Supplementary Table 1. Primers, thermocycling conditions, and identification parameters for the standards and external controls used for bacterial (16S), archaeal (16S) and fungal (18S) GCN.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bacteria** | **Archaea** | **Fungi** |
| Primer set | F27 (5-′AGAGTTTGATCMTGGCTCAG-3′) R1492 (5'-TACGGYTACCTTGTTACGACTT-3')Lane, D.J. 1991 | Arch967F (5'-AATTGGCGGGGGAGCAG-3') Arch1060R (5'-GGCCATGCACCWCCTCTC-3')Amann et al., 1990 | ITS1F (5'-CTTGGTCATTTAGAGGAAGTAA-3') White et al., 1990ITS4 (5'-TCCTCCGCTTATTGATATGC-3')Gardes and Bruns, 1993 |
| Thermocycle  | Initial denaturation 94 ºC (3 min), followed by 26 cycles of 94 ºC (1 min), annealing 53 ºC (2 min), and elongation 72 ºC (2 min). Final step 72 ºC (10 min) | Initial denaturation 94 ºC (3 min), followed by 26 cycles of 94 ºC (1 min), annealing 53 ºC (2 min), and elongation 72 ºC (2 min). Final step 72 ºC (10 min) | Initial denaturation 94 ºC (3 min), followed by 26 cycles of 94 ºC (1 min), annealing 53 ºC (2 min), and elongation 72 ºC (2 min). Final step 72 ºC (10 min) |
|  | Standard | Control | Standard | Control | Standard | Control |
| Species | *Escherichia coli* | *Serratia marcescens* | *Haloferax denitrificans*\* | *Halobacterium salinarum\** | *Fusarium sp.* | *Aspergillus niger* |
| Query cover | 100% | 100% | 96% | 94%  | 100% | 100% |
| E-value | 0 | 0 | 3e-17 | 2e-42 | 0 | 0 |
| Identity % | 99% | 100% | 96% | 97% | 99% | 97% |
| Genome size (Mb) | 4.6 | 5.1 | 3.9 | 2.5 | 41.9 | 36.1 |
| Copies per genome (16S /18S)  | 2 | 7 | 1 | 1 | 1 plasmid cloned | 1 plasmid cloned  |
| Source of culture | Waterford Institute of Technology | Waterford Institute of Technology | Deutsche Sammlung von Mikroorganismen und Zellkulturen | Carolina®  | Waterford Institute of Technology | Waterford Institute of Technology |

. \*For archaea identification only a short portion of the 16S was sequenced (qPCR primers were used) as cultures were purchased from external culture banks