Table S1: Primers used in this study.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Phyla | Primer | Sequence | Targeted Sequence | Product size | Ta | Reference | Primer used |
| Microsporidia | V1 | CACCAGGTTGATTCTGCCTGAC | 18S rRNA | 250-279 | 55 | [1] | HG |
|  | PMP2 | CCTCTCCGGAACCAAACCCTG |  |  |  |  | HG |
| Entamoeba | JVF | GTTGATCCTGCCAGTATTATATG | 18S rRNA | 600 to 650 | 57 | [2] | HG |
|  | DSPR2 | CACTATTGGAGCTGGAATTAC |  |  |  |  | HG |
| Eukarya | Euk1A | CTGGTTGATCCTGCCAG | 18s rRNA | 570-600 | 55 | [3] | HG |
|  | Euk 516r- | ACCAGACTTGCCCTCC |  |  |  | [4] | HG |
| Eukarya | FUNF | GATCCCTAGTCGGCATAGTT | 18s rRNA | 1000 | 52 | [5] | HG |
|  | FUNR | GTAGTCATATGCTTGTCTC |  |  |  |  | HG |
| Eukarya | EUKA | AACCTGGTTGATCCTGCCAGT | 18s rRNA | 1800 | 55 | [6] | HG |
|  | EUKB | TGATCCTTCTGCAGGTTCACCTAC |  |  |  |  | HG |
| Eukarya | NSI | GTAGTCATATGCTTGTCTC | 18s rRNA | 1650 | 48 | [7] | HG |
|  | FR1 | AICCATTCAATCGGTAIT |  |  |  | [8] | HG |
| Fungi | ITS F | CTTGGTCATTTAGAGGAAGTAA | ITS | 580 | 50 | [7] | HG |
|  | ITS-4R | TCCTCCGCTTATTGATATGC |  |  |  | [9] | HG |
| Dinoflagellates | 18ScomF1 | GCTTGTCTCAAAGATTAAGCCATGC | 18S rRNA | 650 | 58 | [10] | E |
|  | Dino18SR1 | GAGCCAGATRCDCACCCA |  |  |  |  | E |
| Trichomonads | TFR1 | TGCTTCAGTTCAGCGGGTCTTCC | 5,8S rRNA | 338-391 | 60 | [11] | E |
|  | TFR2 | CGGTAGGTGAACCTGCCGTTGG |  |  |  |  | E |
| Diplomonads | DimA | AACCTGGTTGATCTTGCCAG | 18S rRNA | - | 55 | [12] | E |
|  | DimB | CYGCAGGTTCACCTACGGAA |  |  |  |  | E |
| Kinetoplastidia | Kineto\_kin1 | GCGTTCAAAGATTGGGCAAT | 18S rRNA | 600-650 | 55 | [13] | E |
|  | Kineto\_kin2 | CGCCCGAAAGTTCACC |  |  |  |  | E |
| Amoeba | Ami6F1 | CCAGCTCCAATAGCGTATATT | 18S rRNA | 830 | 55 | [14] | E |
|  | Ami9R | GTTGAGTCGAATTAAGCCGC |  |  |  |  | E |
| Acanthamoeba | JDP1 | GGCCCAGATCGTTTACCGTGAA | 18S rRNA | 460-470 | 60 | [15] | E |
|  | JDP2 | TCTCACAAGCTGCTAGGGAGTCA |  |  |  |  | E |
| Naegleria | F | GAACCTGCGTAGGGATCATTT | ITS | 388 -376 | 55 | [16] | E |
|  | R | TTTCTTTTCCTCCCCTTATTA |  |  |  |  | E |
| Hartmannella | Hv1227F | TTACGAGGTCAGGACACTGT | 18S rRNA | 501 | 56 | [17] | E |
|  | Hv1728R | GACCATCCGGAGTTCTCG |  |  |  |  | E |
| Ciliophora | 121 F | CTGCGAATGGCTCATTAMAA | 18S rRNA | 750 | 55 | [18] | E |
|  | 1147R | GACGGTATCTRATCGTCTTT |  |  |  |  | E |
| Diatoms | 18SF | GTTTCCGTAGGTGAACCTGC | 18S rRNA | 700-900 | 60 | [19] | E |
|  | 28SR | GCTTATTAATATGCTTAAATTCAGCG |  |  |  |  | E |
| Rhodophyta | RUBI\_F | CGCTGCTAAAACTTGTGGGC | RUBISCO | 500 | 56 | [20] | E |
|  | RUBI\_R | GGCGTTGTAATAAGAATCCTGG |  |  |  |  | E |
| Chlorophyta | UCP1\_F | CAAGCWCCDGCAGAAGACC | rps11-rpl2 | 384 | 54 | [21] | E |
|  | UCP1\_R | CCMAAACATAAACAAMSWCAGG |  |  |  |  | E |
| Euglenophyta | EAF | GTCATATGCTTYKTTCAAGGRCTAAGCC | 18S rRNA | - | 55 | [22] | E |
|  | EAF3 | TCGACAATCTGGTTGATCCTGCCAG |  |  |  |  | E |
| Eukarya | E528F | CGGTAATTCCAGCTCC | 18s rRNA | 1000-1300 | 55 | [23] | E |
|  | Univ1391RE | ACCTTGTTACGRCTT |  |  |  | [24] | E |
| Eukarya | E528F | CGGTAATTCCAGCTCC | 18s rRNA | 1000-1300 | 55 | [23] | E |
|  | Univ1492RE | GGGCGGTGTGTACAARGRG |  |  |  | [24] | E |
| Eukarya | EK1F | CTGGTTGATCCTGCCAG | 18s rRNA | 1520 | 55 | [25] | E |
|  | EK-1520 | CYGCAGGTTCACCTAC |  |  |  |  | E |
| Eukarya | EK-82F | GAAACTGCGAATGGCTC | 18s rRNA | 1432 | 55 | [25] | E |
|  | EK-1520 | CYGCAGGTTCACCTAC |  |  |  |  | E |
| *Malassezia* | MF | TAACAAGGATTCCCCTAGTA | 28s rRNA | 580 | 55 | [26] | E |
|  | MR | ATTACGCCAGCATCCTAAG |  |  |  |  | E |

Ta = annealing temperature

Hg = Human gut

E = Environments

RUBISCO =Ribulose-1, 5-bisphosphate carboxylase oxygenase

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