

# Amplicon Diversity Assay List

## Bacteria Assays

### 16S

27F AGAGTTTGATCCTGGCTCAG

338R GCTGCCTCCCGTAGGAGT

27-YMF AGAGTTTGATYMTGGCTCAG

533R TTACCGCGGCTGCTGGCAC

534R TYACCGCGGCTGCTGG

27mF AGRGTTYGATYMTGGCTCAG

28F-YM GAGTTTGATYMTGGCTCAG

These primers  
are mixed at a  
4:1:1:1 ratio  
(28F-YM is at  
4 parts)

28F-Borrellia GAGTTTGATCCTGGCTTAG

28F-Chloroflex GAATTTGATCTTGGTTTACG

28F-Bifdo GGGTTCGATTCTGGCTCAG

*28F GAGTTTGATCNTGGCTCAG*

*519R GTNTTACNGCGGCKGCTG*

*388R TGCTGCCTCCCGTAGGAGT*

63F CAGGCCTAACACATGCAAGTC

530aR GTATTACCGCGGCTGCTG

104F GGCGVACGGGTGAGTAA

530R CCGCNGCNGCTGGCAC

338F TCCTACGGGAGGCAGCAGT

797R GGACTACCAGGGTATCTAATCCTGTT

338aF ACTCCTACGGGAGGCAGCAG

518R ATTACCGCGGCTGCTGG

338bF ACWCCTACGGGWGGCWGC

Firm350F GGCAGCAGTRGGGAATCTTC

Firm814R ACACYTAGYACTCATCGTTT

Cyan359F GGGGAATYTTCCGCAATGGG

Cyan781R GACTACWGGGGTATCTAATCCCWTT

AMX368F TTCGCAATGCCCGAAAGG

AMX821R AAAACCCCTCTACTTAGTGCCC

\*341F = 357F

\*\* Bacterial & Archaeal "universal"

\*\*\* Bacterial & Archaeal & Eukaryotic "universal"

**Bold are from Earth Microbiome Project**  
*Italicized are default primers for RTLGenomics*

357F CCTACGGGAGGCAGCAG \*

357wF CCTACGGGNGGCWGCAG

**515F GTGCCAGCMGCCGCGGTAA**

**515yF GTGYCAGCMGCCGCGGTAA**

515wF GTGYCAGCMGCCGCGGTA

530F GTGCCAGCMGCNGCGG

926wF AACTYAAAKGAATTGRCGG

939F TTGACGGGGGCCCGCACAAG

### **23S**

AlgaeF GGACAGAAAGACCCTATGAA

907R CCGTCAATTCMTTGTAGTTT

926wR CCGTCAATTYMTTTRAGTTT

785R GACTACHVGGGTATCTAATCC

**806R GGACTACHVGGGTWTCTAAT\*\***

**806bR GGACTACNVGGGTWTCTAAT**

909R CCCCGYCAATTCMTTTRAGT

926R CCGTCAATTCMTTTRAGTTT

**926pfR CCGYCAATTYMTTTRAGTTT**

1392R ACGGGCGGTGTGTRC\*\*\*

1492R TACCTTGTTACGACTT

AlgaeR TCAGCCTGTTATCCCTAGAG

If you don't see a particular assay desired we may have it, and if we don't then it can easily be ordered. Please inquire if this is the case and we will be happy to assist you.

Archaea Assays

**16S**

Arch21F TCCGGTTGATCCYGCCGG

Arch340wR CTGWTGCRCCCCRTAGGG

Arch534R ATTACCGCGGCTGCTGG

Arch340wF CCCTAYGGGGYGCASCAG

Arch806R GGACTACVSGGGTATCTAAT

Arch958R YCCGGCGTTGAMTCCAATT

*Arch517F GCYTAAAGSRNCCGTAGC*

*Arch909R TTTCAGYCTTGCGRCCGTAC*

Arch519wF CAGCMGCCGCGGTAA

Arch1017R GGCCATGCACCWCCTCTC

Eukaryote/Fungi Assays

**18S**

Euk1AF CTGGTTGATCCTGCCAG

Euk516R ACCAGATTGCCCTCC

EukA7F AACCTGGTTGATCCTGCCAGT

Euk570R GCTATTGGAGCTGGAATTAC

Euk300F AGGGTTCGATTCCGGAG

Euk555R GCTGCTGGCACCAGACT

Euk515F GTGYCAGCMGCCGCGGTA

EukNSR951R TTGGYRAATGCTTTCGC

Euk1052R TGCATGGYYGYCGYAGYTC

Euk516F GGAGGGCAAGTCTGGT

Euk1055R CGGCCATGCACCACC

Euk1560F TGGTGCATGGCCGTTCTTAGT

Euk2035R CATCTAAGGGCATCACAGACC

**Euk1391F GTACACACCGCCCGTC**

**EukBR TGATCCTTCTGCAGGTTACCTAC**

If you don't see a particular assay desired we may have it, and if we don't then it can easily be ordered. Please inquire if this is the case and we will be happy to assist you.

*TAReukF* CCAGCASCYGCGGTAATTCC

*TAReukR* ACTTTCGTTCTTGATYRA

EukBaIR ACTTTCGTTCTTGATYRR

EukSto2R ACTTTCGTTCTTGAT

*TAReukR3mR* ACTTTCGTTCTTGATYRATGA

### **ITS**

*ITS1F* CTTGGTCATTTAGAGGAAGTAA

*ITS2aR* GCTGCGTTCTTCATCGATGC

*ITS3F* GCATCGATGAAGAACGCAGC

*ITS4R* TCCTCCGCTTATTGATATGC

*ITS9F* GAACGCAGCRAAIIGYGA

### **23S**

*AlgaeF* GGACAGAAAGACCCTATGAA

*AlgaeR* TCAGCCTGTTATCCCTAGAG

### **Arthropod COI**

*mICOLintF* GGWACWGGWTGAACWGTWTAYCCYCC

*HCO2198R* TAAACTTCAGGGTGACCAAAAATCA

### **Plant trnL**

*trnLcF* CGAAATCGGTAGACGCTACG

*trnLdR* GGGGATAGAGGGACTTGAAC

*trnLgF* GGGCAATCCTGAGCCAA

*trnLhR* CGCGCATGGTGGATTACAATCC

If you don't see a particular assay desired we may have it, and if we don't then it can easily be ordered. Please inquire if this is the case and we will be happy to assist you.

Functional Assays

**aps**

APS1F TGGCAGATCATGATY MAYGG

APS4R GCGCCAACYGGRCRTA

ARSR GGGCCGTAACCGTCCTTGAA

**mcrA**

mlasF GGTGGTGTMGDDTTCACMCARTA

mcrA-revR CGTTCATBGCCTAGTTVGGRTAGT

mcrA3F GGTGGTGTMGATTACACARTAYGCWACAGC

mcrA3R TTCATTGCRTAGTTWGGRTAGTT

**nifH**

mnifHF TGYGAYCCNAARGCNGA

mnifHR ADNGCCATCATYTCNCC

nifHF GGCAAGTCCACCACCCAGC

nifHR CTCGATGACCGTCATCCGGC

nifH\_PoIF TGCGAYCCSAARGCBGACTC

nifH\_PoIR ATSGCCATCATYTCRCCGGA

**nirK**

F1aCuF ATCATGGTSCTGCCGCG

R3CuR GCCTCGATCAGRITGTGGTT

**nirS**

Cd3AF G TSAACG TSAAGGARACSGG

R3CdR GASTTCGGRTGSGTCTTGA

**nosZ**

nosZF CGYTGTTTCMTGACAGCCAG

nosZR CGSACCTTSTTGCCRTYGGC

If you don't see a particular assay desired we may have it, and if we don't then it can easily be ordered. Please inquire if this is the case and we will be happy to assist you.

**nrfA**

nrfAF TTAGTCCAGTCAGAGAAAGC

nrfA7R TWNGGCATRTGTCARTC

**pmoA**

A189F GGNGACTGGGACTTCTGG

MB661R CCGGMGCAACGTCYTTACC

cmo182F TCACGTTGACGCCGATCC

cmo568R GCACATACTCCATCCCCATC

**psaA**

psaAF TTCCACTACCACAAGCGGGCTCC

psaAR CAGGCCACCCTTGAAGGTG

**puf**

pufMed TACGGSAACCTGTWCTAC

pufR AYNGCRAACCACCANGCCCA

**Rubisco**

cbbIG1F GGCAACGTGTTCCGGSTTCAA

cbbIG1R TTGATCTCTTTCCACGTT

cbbIR1F AAGGAYGACGAGAACATC

cbbIR1R TCGGTCGGSGTGTAGTTG

If you don't see a particular assay desired we may have it, and if we don't then it can easily be ordered. Please inquire if this is the case and we will be happy to assist you.