Family     | Name                    |
|---------|-----------------|------------|-------------------------|
| sq26876 | 0.027           | uncultured | uncultured stramenopile |

DNA analysis conducted by [AquaBionics LLC](#).