

SEQUENCE LISTING

<110> Prolacta Bioscience

<120> HUMAN MILK OLIGOSACCHARIDE COMPOSITIONS FOR USE WITH
BACTERIOTHERAPIES

<130> PROL-041/02US

<150> US 63/065,991

<151> 2020-08-14

<150> US 63/225,170

<151> 2021-07-23

<160> 178

<170> PatentIn version 3.5

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<223> B. longum subsp. infantis partial 16S sequence

GenBank: LC071820.1

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GenBank: KP326372.1

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AB116305.1

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GenBank: D86184.1

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GenBank: AB507102.1

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MK962475.1

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NCBI Reference Sequence: NR_074802.2

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NCBI Reference Sequence: NR_119007.1

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GenBank: KU821112

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 <213> Bifidobacterium breve

<220>
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NCBI Reference Sequence: NR_040783.1

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 <223> B. catenulatum partial 16S sequence

<400> 13	
tgaacgctgg cggcgtgctt aacacatgca agtcgaacgg gatccaggca gcttgctgcc	60
tggtgagagt ggcgaacggg tgagtaatgc gtgaccgacc tgccccatac accggaatag	120
ctcctggaaa cgggtggtaa tgccggatgc tccgactcct cgcatggggg gtcgggaaag	180
atttcatcgg tatgggatgg ggtcgcgtcc tatcaggtag tcggcggggg aacggcccac	240
cgagcctacg acgggtagcc ggcctgagag ggcgaccggc cacattggga ctgagatacg	300
gcccagactc ctacgggagg cagcagtggg gaatattgca caatgggcgc aagcctgatg	360
cagcgacgcc gcgtgcggga tgacggcctt cgggttgtaa accgcttttg atcgggagca	420
agccttcggg tgagtgtacc tttcgaataa gcaccggcta actacgtgcc agcagccgcg	480
gtaatacgta gggtgcaagc gttatccgga attattgggc gtaaagggtc cgtaggcggt	540
tcgtcgcgtc cgggttgaaa gtccatcgct taacgggtgga tctgcgccgg gtacgggcgg	600
gctggagtgc ggtaggggag actggaattc ccggtgtaac ggtggaatgt gtagatatcg	660
ggaagaacac caatggcgaa ggcaggtctc tgggccgtta ctgacgctga ggagcgaaag	720

cgtggggagc gaacaggatt agataccctg gtagtccacg ccgtaaacgg tggatgctgg	780
atgtggggcc cgttccacgg gttccgtgtc ggagctaacg cgttaagcat cccgcctggg	840
gagtacggcc gcaaggctaa aactcaaaga aattgacggg ggcccgcaca agcggcggag	900
catgcggatt aattcgaatg aacgcgaaga accttacctg ggcttgacat gttcccgcaca	960
gccgtagaga tacggtctcc cttcggggcg gggtcacagg tggatgcatg tcgtcgtcag	1020
ctcgtgtcgt gagatgttgg gttaagtccc gcaacgagcg caaccctcgc cctgtgttgc	1080
cagcacgtca tgggtgggaac tcacggggga ccgccggggg caactcggag gaaggtgggg	1140
atgacgtcag atcatcatgc cccttacgtc cagggttca cgcatgctac aatggccggt	1200
acaacgggat gcgacatggc gacatggagc ggatccctga aaaccggtct cagttcggat	1260
tggagtctgc aacccgactc catgaaggcg gagtcgctag taatcgcgga tcagcaacgc	1320
cgcggtgaat gcgttcccgg gccttgtaga caccgcccgt caagtcatga aagtgggtag	1380
cacccgaagc cggtggccta accccttggt ggatggagcc gtctaagggt agactcgtga	1440
ttggg	1445

<210> 14
 <211> 1464
 <212> DNA
 <213> Bifidobacterium longum

<220>
 <221> misc_feature
 <223> B. longum partial 16S sequence

GenBank: LC306854.1

<400> 14	
tggctcagga tgaacgctgg cggcgtgctt aacacatgca agtcgaacgg gatccatcag	60
gctttgcttg gtggtgagag tggcgaacgg gtgagtaatg cgtgaccgac ctgccccata	120
caccggaata gtccttgga acgggtggta atgccggatg ctccagttga tcgcatggtc	180
ttctgggaaa gctttcgcgg tatgggatgg ggtcgcgtcc tatcagcttg acggcgggggt	240
aacggccac cgtggcttcg acgggtagcc ggcctgagag ggcgaccggc cacattggga	300
ctgagatacg gccagactc ctacgggagg cagcagtggg gaatattgca caatgggcgc	360

aagcctgatg cagcgacgcc gcgtgaggga tggaggcctt cgggttgtaa acctctttta	420
tcggggagca agcgagagtg agtttaccg ttgaataagc accggctaac tacgtgccag	480
cagccgcggt aatacgtagg gtgcaagcgt tatccggaat tattgggcgt aaagggctcg	540
taggcggttc gtcgcgtccg gtgtgaaagt ccatcgctta acggtggatc cgcgccgggt	600
acgggcgggc ttgagtgcgg taggggagac tggaattccc ggtgtaacgg tggaatgtgt	660
agatatcggg aagaacacca atggcgaagg caggtctctg ggccgttact gacgtgagg	720
agcgaaagcg tggggagcga acaggattag ataccctggt agtcacgcc gtaaacggtg	780
gatgctggat gtggggcccg ttccacgggt tccgtgtcgg agctaacgcg ttaagcatcc	840
cgcctgggga gtacggccgc aaggctaaaa ctcaaagaaa ttgacggggg cccgcacaag	900
cggcggagca tgcggattaa ttcgatgcaa cgcaagaac cttacctggg cttgacatgt	960
tcccgcggt cgtagagata cggcttcct tcggggcggg ttcacaggtg gtgcatggtc	1020
gtcgtcagct cgtgtcgtga gatgttgggt taagtccgc aacgagcgca accctcgccc	1080
cgtgttgcca gcggattatg ccgggaactc acgggggacc gccggggtta actcggagga	1140
aggtggggat gacgtcagat catcatgccc cttacgtcca gggcttcacg catgctacaa	1200
tggccggtac aacgggatgc gacgcggcga cgcggagcgg atccctgaaa accggtctca	1260
gttcggatcg cagtctgcaa ctcgactgcg tgaaggcgga gtcgctagta atcgcgaatc	1320
agcaacgtcg cggatgaatgc gttcccgggc cttgtacaca ccgcccgtca agtcatgaaa	1380
gtgggcagca cccgaagccg gtggcctaac cccttgtggg atggagccgt ctaaggtgag	1440
gctcgtgatt gggactaagt cgta	1464

<210> 15
 <211> 1513
 <212> DNA
 <213> Bifidobacterium pseudocatenulatum

<220>
 <221> misc_feature
 <223> B. pseudocatenulatum partial 16S sequence

<400> 15	
gtttcgattc tggctcagga tgaacgctgg cggcgtgctt aacacatgca agtcgaacgg	60
gatccatcag gctttgcttg gtggtgagag tggcgaacgg gtgagtaatg cgtgaccgac	120

ctgccccata caccggaata gctcctggaa acgggtggta atgccggatg ctccgactcc	180
tcgcatgggg tgctgggaaa gatttcatcg gtatgggatg gggtcgctc ctatcaggta	240
gtcggcgggg taacggccca ccgagcctac gacgggtagc cggcctgaga gggcgaccgg	300
ccacattggg actgagatac ggcccagact cctacgggag gcagcagtgg ggaatattgc	360
acaatgggcg caagcctgat gcagcgacgc cgcgtgcggg atgacggcct tcgggttgta	420
aaccgctttt gatcgggagc aagccttcgg gtgagtgtac ctttcgaata agcaccggct	480
aactacgtgc cagcagccgc ggtaatacgt aggggtgaag cgttatccgg aattattggg	540
cgtaaagggc tcgtaggcgg ttcgtcgcgt ccgggtgtgaa agtccatcgc ttaacgggtg	600
atctgcgccg ggtacgggcg ggctggagtg cggtagggga gactggaatt cccgggtgtaa	660
cgggtggaatg tgtagatatc gggaagaaca ccaatggcga aggcaggtct ctgggccgtt	720
actgacgtg aggagcgaag gcgtggggag cgaacaggat tagataccct ggtagtccac	780
gccgtaaacg gtggatgctg gatgtggggc ccgttccacg gggtccgtgt cggagctaac	840
gcgttaagca tccgcctgg ggagtacggc cgcaaggcta aaactcaaag aaattgacgg	900
gggcccgcac aagcggcgga gcatgcggat taattcgatg caacgcgaag aaccttacct	960
gggcttgaca tgttcccgac agccgtagag atatggcctc ctttcggggc gggttcacag	1020
gtggtgcatg gtcgtcgtca gtcgtgtcg tgagatgttg ggttaagtcc cgcaacgagc	1080
gcaaccctcg ccctgtgttg ccagcacgtc atgggtgggaa ctacggggg accgccgggg	1140
tcaactcgga ggaagggtgg gatgacgtca gatcatcatg ccccttacgt ccagggttc	1200
acgcatgcta caatggccgg tacaacggga tgcgacacgg cgacgtggag cggatccctg	1260
aaaaccggtc tcagttcgga ttggagtctg caacccgact ccatgaaggc ggagtcgcta	1320
gtaatcgcg atcagcaacg ccgcggtgaa tgcgttcccg ggccttgtag acaccgccc	1380
tcaagtcatg aaagtgggta gcacccgaag ccgggtggcct aaccctttgt ggatggagcc	1440
gtctaagggtg agactcgtga ttgggactaa gtcgtaacaa ggtagccgta ccggaagggtg	1500
cggctggatc acc	1513

<210> 16
 <211> 1475
 <212> DNA
 <213> Bifidobacterium pseudolongum

<220>
<221> misc_feature
<223> B. pseudolongum partial 16S sequence

GenBank: M58742.1

<220>
<221> misc_feature
<223> n = a,t,c, or g

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (50)..(50)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (55)..(55)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (57)..(57)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (61)..(61)
<223> n is a, c, g, or t

<220>
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<222> (95)..(95)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (137)..(137)
<223> n is a, c, g, or t

<220>
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<222> (207)..(207)
<223> n is a, c, g, or t

<220>
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<222> (236)..(236)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (267)..(268)
<223> n is a, c, g, or t

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<222> (303)..(303)
<223> n is a, c, g, or t

<220>
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<222> (334)..(335)
<223> n is a, c, g, or t

<220>
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<222> (400)..(400)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (470)..(470)
<223> n is a, c, g, or t

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<221> misc_feature
<222> (506)..(506)
<223> n is a, c, g, or t

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<221> misc_feature
<222> (525)..(525)
<223> n is a, c, g, or t

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<221> misc_feature
<222> (724)..(724)
<223> n is a, c, g, or t

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<221> misc_feature
<222> (744)..(744)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (819)..(819)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (865)..(865)
<223> n is a, c, g, or t

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<221> misc_feature
<222> (877)..(877)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (905)..(905)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (911)..(913)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (948)..(948)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1005)..(1005)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1118)..(1118)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1133)..(1133)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1136)..(1136)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1150)..(1150)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1169)..(1169)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1276)..(1276)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1367)..(1367)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1386)..(1387)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1393)..(1393)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1428)..(1428)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1453)..(1453)

<223> n is a, c, g, or t

<400> 16

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nagtcgaacg ggatccatca agcttgcttg gtgngagag tggcgaacgg gtgagtaatg 120

cgtgaccgac ctgcccata caccggaata gctcctggaa acgggtggta atgccggatg 180

ttccagttga tcgcatggtc ttctggnaaa gctttcgcgg tatgggatgg ggtcngtcc 240

tatcagcttg acggcgggggt aacggcnnac cgtggcttcg acgggtagcc ggcctgagag 300

ggngaccggc cacattggga ctgagatacg gccnngactc ctacgggagg cagcagtggg 360

gaatattgca caatgggcgc aagcctgatg cagcgacgcn gcgtgaggga tggaggcctt 420

cgggttgtaa acctctttta tcggggagca agcgagagtg agtttaccn ttgaataagc 480

accggctaac tacgtgccag cagccncggt aatacgtagg gtgcnagcgt tatccggaat 540

tattgggcgt aaagggtcg taggcggttc gtcgcgtccg gtgtgaaagt ccatcgctta 600

acgggtggatc cgcgccgggt acgggcgggc ttgagtgcgg taggggagac tggaattccc 660

gggtgaacgg tggaatgtgt agatatcggg aagaacacca atggcgaagg caggtctctg	720
ggcngttact gacgctgagg agcnaaacg tggggagcga acaggattag ataccctggt	780
agtccacgcc gtaaacgggt gatgctggat gtggggccng ttccacgggt tccgtgtcgg	840
agctaacgcg ttaagcatcc cgccngggga gtacggncgc aaggctaaaa ctcaaagaaa	900
ttganggggg nnngcacaag cggcggagca tgcggattaa ttcgatgnaa cgcaagaac	960
cttacctggg cttgacatgt tcccgcagggt cgtagagata cggcntccct tcggggcggg	1020
ttcacagggt gtgcatggtc gtcgtcagct cgtgtcgtga gatgttgggt taagtccgc	1080
aacgagcgca accctcgccc cgtgttgcca gcggattntg ccgggaactc acnggncacc	1140
gccgggggtn actcggagga aggtggggnt gacgtcagat catcatgccc cttacgtcca	1200
gggcttcacg catgctacaa tggccgggtac aacgggatgc gacgcggcga cgcgagcgg	1260
atccctgaaa accggntca gttcggatcg cagtctgcaa ctcgactgcg tgaaggcgga	1320
gtcgctagta atcgcaatc agcaacgtcg cggatgaatgc gttcccnggc cttgtacaca	1380
ccgccnntca agncatgaaa gtgggcagca cccgaagccg gtggcctnac cccttgtggg	1440
atggagccgt ctnaggtag gctcgtgatt gggtc	1475

<210> 17
 <211> 1478
 <212> DNA
 <213> Lactobacillus acidophilus

<220>
 <221> misc_feature
 <223> L. acidophilus partial 16S sequence

NCBI Reference Sequence: NR_043182.1

<400> 17	
tcctggctca ggacgaacgc tggcggcgtg cctaatacat gcaagtcgag cgagctgaac	60
caacagattc acttcggtga tgacgttggg aacgcgagcg gcggatgggt gagtaacacg	120
tggggaacct gcccatagt ctgggatacc acttggaac aggtgctaata accggataag	180
aaagcagatc gcatgatcag cttataaaaag gcggcgtaag ctgtcgctat gggatggccc	240
cgcggtgcat tagctagttg gtagggtaac ggcctaccaa ggcaatgatg catagccgag	300
ttgagagact gatcggccac attgggactg agacacggcc caaactccta cgggaggcag	360

cagtagggaa tcttccacaa tggacgaaag tctgatggag caacgccgcg tgagtgaaga	420
aggtttttcgg atcgtaaaagc tctgtttgttg gtgaagaagg atagaggtag taactggcct	480
ttattttgacg gtaatcaacc agaaagtcac ggctaactac gtgccagcag ccgcggtaat	540
acgtaggtgg caagcgttgt ccggatttat tgggcgtaaa gcgagcgag gcggaagaat	600
aagtctgatg tgaaagccct cggcttaacc gaggaactgc atcgaaaact gtttttcttg	660
agtgcagaag aggagagtgg aactccatgt gtagcggtgg aatgcgtaga tatatggaag	720
aacaccagtg gcgaaggcgg ctctctggtc tgcaactgac gctgaggctc gaaagcatgg	780
gtagcgaaca ggattagata ccctggtagt ccatgccgta aacgatgagt gctaagtgtt	840
gggaggtttc cgcctctcag tgctgcagct aacgcattaa gcactccgcc tggggagtac	900
gaccgcaagg ttgaaactca aaggaattga cgggggccc cacaagcggg ggagcatgtg	960
gtttaattcg aagcaacgcg aagaacctta ccaggtcttg acatctagtg caatccgtag	1020
agatacggag ttccccttcgg ggacactaag acaggtggtg catggctgtc gtcagctcgt	1080
gtcgtgagat gttgggttaa gtcccgcaac gagcgcaacc cttgtcatta gttgccagca	1140
ttaagttggg cactctaattg agactgccgg tgacaaaccg gaggaagggtg gggatgacgt	1200
caagtcatca tgccccttat gacctgggct acacacgtgc tacaatggac agtacaacga	1260
ggagcaagcc tgcgaaggca agcgaatctc ttaaagctgt tctcagttcg gactgcagtc	1320
tgcaactcga ctgcacgaag ctggaatcgc tagtaatcgc ggatcagcac gccgcggtga	1380
atacgttccc gggccttgta cacaccgccc gtcacacat gggagtctgc aatgccccaa	1440
gccggtggcc taaccttcgg gaaggagccg tctaaggc	1478

<210> 18
 <211> 1520
 <212> DNA
 <213> L. antri

<220>
 <221> misc_feature
 <223> L. antri partial 16S sequence

NCBI Reference Sequence: NR_027206.1

<400> 18	
ttgatcctgg ctcaggatga acgccggcgg tgtgcctaatac acatgcaagt cgagcgcact	60

ggcccaactg aaatgacgtg cttgcacaga atggacgttg gattcccagt gagcggcgga	120
cgggtgagta acacgtgggc aacctgcccc aaagcggggg ataacatttg gaaacagatg	180
ctaataccgc ataagttgga aaaccacatg gttttcccat caaagatggg ttcggctatc	240
gctttgggat gggcccgcg tgcattagct agttggtaag gtaacggctt accaaggcga	300
tgatgcatag ccgagttgag agactgatcg gccacaatgg aactgagaca cggtcatac	360
tcctacggga ggcagcagta gggaatcttc cacaatgggc gcaagcctga tggagcaaca	420
ccgcgtgagt gaagaagggt ttcggctcgt aaagctctgt tggttgagaa gaacgtgcgt	480
aagagtaact gtttacgcag tgacggtatc caaccagaaa gtcacggcta actacgtgcc	540
agcagccgcg gtaatacgta ggtggcaagc gttatccgga tttattgggc gtaaagcgag	600
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gtagatatat ggaagaacac cagtggcgaa ggcggctgtc tggctctgaa ctgacgtga	780
ggctcgaaag catgggtagc gaacaggatt agataccctg gtagtccatg ccgtwaacga	840
tgagtgctag gtgttgagg gtttccgccc ttcagtgccg aagctaacgc attaagcact	900
ccgcctgggg agtacgaccg caaggttgaa actcaaagga attgacgggg gcccgcaaa	960
gcgggtggagc atgtggttta attcgaagct acgcgaagaa ccttaccagg tcttgacatc	1020
ttgcgccaac ctgagagatg aggcgttccc ttcggggacg caaagacagg tggtgcatgg	1080
tcgtcgtcag ctcgtgtcgt gagatgttgg gttaagtccc gcaacgagcg caacccttgt	1140
tactagttgc cagcattcag ttgggcactc tagtgagact gccggtgaca aaccggagga	1200
aggtggggac gacgtcagat catcatgccc cttatgacct gggctacaca cgtgctacaa	1260
tggccggtac aacgagcagc taacccgcga ggggtgtgaa atctcttaaa gccggtctca	1320
gttcggactg cagtctgaa ctcgactgca cgaagtcgga atcgctagta atcgcggatc	1380
agcatgccgc ggtgaatacg ttcccgggcc ttgtacacac cgcccgtcac accatggaak	1440
tttgcaatgc ccaaagtcag tggcctaacc attatggagg gasctgccta aggcagggca	1500
gatgactggg gtgaagtcgt	1520

<210> 19

<211> 1513

<212> DNA
<213> Lactobacillus brevis

<220>
<221> misc_feature
<223> L. brevis partial 16S sequence

NCBI Reference Sequence: NR_044704.2

<220>
<221> misc_feature
<222> (570)..(570)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (714)..(714)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (789)..(789)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (957)..(957)
<223> n is a, c, g, or t

<400> 19
taagatgaga gtttgatcct ggctcaggac gaacgctggc ggcatgccta atacatgcaa 60
gtcgaacgag cttccgttga atgacgtgct tgcactgatt tcaacaatga agctagtggc 120
gaactggtga gtaacacgtg ggaaatctgc ccagaagcag gggataacac ttggaaacag 180
gtgctaatac cgtataacaa caaaatccgc atggattttg tttgaaaggt ggcttcggct 240
atcacttctg gatgatcccg cggcgtatta gttagtgtgt gaggtaaagg cccaccaaga 300
cgatgatacg tagccgacct gagagggtaa tcggccacat tgggactgag acacggccca 360
aactcctacg ggaggcagca gtagggaatc ttccacaatg gacgaaagtc tgatggagca 420
atgccgcgtg agtgaagaag ggtttcggct cgtaaaactc tgttgttaaa gaagaacacc 480
tttgagagta actgttcaag ggttgacggt atttaaccag aaagccacgg ctaactacgt 540
gccagcagcc gcggtaatac gtaggtggcn agcgttgtcc ggatttattg ggcgtaaagc 600
gagcgcaggc ggttttttta gtctgatgtg aaagccttcg gcttaaccgg agaagtgcac 660
cggaaactgg gagacttgag tgcagaagag gacagtggaa ctccatgtgt agcngtggaa 720

tgcgtagata tatggaagaa caccagtggc gaaggcggct gtctagtctg taactgacgc	780
tgaggctcna aagcatgggt agcgaacagg attagatacc ctggtagtcc atgccgtaaa	840
cgatgagtgc taagtgttgg agggtttccg cccttcagtg ctgcagctaa cgcattaagc	900
actccgcctg gggagtacga ccgcaagggt gaaactcaaa ggaattgacg ggggccngca	960
caagcgggtg agcatgtggt ttaattcgaa gctacgcgaa gaaccttacc aggtcttgac	1020
atcttctgcc aatcttagag ataagacgtt cccttcgggg acagaatgac aggtggtgca	1080
tggttgtcgt cagctcgtgt cgtgagatgt tgggttaagt cccgcaacga gcgcaaccct	1140
tattatcagt tgccagcatt cagttgggca ctctggtgag actgccggtg acaaaccgga	1200
ggaaggtggg gatgacgtca aatcatcatg ccccttatga cctgggctac acacgtgcta	1260
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tcagttcgga ttgtaggctg caactcgcct acatgaagtt ggaatcgcta gtaatcgcg	1380
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gagtttgtaa cacccaaagc cggtagagata accttcggga gtcagccgtc taaggtggga	1500
cagatgatta ggg	1513

<210> 20
 <211> 1517
 <212> DNA
 <213> Lactobacillus casei

<220>
 <221> misc_feature
 <223> L. casei partial 16S sequence

NR_041893.1

<400> 20	
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acgtgggtaa cctgccctta agtgggggat aacatttgga aacagatgct aataccgcat	180
aaatccaaga accgcatggt tcttggtga aagatggcgt caagctatcg cttttgatg	240
gacccgcggc gtattagcta gttggtgagg taacggctca ccaaggcgat gatacgtagc	300

cgaactgaga ggttgatcgg ccacattggg actgagacac ggcccaaact cctacgggag	360
gcagcagtag ggaatcttcc acaatggacg caagtctgat ggagcaacgc cgcgtgagtg	420
aagaaggctt tcgggtcgtg aaactctgtt gttggagaag aatggtcggc agagtaactg	480
ttgtcggcgt gacggtatcc aaccagaaag ccacggctaa ctacgtgcca gcagccgcgg	540
taatacgtag gtggcaagcg ttatccggat ttattgggcg taaagcgagc gcaggcggtt	600
ttttaagtct gatgtgaaag ccctcggctt aaccgaggaa gcgcatcgga aactgggaaa	660
cttgagtgca gaagaggaca gtggaactcc atgtgtagcg gtgaaatgcg tagatatatg	720
gaagaacacc agtggcgaag gcggctgtct ggtctgtaac tgacgtgag gctcgaaagc	780
atgggtagcg aacaggatta gataccctgg tagtccatgc cgtaaacgat gaatgctagg	840
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agcattgagt tgggcactct agtaagactg ccggtgacaa accggaggaa ggtggggatg	1200
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gtgaatacgt tcccgggcct tgtacacacc gcccgtcaca ccatgagagt ttgtaacacc	1440
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ggtgaagtcg taacaag	1517

<210> 21
 <211> 1564
 <212> DNA
 <213> L. coleohominis

<220>
 <221> misc_feature
 <223> L. coleohominis partial 16S sequence

NCBI Reference Sequence: NR_042436.1

<400> 21

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ggacgggtga gtaacacgta ggcaacctgc ccagaagcgg gggacaacat ttggaacaa	180
gtgctaatac cgcataacaa cgaaaaccgc ctggttttcg tttaaaagat ggtttcggct	240
atcacttctg gatgggcctg cggcgcatta gctagttggg aaggtaacgg cttaccaagg	300
cagtgatgcg tagccgagtt gagagactga tcggccacaa tggaactgag acacgggcca	360
tactcctacg ggaggcagca gtagggaatc ttccacaatg ggcgcaagcc tgatggagca	420
acaccgcgtg agtgaagaag ggtttcggct cgtaaaactc tgttgttgaa gaagaacgtg	480
cgtgagagta actgttcacg cagtacggta ttcaaccaga aagtcacggc taactacgtg	540
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agcgcaggcg gttttctaag tctgatgtga aagccttcgg ctttaaccgga gaagggcac	660
ggaaactgga taacttgagt gcaagagagg acagtggaac tccatgtgta gcggtggaat	720
gcgtagatat atggaagaac accagtggcg aaggcggctg tctagcttgc aactgacgct	780
gaggctcgaa agcatgggta gcgaacagga ttagataccc tggtagtcca tgccgtaaac	840
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ggtcgtcgtc agctcgtgtt gtgagatgtt gggttaagtc ccgcaacgag cgcaaccctt	1140
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gaaggtaggg acgacgtcag atcatcatgc cccttatgac ctgggctaca cacgtgctac	1260
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cagttcggac tgcagtctgc aactcgactg cacgaagtcg gaatcgctag taatcgcgga	1380
tcagcatgcc gcggtgaata cgttcccggg cttgttacac accgcccgtc acaccatggg	1440
agtttgcaat gcccaaagcc ggtggcctaa ctttcgggaa ggagccgtct aaggcagggc	1500
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tcat

1564

<210> 22
<211> 1518
<212> DNA
<213> *Lactobacillus crispatus*

<220>
<221> misc_feature
<223> *L. crispatus* partial 16S sequence

NCBI Reference Sequence: NR_041800.1

<400> 22
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ccccatagtc tgggatacca cttggaaaca ggtgctaata ccggataaga aagcagatcg 180
catgatcagc ttttaaaagg cggcgtaagc tgtcgctatg ggatggcccc gcggtgcatt 240
agctagttgg taaggtaaag gcttaccaag gcgatgatgc atagccgagt tgagagactg 300
atcggccaca ttgggactga gacacggccc aaactcctac gggaggcagc agtagggaat 360
cttcacaat ggacgcaagt ctgatggagc aacgccgctg gagtgaagaa ggttttcgga 420
tcgtaaagct ctgttggttg tgaagaagga tagaggtagt aactggcctt tatttgacgg 480
taatcaacca gaaagtcacg gctaactacg tgccagcagc cgcgtaata cgtaggtggc 540
aagcgtgtgc cggatttatt gggcgtaaag cgagcgcagg cggaagaata agtctgatgt 600
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ggagagtgga actccatgtg tagcgggtgga atgcgtagat atatggaaga acaccagtgg 720
cgaaggcggc tctctggtct gcaactgacg ctgaggctcg aaagcatggg tagcgaacag 780
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gcccccttatg acctgggcta cacacgtgct acaatgggca gtacaacgag aagcgagcct	1260
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tgcacgaagc tggaatcgct agtaatcgcg gatcagcacg ccgcggtgaa tacgttccc	1380
ggccttgtag acaccgccc tcacaccatg ggagtctgca atgccccaaag ccggtggcct	1440
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tagccgtagg agaactgc	1518

<210> 23
 <211> 1518
 <212> DNA
 <213> *Lactobacillus curvatus*

<220>
 <221> misc_feature
 <223> *L. curvatus* partial 16S sequence

NCBI Reference Sequence: NR_041800.1

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ccccatagtc tgggatacca cttggaaaca ggtgctaata ccggataaga aagcagatcg	180
catgatcagc ttttaaaagg cggcgtaagc tgtcgctatg ggatggcccc gcggtgcatt	240
agctagttag taaggtaaag gcttaccaag gcgatgatgc atagccgagt tgagagactg	300
atcggccaca ttgggactga gacacggccc aaactcctac gggaggcagc agtagggaat	360
cttcacaaat ggacgcaagt ctgatggagc aacgccgctg gagtgaagaa ggttttcgga	420
tcgtaaagct ctgttggttg tgaagaagga tagaggtagt aactggcctt tatttgacgg	480
taatcaacca gaaagtcacg gctaactacg tgccagcagc cgcggttaata cgtaggtggc	540
aagcgttgct cggatttatt gggcgtaaag cgagcgcagg cggaagaata agtctgatgt	600
gaaagccctc ggcttaaccg aggaactgca tcggaaactg tttttcttga gtgcagaaga	660
ggagagtgga actccatgtg tagcggtgga atgcgtagat atatggaaga acaccagtgg	720
cgaaggcggc tctctggtct gcaactgacg ctgaggctcg aaagcatggg tagcgaacag	780

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gcctctcagt gctgcagcta acgcattaag cactccgcct ggggagtagc accgcaaggt	900
tgaaactcaa aggaattgac gggggcccg cacaagcggg gagcatgttg ttttaattcga	960
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tcccttcggg gacgctaaga caggtggtgc atggctgtcg tcagctcgtg tcgtgagatg	1080
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tgcacgaagc tggaatcgct agtaatcgcg gatcagcacg ccgcggtgaa tacgttccc	1380
ggccttgtag acaccgcccg tcacaccatg ggagtctgca atgccccaaag ccggtggcct	1440
aaccttcggg aaggagccgt ctaaggcagg gcagatgact ggggtgaagt cgtaacaagg	1500
tagccgtagg agaactgc	1518

<210> 24
 <211> 1515
 <212> DNA
 <213> *Lactobacillus delbrueckii*

<220>
 <221> misc_feature
 <223> *L. delbrueckii* partial 16S sequence

NCBI Reference Sequence: NR_029106.1

<400> 24	
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aagactggga taccacttgg aaacaggtgc taataccgga taacaacatg aatcgcatga	180
ttcaagtttg aaaggcggcg caagctgtca ctttaggatg agcccgcggc gcattagcta	240
gttgggtgggg taaaggccta ccaaggcaat gatgcgtagc cgagttgaga gactgatcgg	300
ccacattggg actgagacac ggcccaaact cctacgggag gcagcagtag ggaatcttcc	360
acaatggacg caagtctgat ggagcaacgc cgcgtgagtg aagaaggttt tcggatcgta	420

aagctctgtt gttggtgaag aaggatagag gcagtaactg gtctttatatt gacggtaatc	480
aaccagaaaag tcacggctaa ctacgtgcca gcagccgcgg taatacgtag gtggcaagcg	540
ttgtccggat ttattgggcg taaagcgagc gcaggcggaa tgataagtct gatgtgaaag	600
cccacggctc aaccgtggaa ctgcatcgga aactgtcatt cttgagtga gaagaggaga	660
gtggaactcc atgtgtagcg gtggaatgcg tagatatatg gaagaacacc agtggcgaag	720
gcggctctct ggtctgcaac tgacgtgag gctcgaaagc atgggtagcg aacaggatta	780
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ctcaaaggaa ttgacggggg ccgcacaag cggtaggagca tgtggtttta ttcgaagcaa	960
cgcgaagaac cttaccaggt cttgacatcc tgcgctacac ctagagatag gtggttcct	1020
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cgtaggagaa ctgcg	1515

<210> 25
 <211> 1502
 <212> DNA
 <213> Lactobacillus fermentum

<220>
 <221> misc_feature
 <223> L. fermentum partial 16S sequence

NCBI Reference Sequence: NR_104927.1

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cacctgattg attttggtcg ccaacgagtg gcggacgggt gagtaacacg taggtaacct	120
gcccagaagc gggggacaac atttggaaac agatgctaata accgcataac aacgttgttc	180
gcatgaacaa cgcttaaaag atggcttctc gctatcactt ctggatggac ctgcggtgca	240
ttagcttggt ggtggggtaa cggcctacca aggcgatgat gcatagccga gttgagagac	300
tgatcggcca caatgggact gagacacggc ccatactcct acgggaggca gcagtaggga	360
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cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa agtcggtggg	1440
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ag	1502

<210> 26

<211> 1573

<212> DNA
<213> Lactobacillus gasseri

<220>
<221> misc_feature
<223> L. gasseri 16S sequence

NCBI Reference Sequence: NR_075051.2

<400> 26
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agcggcggac gggtagtaaa cacgtgggta acctgcccaa gagactggga taacacctgg 180
aaacagatgc taataccgga taacaacact agacgcatgt ctagagttaa aaagatgggt 240
ctgctatcac tcttggatgg acctgcggtg cattagctag ttggtaaggt aacggcttac 300
caaggcaatg atgcatagcc gagttgagag actgacggc cacattggga ctgagacacg 360
gccccaaactc ctacgggagg cagcagtagg gaatcttcca caatggacgc aagtctgatg 420
gagcaacgcc gcgtgagtga agaagggttt cggctcgtaa agctctgttg gtagtgaaga 480
aagatagagg tagtaactgg cctttatttg acggttaatta cttagaaagt cacggctaac 540
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gatcacctcc ttt	1573

<210> 27
 <211> 1487
 <212> DNA
 <213> *Lactobacillus johnsonii*

<220>
 <221> misc_feature
 <223> *L. johnsonii* partial 16S sequence

NCBI Reference Sequence: NR_025273.1

<400> 27	
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caagagactg ggataacacc tggaaacaga tgctaatacc ggataacaac actagacgca	180
tgtctagagt ttgaaagatg gttctgctat cactcttgga tggacctgcg gtgcattagc	240
tagttggtaa ggtaatggct taccaaggcg atgatgcata gccgagttga gagactgac	300
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ttacttagaa agtcacggct aactacgtgc cagcagccgc ggtaatacgt aggtggcaag	540
cgttgccgg atttattggg cgtaaagcga gtgcaggcgg ttcaataagt ctgatgtgaa	600
acgcttcggc tcaaccggag aattgcatca gaaactgttg aacttgagtg cagaagagga	660
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tctcagtgc	tgcagctaacg	cattaagcac	tccgcctggg	gagtacgacc	gcaaggttga	900
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ccttatgacc	tgggctacac	acgtgctaca	atggacggta	caacgagaag	cgaacctgcg	1260
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cttgtacaca	ccgcccgtca	caccatgaga	gtctgtaaca	cccaaagccg	gtgggataac	1440
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<210> 28
 <211> 1507
 <212> DNA
 <213> L. harbinensis

<220>
 <221> misc_feature
 <223> L. harbinensis partial 16S sequence

NCBI Reference Sequence: NR_041263.1

<400> 28						
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gcccttcagc	aggggataac	atttgga aac	agatgcta at	accgtataac	cacggagacc	180
gcatgggtctc	cgggtaaaag	atggcgcaag	ctatcactga	aggatggacc	cgcggcgtat	240
tagccagttg	gtggggtaac	ggcctaccaa	agcgatgata	cgtagccgac	ctgagagggt	300
aatcggccac	attgggactg	agacacggcc	caaactccta	cgggaggcag	cagtagggaa	360
tcttccacaa	tggacgcaag	tctgatggag	caacgccgcg	tgagtgaaga	aggctttcgg	420
gtcgtaaaac	tctgttattg	aagaagaacg	tgtgtgacag	taactgggtca	tgacgtgacg	480
gtattcaatc	agaaagtcac	ggctaactac	gtgccagcag	ccgcggtaat	acgtaggtgg	540

caagcgttgt ccggatttat tgggcgtaaa gcgagtgcag gcggtctttt aagtctgatg	600
tgaaagcctt cggcttaacc gaagaagggc atcggaactt gggagacttg agtgcagaag	660
aggagagtgg aactccatgt gtagcgggtga aatgcgtaga tatatggaag aacaccagtg	720
gcgaaggcgg ctctctggtc tgtaactgac gctgaggctc gaaagcgtgg gtagcaaaca	780
ggattagata ccctggtagt ccacgccgta aacgatgaat actaagtgtt ggagggtttc	840
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gggccttgta cacaccgcc gtcacacat gagagtttgt aacacccaaa gccggtgaga	1440
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ggtaaca	1507

<210> 29
 <211> 1568
 <212> DNA
 <213> L. mucosae

<220>
 <221> misc_feature
 <223> L. mucosae partial 16S sequence

NCBI Reference Sequence: NR_024994.1

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gcggacgggt gagtaacacg taggtaacct gcccacaaagc gggggataac atttggaac	180

agatgctaataccgcataacaatttgaatcgcattgattcaaatTTTaaaagatggcttcgg	240
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ggctgtgatgcgtagccgagttgagagactgatcggccacaatggaactgagacacggtc	360
catactcctacgggaggcagcagtagggaaTcttccacaatgggcgcaagcctgatggag	420
caacaccgcgtgagtgaagaagggtttcggctcgtaaagctctgttgtagagaagaacg	480
tgcgtgagagcaactgttccgcagtgacgtatctaaccagaaagtcacggctaactac	540
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gcgagcgcaggcggtttgatagctctgatgtgaaagccttTggcttaaccaaagaagtgc	660
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aacgatgagtgctaggtgttggagggtttcgcgcccttcagtccgcagctaacgcattaa	900
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ggggcagatgattaggtgaagtcgtaacaaggtagccgtaggagaacctgcggctggat	1560
cacctcct	1568

<210> 30
 <211> 1519
 <212> DNA
 <213> Lactobacillus pentosus

<220>

<221> misc_feature

<223> L. pentosus partial 16S sequence

<400> 30

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tgcccagaag cgggggataa cacctggaaa cagatgctaa taccgcataa caacttgac	180
cgcatgggcc gagtttgaaa gatggcttcg gctatcactt ttggatgggc ccgcggcgta	240
ttagctagat ggtggggtaa cggctcacca tggcaatgat acgtagccga cctgagaggg	300
taatcggcca cattgggact gagacacggc ccaaactcct acgggaggca gcagtaggga	360
atcttccaca atggacgaaa gtctgatgga gcaacgccgc gtgagtgaag aagggtttcg	420
gctcgtaaaa ctctgttggt aaagaagaac atatctgaga gtaactgttc aggtattgac	480
ggtatttaac cagaaagcca cggctaacta cgtgccagca gccgcggtaa tacgtagggtg	540
gcaagcggtg tccggattta ttgggcgtaa agcgagcgca ggcggttttt taagtctgat	600
gtgaaagcct tcggctcaac cgaagaagtg catcggaac tgggaaactt gagtgcagaa	660
gaggacagtg gaactccatg tgtagcgggtg aaatgcgtag atatatggaa gaacaccagt	720
ggcgaaggcg gctgtctggt ctgtaactga cgctgaggct cgaaagtatg ggtagcaaac	780
aggattagat accctggtag tccataccgt aaacgatgaa tgctaagtgt tggagggttt	840
ccgcccttca gtgctgcagc taacgcatta agcattccgc ctggggagta cggccgcaag	900
gctgaaactc aaaggaattg acgggggccc gcacaagcgg tggagcatgt ggtttaattc	960
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gttcccttcg gggacatgga tacaggtggt gcatggttgt cgtcagctcg tgctctgaga	1080
tgttgggtta agtcccgcaa cgagcgcaac cttattatc agttgccagc attaagttgg	1140
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cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa agtcggtggg	1440

gtaacctttt aggaaccagc cgcctaaggt gggacagatg attaggggtga agtcgtaaca	1500
aggtagccgt agggagAAC	1519

<210> 31
 <211> 1517
 <212> DNA
 <213> Lactobacillus plantarum

<220>
 <221> misc_feature
 <223> L. plantarum partial 16S sequence

NCBI Reference Sequence: NR_042254.1

<400> 31	
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cccaggaagc gggggataac acctggaaac akatgctaata accgcataac aacttggacc	180
gcatggtccg agtttgaaag atggcttcgg ctatcacttt tggatggycc cgcggcgtat	240
takctakatg gtggggtaac ggctcaccat ggcaatgata cgtacccgac ctgagagggt	300
aatcggccac attgggactg agacacggcc caaactccta cgggaggcag cagtagggaa	360
tcttccacaa tggacgaaag tctgatggag caacgccgcg tgagtgaaga agggtttcgg	420
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gtatttaacc agaaagccac ggctaactac gtgccagcag ccgcggtaat acgtagggtg	540
caagcgttgt ccggatttat tgggcgtaaa gcgagcgcag gcggtttttt aagtctgatg	600
tgaaagcctt cggctcaacc gaagaagtgc atcggaaact gggaaacttg agtgcagaag	660
aggacagtgg aactccatgt gtagcgggtga aatgcgtata tatatggaas aacaccagtg	720
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gaagctacgc gaagaacctt accaggtctt gacatactat gcaaactctaa gagattagac	1020
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tggtgggtta agtcccgcaa cgagcgcaac ctttattatc agttgccagc attaagttgg	1140
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cctacatgaa gtcggaatcg ctagtaatcg cggatcagca tgccgcggtg aatacgttcc	1380
cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa agtcggtggg	1440
gtaacctttt aggaaccagc cgcctaaggt gggacagatg attagggtga agtcgtaaca	1500
aggtagccgt aggagaa	1517

<210> 32
 <211> 1535
 <212> DNA
 <213> Lactobacillus reuteri

<220>
 <221> misc_feature
 <223> L. reuteri partial 16S sequence

NCBI Reference Sequence: NR_025911.1

<400> 32	
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ggacgggtga gtaacacgta ggtaacctgc cccggagcgg ggaataacat ttgaaacag	180
atgctaatac cgcataacaa caaaagccgc atggtttttc tggaaagatg gctttggcta	240
tcactctggg atggacctgc ggtgcattta gctagttggg aaggtaacgg cttacccaag	300
gcgatgatgc atagccgagt tgagagactg atcggccaca atgggaactg agacacggtc	360
cataacttct acgggaggca gcagtaggga atcttcaca atgggcgcaa gctgatggag	420
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tgcgttagag taactgttac gcagtgcagg tatccaacca gaaagtcacg gctaactacg	540
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cgagcgcagg cggttgctta ggtctgatgt ggaaactcgg cttaacgaa gaagtgcac	660
ggaaaccggg cgacttgagt gcagaagagg acagtggaac tccatgtgta gcggtggaat	720

gcgtagatat atggaagaac accagtggcg aaggcggctg tctggtctgc aactgacgct	780
gaggctcgaa agcatgggta gcgaacagga ttagataccc tggtagtcca tgccgtaaac	840
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gggagtttgt aacgccc aaa gttcgggtggc ctaaccttta tggacgggta ccctaaggcg	1500
ggacagatga tctgggggtga agtcgtaaca aggtga	1535

<210> 33
 <211> 1521
 <212> DNA
 <213> Lactobacillus rhamnosus

<220>
 <221> misc_feature
 <223> L. rhamnosus partial 16S sequence

NCBI Reference Sequence: NR_043408.1

<220>
 <221> misc_feature
 <222> (407)..(407)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (655)..(655)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature

<222> (1476)..(1476)

<223> n is a, c, g, or t

<400> 33

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ctgcccttaa gtgggggata acatttgga acagatgcta ataccgcata aatccaagaa	180
ccgcatgggt cttggctgaa agatggcgta agctatcgct tttggatgga cccgcggcgt	240
attagctagt tggtgaggta acggctcacc aaggcaatga tacgtagccg aactgagagg	300
ttgatcggcc acattgggac tgagacacgg cccaaactct acgggaggca gcagtaggga	360
atcttccaca atggacgcaa gtctgatgga gcaacgccgc gtgagtnaag aaggctttcg	420
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gaggacagtg gaactccatg tgtagcgggtg aaatgcgtag atatatggaa gaacaccagt	720
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aggattagat accctggtag tccatgccgt aaacgatgaa tgctaggtgt tggagggttt	840
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gttgaaactc aaaggaattg acggggggccc gcacaagcgg tggagcatgt ggtttaattc	960
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atgcccccta tgacctgggc tacacacgtg ctacaatgga tgggtacaac agttgcgaga	1260
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cctacacgaa gtcggaatcg ctagtaatcg cggatcagca cgccgcggtg aatacgttcc	1380
cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacaccga agccggtggc	1440
gtaacccttt tagggagcga gccgtctaag gtgggncaaa tgattagggt gaagtcgtaa	1500

caaggtagcc gtaggagaac c

1521

<210> 34

<211> 1561

<212> DNA

<213> Lactobacillus sake

<220>

<221> misc_feature

<223> L. sakei partial 16S sequence

NCBI Reference Sequence: NR_042443.1

<400> 34

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acgggtgagt aacacgtggg taacctgccc taaagtgggg gataacattt ggaaacagat	180
gctaataccg cataaaacct aacaccgcat ggtgtagggt tgaaagatgg tttcggctat	240
cactttagga tggacccgcg gtgcattagt tagttggtga ggtaaaggct caccaagacc	300
gtgatgcata gccgacctga gagggtaatc ggccacactg ggactgagac acggcccaga	360
ctcctacggg aggcagcagt agggaatctt ccacaatgga cgaaagtctg atggagcaac	420
gccgcgtgag tgaagaaggt tttcggatcg taaaactctg ttgttggaga agaatgtatc	480
tgatagtaac tgatcaggta gtgacggtat ccaaccagaa agccacggct aactacgtgc	540
cagcagccgc ggtaatacgt aggtggcaag cgttgtccgg atttattggg cgtaaagcga	600
gcgcaggcgg tttcttaagt ctgatgtgaa agccttcggc tcaaccgaag aagtgcacg	660
gaaactggga aacttgagtg cagaagagga cagtggaact ccatgtgtag cggtgaaatg	720
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aaggtgggga cgacgtcaaa tcatcatgcc ctttatgacc tgggctacac acgtgctaca	1260
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agttcggatt gtaggctgca actcgcctac atgaagccgg aatcgctagt aatcgcggat	1380
cagcatgccg cggatgaatac gttcccgggc cttgtacaca ccgcccgtca caccatgaga	1440
gtttgtaaca cccaaagccg gtgaggtaac ctttcgggga gccagccgtc taaggtggga	1500
cagatgatta gggatgaagtc gtaacaaggt agccgtagag aacctgcggc tggatcacct	1560
c	1561

<210> 35
 <211> 1542
 <212> DNA
 <213> Lactobacillus salivarius

<220>
 <221> misc_feature
 <223> L. salivarius partial 16S sequence

NCBI Reference Sequence: NR_028725.2

<400> 35	
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gtaacacgtg ggtaacctgc ctaaaagaag gggataacac ttggaaacag gtgctaatac	180
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agccgaactg agaggttgat cggccacatt gggactgaga cacggtccaa actcctacgg	360
gaggcagcag tagggaatct tccacaatgg acgcaagtct gatggagcaa cgccgcgtga	420
gtgaagaagg tcttcggatc gtaaaactct gttgttagag aagaacacga gtgagagtaa	480
ctgttcattc gatgacggta tctaaccagc aagtcacggc taactacgtg ccagcagccg	540
cggtaatacg taggtggcaa gcgttggtccg gatttattgg gcgtaaaggg aacgcaggcg	600
gtcttttaag tctgatgtga aagccttcgg cttaaccgga gtagtgcatt ggaaactgga	660
agacttgagt gcagaagagg agagtgaac tccatgtgta gcggtgaaat gcgtagatat	720

atggaagaac accagtggcg aaagcggctc tctggtctgt aactgacgct gaggttcgaa	780
agcgtgggta gcaaacagga ttagataccc tggtagtcca cgccgtaaac gatgaatgct	840
aggtgttgga gggtttccgc ctttcagtgc cgcagctaac gcaataagca ttccgcctgg	900
ggagtacgac cgcaagggtg aaactcaaag gaattgacgg gggcccgcac aagcgggtgga	960
gcatgtgggt taattcgaag caacgcgaag aaccttacca ggtcttgaca tcctttgacc	1020
acctaagaga ttaggctttc ctttcgggga caaagtgaca ggtggtgcat ggctgtcgtc	1080
agctcgtgtc gtgagatgtt gggttaagtc ccgcaacgag cgcaaccctt gttgtcagtt	1140
gccagcatta agttgggcac tctggcgaga ctgccggtga caaaccggag gaaggtgggg	1200
acgacgtcaa gtcacatgc cccttatgac ctgggctaca cacgtgctac aatggacggt	1260
acaacgagtc gcaagaccgc gaggtttagc taatctctta aagccgttct cagttcggat	1320
tgtaggctgc aactcgccta catgaagtcg gaatcgctag taatcgcgaa tcagcatgtc	1380
gcggtgaata cgttcccggg cttgttacac accgcccgtc acaccatgag agtttgtaac	1440
acccaaagcc ggtggggtaa ccgcaaggag ccagccgtct aaggtgggac agatgattgg	1500
ggtgaagtcg taacaaggta gccgtaggag aacctgcggc tg	1542

<210> 36
 <211> 1522
 <212> DNA
 <213> *Lactobacillus paracasei*

<220>
 <221> misc_feature
 <223> *L. paracasei* partial 16S sequence

NCBI Reference Sequence: NR_025880.1

<400> 36	
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ctgcccttaa gtgggggata acatttgga acagatgcta ataccgcata gatccaagaa	180
ccgcatgggt cttggctgaa agatggcgta agctatcgct tttggatgga cccgcggcgt	240
attagctagt tggtaggta atggctcacc aaggcgatga tacgtagccg aactgagagg	300
ttgatcggcc acattgggac tgagacacgg cccaaactcc tacgggaggc agcagtaggg	360

aatcttccac aatggacgca agtctgatgg agcaacgccg cgtgagtga gaaggctttc	420
gggtcgtaaa actctgttgt tggagaagaa tggtcggcag agtaactgtt gtcggcgtga	480
cggatatcaa ccagaaagcc acggctaact acgtgccagc agccgcggta atacgtaggt	540
ggcaagcgtt atccggattht attgggcgta aagcgagcgc aggcggthttt ttaagtctga	600
tgtgaaagcc ctccgcttaa ccgaggaagc gcatcggaat ctgggaaact tgagtgcaga	660
agaggacagt ggaactccat gtgtagcggg gaaatgcgta gatatatgga agaacaccag	720
tggcgaaggc ggctgtctgg tctgtaactg acgctgaggc tcgaaagcat gggtagcgaa	780
caggattaga taccctggta gtccatgccg taaacgatga atgctaggtg ttggagggtt	840
tccgcccttc agtgccgcag ctaacgcatt aagcattccg cctggggagt acgaccgcaa	900
ggttgaaact caaaggaatt gacggggggc cgcacaagcg gtggagcatg tggthtaatt	960
cgaagcaacg cgaagaacct taccaggtct tgacatcttt tgatcacctg agagatcagg	1020
thtccccttc gggggcaaaa tgacaggtgg tgcatggttg tcgtcagctc gtgtcgtgag	1080
atgttgggtt aagtcccga acgagcgcaa cccttatgac tagttgccag catthtagttg	1140
ggcactctag taagactgcc ggtgacaaac cggaggaagg tggggatgac gtcaaatcat	1200
catgccccctt atgacctggg ctacacacgt gctacaatgg atggtacaac gagttgcgag	1260
accgcgaggt caagctaact tcttaaagcc attctcagtt cggactgtag gctgcaactc	1320
gcctacacga agtcggaatc gctagtaatc gcggatcagc accccgcggg gaatacgttc	1380
ccgggccttg tacacaccgc ccgtcacacc atgagagtht gtaacacccg aagccggthg	1440
cgtaaccctt ttagggagcg agccgtctaa ggtgggacaa atgattaggg tgaagtcgta	1500
acaaggtagc cgtaggagaa cc	1522

<210> 37
 <211> 1565
 <212> DNA
 <213> L. kisonensis

<220>
 <221> misc_feature
 <223> L. kisonensis partial 16S sequence

NCBI Reference Sequence: NR_041658.1

<400> 37

agagtttgat cctggctcag gacgaacgct ggcggcgtgc ctaatacatg caagtcgaac	60
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cgaactgggtg agtaacacgt gggtaacctg cccttgaagt aggggataac acttggaac	180
aggtgctaata accgtataac aaccaaagcc ccatgacttt ggtttaaaag atggcttcgg	240
ctatcacttt aggatggacc cgcggcgtat tagcttggtg gtgaggtaac ggctcaccaa	300
ggcaatgata cgtagccgac ctgagagggt aatcgccac attgggactg agacacggcc	360
caaactccta cgggaggcag cagtagggaa tcttcacaa tggacgaaag tctgatggag	420
caacgccg ttagtgatga agggtttcgg ctcgtaaaac tctgttggtg gagaagaacg	480
ggtgtgagag taactgttca catcgtgacg gtatccaacc agaaagccac ggctaactac	540
gtgccagcag ccgcggtaat acgtagggtg caagcgttgt ccggatttat tgggcgtaaa	600
gcgagcgag gcggtttttt aggtctgatg tgaaagcctt cggcttaacc ggagaagtgc	660
atcggaaacc gggagacttg agtgcagaag aggacagtgg aactccatgt gtagcggatga	720
aatgcgtaga tatatggaag aacaccagtg gcgaaggcgg ctgtctggtc tgtaactgac	780
gctgaggctc gaaagcatgg gtagcgaaca ggattagata ccctggtagt ccatgccgta	840
aacgatgagt gctaagtgtt ggagggtttc cgcccttcag tgctgcagct aacgcattaa	900
gcactccgcc tggggagtag gaccgcaagg ttgaaactca aaggaattga cgggggccc	960
cacaagcggg ggagcatgtg gtttaattcg atgctacgcg aagaacctta ccaggtcttg	1020
acatcttctg ccaacctaa agattaggcg ttcccttcgg ggacagaatg acaggtggtg	1080
catggttgtc gtcagctcgt gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc	1140
cttattgtta gttgccagca tttagttggg cactctagca agactgccgg tgacaaaccg	1200
gaggaagggtg gggatgacgt caaatcatca tgccccttat gacctgggct acacacgtgc	1260
tacaatggac ggtacaacga gtcgcgaaac cgcgagggtca agctaatttc ttaaagccgt	1320
tctcagttcg gattgtaggc tgcaactcgc ctacatgaag ttggaatcgc tagtaatcgt	1380
ggatcagcat gccacggtga atacgtttcc gggccttgta cacaccgccc gtcacacat	1440
gagagtttgt aacacccaaa gccggtgagg taaccttcgg ggaccagccg tctaagggtg	1500
gacagatgat tagggtgaag tcgtaacaag gtagccgtag gagaacctgc ggctggatca	1560
cctcc	1565

<210> 38
<211> 1522
<212> DNA
<213> L. paralimentarius

<220>
<221> misc_feature
<223> L. para-limentarius partial 16S sequence

NCBI Reference Sequence: NR_025045.1

<400> 38
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tgcccagaag tgggggataa catttggaac caagtgctaa taccgcataa caacttagat 180
cacatgatct ttgtttaaaa gatggttttg ctatctcttc tggatggacc cgcggcgtat 240
tagctagttg gtgaggtaat agctcaccaa ggcgatgata cgtagccgac ctgagagggt 300
aatcggccac attgggactg agacacggcc caaactccta cgggaggcag cagtagggaa 360
tcttccacaa tggacgaaag tctgatggag caatgccgcg tgagtgaaga aggttttcgg 420
atcgtaaaac tctgttggtg aagaagaaca tatgtgagag taactgttca cgtactgacg 480
gtattcaacc agaaagccac ggctaactac gtgccagcag ccgcggtaat acgtaggtgg 540
caagcgttgt ccggatttat tgggcgtaaa gagaatgtag gcggtttatt aagtttgaag 600
tgaaagccct cggctcaacc gaggaagtgc ttcgaaaact ggtaaaactg agtgcagaag 660
aggaaagtgg aactccatgt gtagcgggtg aatgcgtaga tatatggaag aacaccagtg 720
gcgaaggcgg ctttctggtc tgtaactgac gctgagattc gaaagcatgg gtagcaaaca 780
ggattagata ccctggtagt ccatgccgta aacgatgagt gctaagtgtt ggagggtttc 840
cgcccttcag tgctgcagct aacgcattaa gcactccgcc tggggagtag gatcgcaaga 900
ttgaaactca aaggaattga cgggggcccc cacaagcggg ggagcatgtg gtttaattcg 960
aagcaacgcg aagaacctta ccaggtcttg acataccatg aaaagcttag agataagtct 1020
ttcccttcgg ggacatggat acaggtgggt catggttgtc gtcagctcgt gtcgtgagat 1080
gttgggttaa gtcccgaac gagcgcaacc cttattatca gttgccagca ttcagttggg 1140
cactctggtg agactgccgg tgataaaccg gaggaaggtg gggacgacgt caaatcatca 1200

tgcccccttat gacctgggct acacacgtgc tacaatggtc ggtacaacgt gctgcgaact	1260
cgcgaggggca agcaaatcac ttaaaaccga tctcagttcg gattgtaggc tgcaactcgc	1320
ctacatgaag ctggaatcgc tagtaatcgc ggatcagcat gccgcggtga atacgttccc	1380
gggccttgta cacaccgccc gtcacaccat gagagtttgt aacacccaaa gtcggtgggg	1440
taacccttcg gggaactagc cgcctaaggt gggacaaatg attagggtga agtcgtaaca	1500
aggtagccgt aggagaacct gc	1522

<210> 39
 <211> 1554
 <212> DNA
 <213> L. perolens

<220>
 <221> misc_feature
 <223> L. perolens partial 16S sequence

NCBI Reference Sequence: NR_029360.1

<400> 39	
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gtttgcggtg gtgcttgcat caccaattac cgattaaacc gagtggcgga cgggtgagta	120
acacgtgggt aacctgccct tcagcagggg ataacatttg gaaacagatg ctaataccgt	180
ataaccacgg agaccgcatg gtctccgggt aaaagatggc gaaagctatc actgagggat	240
ggacccgcgg cgtattagcc agttggtggg gtaatggcct accaaagcga tgatacgtag	300
ccgacctgag agggtaatcg gccacattgg gactgagaca cggcccaaac tcctacggga	360
ggcagcagta gggaatcttc cacaatggac gcaagtctga tggagcaacg ccgcgtgagt	420
gaagaaggct ttcgggtcgt aaaactctgt tattgaagaa gaacgtgtgt gagagtaact	480
gctcatgcag tgacggtatt caaccagaaa gtcacggcta actacgtgcc agcagccgcg	540
gtaatacgta ggtggcaagc gttgtccgga tttattgggc gtaaagcgag tgcaggcgg	600
tttttaagtc tgatgtgaaa gccttcggct taaccgaaga agtgcacgga aaagtgggaa	660
acttgagtgc agaagaggag agtggaactc catgtgtagc ggtgaaatgc gtagatatat	720
ggaagaacac cagtggcgaa ggcggctctc tggtctgtaa ctgacgctga ggctcgaaag	780
cgtgggtagc aaacaggatt agataccctg gtagtccacg ccgtaaacga tgaataactaa	840

gtgttggggg gtttccgccc ctcaagtctg cagctaacgc attaagtatt ccgcctgggg	900
agtacgaccg caaggttgaa actcaaagga attgacgggg gcccgacaaa gcggtggagc	960
atgtggttta attcgaagca acgcgaagaa cttaccagg tcttgacatc ttctgccaag	1020
ctgagagatc agccgttcct tcggggacag aatgacaggt ggtgcatggt tgtcgtcagc	1080
tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc aacccttatg attagttgcc	1140
agcattcagt tgggcactct agtcagactg ccggtgacaa accggaggaa ggcggggatg	1200
acgtcaaadc atcatgcccc ttatgacctg ggctacacac gtgctacaat ggggtggtaca	1260
acgagcagcg agaccgcgag gtcaagcgaa tctctaaaaa ccacctcag ttcggattgt	1320
aggctgcaac tcgcctacat gaagctggaa tcgctagtaa tcgcggatca gcacgccgcg	1380
gtgaatacgt tcccgggcct tgtacacacc gcccgtcaca ccatgagagt ttgtaacacc	1440
caaagccggt aggacaaccg caaggagtca gccgtctaag gtgggacaaa tgattagggt	1500
gaagtcgtaa caaggtagcc gtaggagaac ctgcggctgg atcacctcct ttct	1554

<210> 40
 <211> 1428
 <212> DNA
 <213> L. apis

<220>
 <221> misc_feature
 <223> L. apis partial 16S sequence

NCBI Reference Sequence: NR_125702.1

<400> 40	
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atgggtgagt aacacgtggg caacctgccc tttagcttgg gataccactt ggaaacaggt	120
gctaatacca aataagaagt aagagcgcag gctcaagcta tgaaaggcgg ctttcgagct	180
gtcactaaag gatgggcccc cggtgcatta gctagttagt aaggtaacgg cttaccaagg	240
caatgatgca tagccgagtt gagagactga tcggccacat tgggactgag acacggccca	300
aactcctacg ggaggcagca gtagggaatc ttccacaatg gacgcaagtc tgatggagca	360
acgccgcgtg agtgaagaag gttttcggat cgtaaagctc tgttggttgg gaagaaggac	420
atgggtagta actgatctat gtttgacggg aatcaaccag aaagtcacgg ctaactacgt	480

gccagcagcc gcggtataac gtaggtggca agcgttgtcc ggattttattg ggcgtaaagc	540
gaacgcaggc gggagaacaa gtcagctgtg aaagccctcg gcttaaccga ggaacggcaa	600
ctgaaactgt ttttcttgag tgcagaagag gagagtggaa ctccatgtgt agcggtgaaa	660
tgcgtagata tatggaagaa caccagtggc gaaggcggct ctctggtctg taactgacgc	720
tgaggttcga aagcatgggt agcgaacagg attagatacc ctggtagtcc atgccgtaaa	780
cgatgagtgc taagtgttgg gaggtttccg cctctcagtg ctgcagctaa cgcattaagc	840
actccgcctg gggagtacga ccgcaagggt aaaactcaaa ggaattgacg ggggcccgc	900
caagcgggtg agcatgtggt ttaattcgaa gcaacgcgaa gaaccttacc aggtcttgac	960
atctagtgcc aaccctagag atagggtgtt tccttcggga acactaagac aggtggtgca	1020
tggctgtcgt cagctcgtgt cgtgagatgt tgggttaagt cccgcaacga gcgcaaccct	1080
tattattagt tgccagcatt aagttgggca ctctaagag actgccggtg acaaaccgga	1140
ggaaggtggg gacgacgtca agtcatcatg ccccttatga cctgggctac acacgtgcta	1200
caatggttag tacaacgagg agcgaacctg tgaaggcaag cgaatctctt aaagctaadc	1260
tcagttcgga ttgcactctg caactcgagt gcatgaagct ggaatcgcta gtaatcgcg	1320
atcagcatgc cgcggtgaat acgttcccgg gccttgatca caccgcccgt cacaccatga	1380
gagtttgtaa tacccaaagc cggtagata acctgtaaag gtagtcagc	1428

<210> 41
 <211> 1460
 <212> DNA
 <213> L. ghanensis

<220>
 <221> misc_feature
 <223> L. ghanensis partial 16S sequence

NCBI Reference Sequence: NR_043896.1

<400> 41	
gcggcgtgcc taatacatgc aagtcgaacg aagttgtttt aactggtgct tgcaccgact	60
taaacaactg agtggcgaac gggtagtaac cacgtgggta acctgcccc aagcggggga	120
taacatttgg aaacagatgc taataaccgca taaccacaga aacctcatgg tttctgtgtc	180
aaagatgggt tcggctatca ctttgggatg gaccgcggc gtattagcta gttggttaagg	240

taacggctta ccaaggcaat gatacgtagc cgaactgaga ggttgatcgg ccacattggg	300
actgagacac ggcccaaact cctacgggag gcagcagtag ggaatcttcc acaatggacg	360
aaagtctgat ggagcaacgc cgcgtgagtg aagaaggttt tcggatcgta aaactctgtt	420
gtcagagaag aacgtgtgcg agagtaactg ttcgtgcagt gacggtatct gaccagaaag	480
ccacggctaa ctacgtgcca gcagccgcgg taatacgtag gtggcaagcg ttgtccggat	540
ttattgggcg taaagggaac gcaggcgggtt ttttaagtct gatgtgaaag ctttcggctt	600
aaccgaagtc gtgcattgga aactggagaa cttgagtgc gaagaggaga gtggaactcc	660
atgtgtagcg gtgaaatgcg tagatatatg gaagaacacc agtggcgaaa gcggctctct	720
ggctctgtaac tgacgtgag gttcgaaagc gtgggtagca aacaggatta gataccctgg	780
tagtccacgc tgtaaacgat gaatgctaag tgttggaggg tttccgccct tcagtgccgc	840
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cttaccaggt cttgacatct tctgcaagcc tgagagatca ggtgttcct tcggggacag	1020
aatgacaggt ggtgcatggt tgtcgtcagc tcgtgtcgtg agatgttggg ttaagtccc	1080
caacgagcgc aacccttatt gccagttgcc agcattcagt tgggcactct gacaagactg	1140
ccggtgacaa accggaggaa ggtggggatg acgtcaaadc atcatgcccc ttatgacctg	1200
ggctacacac gtgctacaat ggacgataca acgagttgct agaccgcgag gttaagctaa	1260
tctcttaaag tcgttctcag ttcggattgc aggctgcaac tcgcctgcat gaagtcggaa	1320
tcgctagtaa tcgcggatca gcatgccgcg gtgaatacgt tcccgggcct tgtacacacc	1380
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gccgtctaag gtgggacaga	1460

<210> 42
 <211> 1464
 <212> DNA
 <213> L. dextrinicus

<220>
 <221> misc_feature
 <223> L. dextrinicus partial 16S sequence

NCBI Reference Sequence: NR_036861.1

<220>
<221> misc_feature
<222> (394)..(394)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (397)..(397)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (781)..(781)
<223> n is a, c, g, or t

<400> 42
ctggcggcgt gcctaataca tgcaagtcga acgagtttgc ttttaatgaa ggcggtgctt 60
gcaccaactg atttaaaaat aaacgagtgg cggacgggtg agtaacacgt gggtaaccta 120
ccctaaagtg ggggataaca tttggaaaca gatgctaata ccgcataata tcaaaaacca 180
catggttttt aattgaaaga cggcgtaagc tgtcactttt ggatggaccg gcggcgtatt 240
agctagttgg tgaggtaacg gctcaccaag gcgatgatac gtagccgacc tgagagggtg 300
atcggccaca ttgggactga gacacggccc aaactcctac gggaggcagc agtagggaat 360
cttcacaat ggacgaaagt ctgatggagc aacnccncgt gagtgaagaa ggttttcgga 420
tcgtaaaact ctgttattgg agaagaacgt atttggtagt aactggccag atagtgcagg 480
tatccaatca gaaagccacg gctaactacg tgccagcagc cgcggtaata cgtaggtggc 540
aagcgttgtc cggatttatt gggcgtaaag cgagtgcagg cggtttttta agtctgatgt 600
gaaagccttc ggcttaaccg aagaaatgca ttggaaactg ggaaacttga gtgcagaaga 660
ggagagtgga actccatgtg tagcggtgaa atgcgtagat atatggaaga acaccagtgg 720
cgaaggcggc tctctggtct gtaactgacg ctgaggctcg aaagcgtggg tagcaaacag 780
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gcgagggtcaa gctaattctct aaaagctagt ctcagttcgg attgtaggct gcaactcgcc	1320
tacatgaagt tggaatcgct agtaatcgcg gatcagcacg ccgcggtgaa tacgttcccg	1380
ggccttgtag acaccgcccg tcacaccatg agagtttgta acaccgaag ccggtggagt	1440
aaccgtaag ggagctagcc gtct	1464

<210> 43
 <211> 1499
 <212> DNA
 <213> Lactococcus lactis

<220>
 <221> misc_feature
 <223> Lactococcus lactis Partial 16S Sequence

NCBI Reference Sequence: NR_040954.1

<400> 43	
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ccaatttgaa gagcagcgaa cgggtgagta acgcgtgggg aatctgcctt tgagcggggg	120
acaacatttg gaaacgaatg ctaataccgc ataacaactt taaacataag ttttaagttt	180
gaaagatgca attgcatcac tcaaagatga tccgcgttg tattagctag ttggtgaggt	240
aaaggctcac caaggcgatg atacatagcc gacctgagag ggtgatcggc cacattggga	300
ctgagacacg gccc aaactc ctacgggagg cagcagtagg gaatcttcgg caatggacga	360
aagtctgacc gagcaacgcc gcgtgagtga agaaggtttt cggatcgtaa aactctgttg	420
gtagagaaga acgttggtga gagtggaaag ctcacaaagt gacggtaact acccagaaag	480
ggacggctaa ctacgtgcca gcagccgagg taatacgtag gtcccagcgg ttgtccggat	540
ttattgggag taaagcgagc gcaggtgggt tattaagtct ggtgtaaaag gcagtggctc	600
aaccattgta tgcattggaa actggttagac ttgagtgcag gagaggagag tggaattcca	660
tgtgtagcgg tgaaatgcgt agatatatgg aggaacaccg gtggcgaaag cggctctctg	720
gcctgtaact gacactgagg ctcgaaagcg tggggagcaa acaggattag ataccctggt	780
agtccacgcc gtaaacgatg agtgctagat gtagggagct ataagttctc tgtatcgcag	840

ctaacgcaat aagcactccg cctggggagt acgaccgcaa ggttgaaact caaaggaatt	900
gacggggggcc cgcacaagcg gtggagcatg tggtttaatt cgaagcaacg cgaagaacct	960
taccaggtct tgacatactc gtgctattcc tagagatagg aagttccttc gggacacggg	1020
atacaggtgg tgcattggtg tcgtcagctc gtgtcgtgag atgttgggtt aagtcccgc	1080
acgagcgcaa cccctattgt tagttgccat cattaagttg ggcaactctaa cgagactgcc	1140
ggtgataaac cggaggaagg tggggatgac gtcaaactcat catgcccctt atgacctggg	1200
ctacacacgt gctacaatgg atggtacaac gagtcgagac acagtgatgt ttagctaata	1260
tcttaaaacc attctcagtt cggattgtag gctgcaactc gcctacatga agtcggaata	1320
gctagtaata gcggatcagc acgccgcggt gaatacgttc ccgggccttg tacacaccgc	1380
ccgtcacacc acgggagttg ggagtagccg aagtaggttg cctaaccgca aggagggcgc	1440
ttcctaaggt aagaccgatg actgggggtga agtcgtaaca aggtagccgt atcggaagg	1499

<210> 44
 <211> 1510
 <212> DNA
 <213> Bacteroides vulgatus

<220>
 <221> misc_feature
 <223> Bacteroides vulgatus partial 16S sequence

NCBI Reference Sequence: NR_074515.1

<400> 44	
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gcaagtcgag gggcagcatg gtcttagctt gctaaggccg atggcgaccg gcgcacgggt	120
gagtaacacg tatccaacct gccgtctact cttggacagc cttctgaaag gaagattaat	180
acaagatggc atcatgagtc cgcatgttca catgattaaa ggtattccgg tagacgatgg	240
ggatgcgttc cattagatag taggcggggg aacggccac ctagtcttcg atggataggg	300
gttctgagag gaaggtcccc cacattggaa ctgagacacg gtccaaactc ctacgggagg	360
cagcagttag gaatatgggt caatgggcga gagcctgaac cagccaagta gcgtgaagga	420
tgactgccct atgggttgta aacttctttt ataaaggaat aaagtcgggt atggataccc	480
gtttgcatgt actttatgaa taaggatcgg ctaactccgt gccagcagcc gcggtaatac	540

ggaggatccg agcgttatcc ggatttattg ggtttaaagg gagcgtagat ggatgtttta	600
gtcagttgtg aaagtttgcg gctcaaccgt aaaattgcag ttgatactgg atatcttgag	660
tgacgttgag gcaggcggaa ttcgtggtgt agcggtgaaa tgcttagata tcacgaagaa	720
ctccgattgc gaaggcagcc tgctaagctg caactgacat tgaggctcga aagtgtgggt	780
atcaaacagg attagatacc ctggtagtcc acacggtaaa cgatgaatac tcgctgtttg	840
cgatatactg caagcggcca agcgaaagcg ttaagtattc cacctgggga gtacgccggc	900
aacggtgaaa ctcaaaggaa ttgacggggg cccgcacaag cggaggaaca tgtggtttta	960
ttcgatgata cgcgaggaa cttacccggg cttaaattgc agatgaatta cggtgaaagc	1020
cgtaagccgc aaggcatctg tgaaggtgct gcatggttgt cgtcagctcg tgccgtgagg	1080
tgtcggctta agtgccataa cgagcgcaac cttgtttgtc agttactaac aggttccgct	1140
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gcacggccct tacgtccggg gctacacacg tgttacaatg gggggtacag agggccgcta	1260
ccacgcgagt ggatgccaat ccccaaaacc tctctcagtt cggactggag tctgcaaccc	1320
gactccacga agctggattc gctagtaatc gcgcatcagc cacggcgcgg tgaatacgtt	1380
cccgggcctt gtacacaccg cccgtcaagc catgggagcc gggggtacct gaagtgcgta	1440
accgcgagga gcgccctagg gtaaaactgg tgactggggc taagtcgtaa caaggtagcc	1500
gtaccggaag	1510

<210> 45
 <211> 1529
 <212> DNA
 <213> Bacteroides fragilis

<220>
 <221> misc_feature
 <223> Bacteroides fragilis partial 16S sequence

NCBI Reference Sequence: NR_074784.2

<400> 45	
acaatgaaga gtttgatcct ggctcaggat gaacgctagc tacaggctta acacatgcaa	60
gtcgaggggc atcaggaaga aagcttgctt tctttgctgg cgaccggcgc acgggtgagt	120
aacacgtatc caacctgccc ttactcggg gatagccttt cgaaagaaag attaataccc	180

gatagcataa tgattccgca tggtttcatt attaaaggat tccggtaaag gatggggatg	240
cgttccatta ggttgttggg gaggtaacgg ctcaccaagc cttcgatgga taggggttct	300
gagaggaagg tccccacat tgggaactgag acacgggtcca aactcctacg ggaggcagca	360
gtgaggaata ttggtcaatg ggcgctagcc tgaaccagcc aagtagcgtg aaggatgaag	420
gctctatggg tcgtaaactt cttttatata agaataaagt gcagtatgta tactgttttg	480
tatgtattat atgaataagg atcggctaac tccgtgccag cagccgcggt aatacggagg	540
atccgagcgt tatccggatt tattgggttt aaagggagcg taggtggact ggtaagtcag	600
ttgtgaaagt ttgcggctca accgtaaaat tgcagttgat actgtcagtc ttgagtacag	660
tagaggtggg cggaattcgt ggtgtagcgg tgaaatgctt agatatcacg aagaactccg	720
attgcgaagg cagctcactg gactgcaact gacactgatg ctcgaaagtg tgggtatcaa	780
acaggattag ataccttggg agtccacaca gtaaacgatg aatactcgct gtttgcgata	840
tacagtaagc ggccaagcga aagcattaag tattccacct ggggagtagc cgggcaacgg	900
tgaaactcaa aggaattgac gggggcccg cacaagcggag gaacatgtgg ttttaattcga	960
tgatacgcg ggaaccttac ccgggcttaa attgcagtgg aatgatgtgg aaacatgtca	1020
gtgagcaatc accgctgtga aggtgctgca tggttgtcgt cagctcgtgc cgtgaggtgt	1080
cggcttaagt gccataacga gcgcaaccct tatctttagt tactaacagg ttatgctgag	1140
gactctagag agactgccgt cgtaagatgt gaggaagggtg gggatgacgt caaatcagca	1200
cggcccttac gtccggggct acacacgtgt tacaatgggg ggtacagaag gcagctagcg	1260
ggtgaccgta tgctaattccc aaaatcctct ctcagttcgg atcgaagtct gcaacccgac	1320
ttcgtgaagc tggattcgct agtaatcgcg catcagccac ggcgcggtga atacgttccc	1380
gggccttgta cacaccgccc gtcaagccat gggagccggg ggtacctgaa gtacgtaacc	1440
gcaaggatcg tcctagggta aaactgggtga ctggggctaa gtcgtaacaa ggtagccgta	1500
ccggaagggtg cggctggaac acctccttt	1529

<210> 46
 <211> 1539
 <212> DNA
 <213> S. thermophilus

<220>
<221> misc_feature
<223> S. thermophilus partial 16S sequence

NCBI Reference Sequence: NR_042778.1

<400> 46
atgggagagt ttgatcctgg ctcaggacga acgctggcgg cgtgcctaata acatgcaagt 60
agaacgctga agagaggagc ttgctcttct tggatgagtt gcgaacgggt gagtaacgcg 120
taggtaacct gcctttagc gggggataac tatttgaaac gatagctaata accgcataac 180
aatggatgac acatgtcatt tatttgaaag gggcaattgc tccactacaa gatggacctg 240
cggtgtatta gctagtaggt gaggtaatgg ctcacctagg cgacgatata tagccgacct 300
gagagggtga tcggccacac tgggactgag acacggccca gactcctacg ggaggcagca 360
gtagggaatc ttcggaatg ggggcaacc tgaccgagca acgccgcgtg agtgaagaag 420
gttttcggat cgtaaagctc tgttgtaagt caagaacggg tgtgagagtg gaaagttcac 480
actgtgacgg tagcttacca gaaaggagc gctaactacg tgccagcagc cgcggtaata 540
cgtaggtccc gagcgttgct cggatttatt gggcgtaaag cgagcgcagg cggtttgata 600
agtctgaagt taaaggctgt ggctcaacca tagttcgctt tggaaactgt caaacttgag 660
tgcagaaggg gagagtggaa ttccatgtgt agcggtgaaa tgcgtagata tatggaggaa 720
caccggtggc gaaagcggct ctctggtctg taactgacgc tgaggctcga aagcgtgggg 780
agcgaacagg attagatacc ctggtagtcc acgccgtaaa cgatgagtgc taggtgttgg 840
atcctttccg ggattcagt cgcagctaa cgcattaagc actccgcctg gggagtacga 900
ccgcaagggt gaaactcaaa ggaattgacg ggggcccga caagcgggtg agcatgtggt 960
ttaattcgaa gcaacgcga gaaccttacc aggtcttgac atcccgatgc tatttctaga 1020
gatagaaagt tacttcggta catcggtgac aggtgggtgca tggttgtcgt cagctcgtgt 1080
cgtgagatgt tgggttaagt cccgcaacga gcgcaacccc tattgttagt tgccatcatt 1140
cagttgggca ctctagcag actgccgta ataaaccgga ggaaggtggg gatgacgtca 1200
aatcatcatg ccccttatga cctgggctac acacgtgcta caatggttgg tacaacgagt 1260
tgcgagtcgg tgacggcgag ctaatctctt aaagccaatc tcagttcgga ttgtaggctg 1320
caactcgcct acatgaagtc ggaatcgcta gtaatcgcg atcagcacgc cgcggtgaat 1380
acgttcccgg gccttgtaga caccgcccgt cacaccacga gagtttgtaa caccgaagt 1440

cggtgaggta accttttggga gccagccgcc taaggtggga cagatgattg gggatgaagtc	1500
gtaacaaggt agccgtatcg gaaggtgcgg ctggatcac	1539

<210> 47
 <211> 1436
 <212> DNA
 <213> P. parvulus

<220>
 <221> misc_feature
 <223> P. parvulus partial 16S sequence

NCBI Reference Sequence: NR_029136.1

<220>
 <221> misc_feature
 <222> (1345)..(1345)
 <223> n is a, c, g, or t

<400> 47	
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gggataacac ctggaaacag atgctaatac cgcataacaa agtaaaccgc atggtttact	180
tttaaaagat ggcttcggct atcacttctg gatggacccg cggcgtatta gctagttggt	240
gagataaagg ctcaccaagg cagtgatacg tagccgacct gagagggtaa tcggccacat	300
tgggactgag acacggccca gactcctacg ggaggcagca gtagggaatc ttccacaatg	360
gacgaaagtc tgatggagca acgccgcgtg agtgatgaag gctttagggt cgtaaaactc	420
tgttgttgga gaagaacgtg tgtgagagta actgctcatg cagtgacggt atccaaccag	480
aaagccacgg ctaactacgt gccagcagcc gcggtaatac gtaggtggca agcgttatcc	540
ggatttattg ggcgtaaagc gagcgcaggc ggtcttttaa gtctaattgtg aaagccttcg	600
gcttaaccga agaagtgcatt tggaactgg aagacttgag tgcagaagag gacagtggaa	660
ctccatgtgt agcggtgaaa tgcgtagata tatggaagaa caccagtggc gaaggcggct	720
gtctgggtctg taactgacgc tgaggctcga aagcatgggt agcgaacagg attagatacc	780
ctggtagtcc atgccgtaaa cgatgaatgc taagtgttg agggtttccg cccttcagtg	840
ctgcagctaa cgcattaagc attccgcctg gggagtacga ccgcaagggt gaaactcaaa	900

agaattgacg ggggcccga caagcgggtg agcatgtggt ttaattcgaa gctacgcgaa	960
gaaccttacc aggtcttgac atcttctgcc aatctaagag attagacgtt cccttcgggg	1020
acagaatgac aggtgggtgca tggttgtcgt cagctcgtgt cgtgagatgt tgggttaagt	1080
cccgcaacga gcgcaaccct tattattagt tgccagcatt aagttgggca ctctagttag	1140
actgccggtg acaaaccgga ggaaggtggg gacgacgtca aatcatcatg ccccttatga	1200
cctgggctac acacgtgcta caatggacgg tacaacgagt tgcgagaccg cgaggtttag	1260
ctaattcttt aaaaccgttc tcagttcgga ctgcaggctg caactcgcct gcacgaagtt	1320
ggaatcgcta gtaatcgcg atcancatgc cgcggtgaat acgttcccgg gccttgtaga	1380
caccgcccgt cacaccatga gagtttgtaa cacccaaagc cgggtggagta accttc	1436

<210> 48
 <211> 1540
 <212> DNA
 <213> *P. lolii*

<220>
 <221> misc_feature
 <223> *P. lolii* partial 16S sequence

NCBI Reference Sequence: NR_041640.1

<400> 48	
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acgaagtgag tggcggacgg gtgagtaaca cgtgggtaac ctgccagaa gcaggggata	120
acacctggaa acagatgcta ataccgtata acagagaaaa ccgcctgggtt ttcttttaaa	180
agatggctct gctatcactt ctggatggac ccgcggcgca ttagctagtt ggtgaggtaa	240
cggctcacca aggcgatgat gcgtagccga cctgagaggg taatcgcca cattgggact	300
gagacacggc ccagactcct acgggaggca gcagtaggga atcttcaca atggacgcaa	360
gtctgatgga gcaacgccgc gtgagtgaag aagggtttcg gctcgtaaag ctctgttggt	420
aaagaagaac gtgggtgaga gtaactgttc acccagtac ggtattttaac cagaaagcca	480
cggctaacta cgtgccagca gccgcggtaa tagggtaggt ggcaagcggt atccggattt	540
attgggcgta aagcgagcgc aggcggtctt ttaagtctaa tgtgaaagcc ttcggctcaa	600
ccgaagaagt gcattggaaa ctgggagact tgagtgcaga agaggacagt ggaactccat	660

gtgtagcggg	gaaatgcgta	gatatatgga	agaacaccag	tggcgaaggc	ggctgtctgg	720
tctgtaactg	acgctgaggc	tcgaaagcat	gggtagcgaa	caggattaga	taccctgtta	780
gtaccctgct	gtcaacgata	agagtgatta	ctaagtgttg	gagggtttcc	gcccttcagt	840
gctgcagcta	acgcattaag	ttatccgcct	ggggagtacg	accgcaaggt	tgaaactcaa	900
agaattgacg	ggggccgcac	aagcgtggag	catgtgggta	attcgaagta	cgcgaagaac	960
ttaccagggtc	ttgacatctt	tgccaacctt	agagattagg	cgttccttcg	gggacagaat	1020
gacagggtgg	gcatgggtgt	cgtcagctcg	tgctgtgaga	tggtgggtta	agtcccgcaa	1080
cgagcgcaac	ccttattact	agttgccagc	attcagttgg	gcactctagt	gagactgccg	1140
gtgacaaacc	ggaggaaggt	ggggacgacg	tcaaatacat	atgcccctta	tgacctgggc	1200
tacacacgtg	ctacaatgga	tggtacaacg	agtcgcgaaa	ccgcgagggt	tagctaattt	1260
cttaaaacca	ttctcagttc	ggactgtagg	ctgcaactcg	cctacacgaa	gtcgggaatc	1320
ctagtaatcg	cggatcagca	tgccgcgggt	aatacgttcc	cgggccttgt	acacaccgcc	1380
cgtcacacca	tgagagtttg	taacacccaa	agccgggtgg	gtaacctttt	aggagctagc	1440
cgtctaaggt	gggacagatg	attagggtga	agtcgtaaca	aggtagccgt	aggagaacct	1500
gcggctggat	cacctccttt	ctaaggaata	atacgaacc			1540

<210> 49
 <211> 1540
 <212> DNA
 <213> *P. acidilactici*

<220>
 <221> misc_feature
 <223> *P. acidilactici* partial 16S sequence

NCBI Reference Sequence: NR_041640.1

<400> 49	
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acacctggaa	acagatgcta ataccgtata acagagaaaa ccgcctgggt ttcttttaaa 180
agatggctct	gctatcactt ctggatggac ccgcggcgca ttagctagtt ggtgaggtaa 240
cggctcacca	aggcgatgat gcgtagccga cctgagaggg taatcggcca cattgggact 300

gagacacggc ccagactcct acgggaggca gcagtaggga atcttccaca atggacgcaa	360
gtctgatgga gcaacgccgc gtgagtgaag aagggtttcg gctcgtaaag ctctgttggt	420
aaagaagaac gtgggtgaga gtaactgttc acccagtgac ggtatttaac cagaaagcca	480
cggctaacta cgtgccagca gccgcggtaa tagggtaggt ggcaagcgtt atccggattt	540
attgggcgta aagcgagcgc aggcggtctt ttaagtctaa tgtgaaagcc ttcggctcaa	600
ccgaagaagt gcattggaaa ctgggagact tgagtgcaga agaggacagt ggaactccat	660
gtgtagcggg gaaatgcgta gatatatgga agaacaccag tggcgaaggc ggctgtctgg	720
tctgtaactg acgctgaggc tcgaaagcat gggtagcgaa caggattaga taccctgtta	780
gtaccctgct gtcaacgata agagtgatta ctaagtgttg gagggtttcc gcccttcagt	840
gctgcagcta acgcattaag ttatccgcct ggggagtagc accgcaaggt tgaaactcaa	900
agaattgacg ggggccgcac aagcgtggag catgtgggta attcgaagta cgcgaagaac	960
ttaccaggtc ttgacatctt tgccaaccta agagattagg cgttccttcg gggacagaat	1020
gacaggtggg gcatggttgt cgtcagctcg tgtcgtgaga tgttgggtta agtcccgcaa	1080
cgagcgcaac cttattact agttgccagc attcagttgg gcactctagt gagactgccg	1140
gtgacaaacc ggaggaaggt ggggacgacg tcaaatcatc atgcccctta tgacctgggc	1200
tacacacgtg ctacaatgga tgggtacaacg agtcgcgaaa ccgcgagggt tagctaattct	1260
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ctagtaatcg cggatcagca tgccgcgggtg aatacgttcc cgggccttgt acacaccgcc	1380
cgtcacacca tgagagtttg taacacccaa agccggtggg gtaacctttt aggagctagc	1440
cgtctaaggt gggacagatg attagggtga agtcgtaaca aggtagccgt aggagaacct	1500
gcggctggat cacctccttt ctaaggaata atacggaacc	1540

<210> 50
 <211> 1492
 <212> DNA
 <213> *P. argentinicus*

<220>
 <221> misc_feature
 <223> *P. clausenii* partial 16S sequence

NCBI Reference Sequence: NR_042232.1

<400> 50

gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac gcacttccgt cgaatgattt	60
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cgtgggtaac ctgcccagaa gtaggggata acacctggaa acagatgcta ataccgtata	180
atagagaaaa ccgcatggtt ttcttttgaa agatggctct gctatcactt ctggatggac	240
ccgcggcgta ttagctagtt ggtgaggtaa ckgctcacca aggcagtgat acgtagccga	300
cctgagaggg taatcggcca cattgggact gagacacggc ccagactcct acgggaggca	360
gcagtaggga atcttcaca atggacgaaa gtctgatgga gcaacgccgc gtgagtgaag	420
aagggtttcg gctcgtaaag ctctgttggt aaagaagaac gtgggtaaga gtaactgttt	480
accagtgac ggtatttaac cagaaagcca cggctaacta cgtgccagca gccgcggtaa	540
tacgtaggtg gcaagcgta tccggattta ttgggcgtaa agcgagcgca ggcggtttct	600
taagtcta atgtgaaagcct tcggctcaac cgaagaagtg cattggaaac tgggaaactt	660
gagtgcagaa gaggatagtg gaactccatg tgtagcgggtg aaatgcgtag atatatggaa	720
gaacaccagt ggcgaaggcg gctatctggt ctgcaactga cgctgaggct cgaaagcatg	780
ggtagcgaac aggattagat accctggtag tccatgccgt aaacgatgaa tgctaagtgt	840
tggagggttt ccgcccttca gtgctgcagc taacgcatta agcattccgc ctggggagta	900
cgaccgcaag gttgaaactc aaaagaattg acggggggccc gcacaagcgg tggagcatgt	960
ggtttaattc gaagctacgc gaagaacctt accaggtctt gacatcttct gccaatctaa	1020
gagattagac gttcccttcg gggacagaat gacaggtggt gcatggttgt cgtcagctcg	1080
tgtcgtgaga tgttgggtta agtcccgcaa cgagcgcaac cttattact agttgccagc	1140
atttagttgg gcactctagt gagactgccg gtgacaaacc ggaggaagggt ggggacgacg	1200
tcaa atcatc atgcccctta tgacctgggc tacacacgtg ctacaatgga tgggtacaacg	1260
agttgcgaga ccgcgaggtt tagctaactt cttaaaacca ttctcagttc ggattgtagg	1320
ctgcaactcg cctacatgaa gtcggaatcg ctagtaatcg cggatcagca tgccgcgggtg	1380
aatacgttcc cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa	1440
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<210> 51

<211> 1472
<212> DNA
<213> P. clausenii

<220>
<221> misc_feature
<223> NCBI Reference Sequence: NR_042232.1

<400> 51
tgcaagtcga acgcatttcc gttaatagaa tcagaagtcg ttgcacggat agatgatttt 60
aacaatgaaa tgagtggcga acgggtgagt aacacgtggg taacctgccc agaagagggg 120
gataacactt ggaaacaggt gctaataccg cataataaag aaaaccgcat ggttttcctt 180
taaaagatgg tttcggctat cacttctgga tggacccgcg gcgtattagc tagttggtaa 240
ggtaaaggct taccaaggca gtgatacgta cccgacctga gagggtaatc ggccacattg 300
ggactgacac acggcccata ctctacggg aggcagcaat agggaatctt ccacagtgga 360
cgaaagtctg atggagcaac gccgcgtgag tgaagaaggg tttcggctcg taaaactctg 420
ttgttaaaga agaacgtggg tgagagtaac tgttcaccca gtgacggtat ttaaccagaa 480
agccacggct aactacgtgc cagcagccgc ggtaatacgt aggtggcaag cgttatccgg 540
atttattggg cgtaaagcga gcgcaggcgg tcttttaagt ctaatgtgaa agccttcggc 600
tcaaccgaag aagtgcattg gaaactggga gacttgagtg cagaagagga cagtggaaact 660
ccatgtgtag cggtgaaatg cgtagatata tggaagaaca ccagtggcga aggcggctgt 720
ctggctctgta actgacgctg aggctcgaag gcatgggtag cgaacaggat tagataccct 780
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gcagctaacg cattaagtat tccgcctggg gactacgacc gcaaggttga aactcaaaag 900
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tggtgtacac acgtgctaca atggatggta caacgagtcg cgaaaccgcg aggttttagct 1260
aatctcttaa agccattctc agttcggact gtaggctgca actcgcctac acgaagtcgg 1320

aatcgctagt aatcgcggat cagcatgccg cggtgaatac gttcccgggc cttgtacaca	1380
ccgcccgtca caccatgaga gtttgaaca cccaaagccg gtggggtaac cttttaggag	1440
ctagccgtct aaggtgggac agatgattag gg	1472

<210> 52
 <211> 1569
 <212> DNA
 <213> P. pentosaceus

<220>
 <221> misc_feature
 <223> P. pentosaceus partial 16S sequence

NCBI Reference Sequence: NR_042058.1

<220>
 <221> misc_feature
 <222> (120)..(120)
 <223> n is a, c, g, or t

<400> 52	
agagtttgat catggctcag gatgaacgct ggcggcgtgc ctaatacatg caagtcgaac	60
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tggcgaacgg gtgagtaaca cgtgggtaac ctgcccagaa gtaggggata acacctggaa	180
acagatgcta ataccgtata acagagaaaa ccgcatgggtt ttcttttaaa agatggctct	240
gctatcactt ctggatggac ccgcggcgta ttagctagtt ggtgaggtaa aggcccacca	300
aggcagtgat acgtagccga cctgagaggg taatcggcca cattgggact gagacacggc	360
ccagactcct acgggaggca gcagtaggga atcttccaca atggacgcaa gtctgatgga	420
gcaacgccgc gtgagtgaag aagggtttcg gctcgtaaag ctctgttggt aaagaagaac	480
gtgggtaaga gtaactgttt acccagtgac ggtatttaac cagaaagcca cggctaacta	540
cgtgccagca gccgcggtaa tacgtaggtg gcaagcgta tccggattta ttgggcgtaa	600
agcgagcgca ggcggtcttt taagtcta atgtgaaagcct tcggctcaac cgaagaagtg	660
cattggaaac tgggagactt gtagtcagaa gaggacagt gaactccatg ttagcggtg	720
aaatgcgtag atatattgaa gaacaccagt ggcgaaggcg gctgtctggt ctgcaactga	780
cgctgaggct cgaaagcatg gtagcgaac aggattagat accctggtag tccatgccgt	840
aaacgatgat tactaagtgt tggagggttt ccgcccttca gtgctgcagc taacgcatta	900

agtaatccgc ctggggagta cgaccgcaag gttgaaactc aaaagaattg acggggggccc	960
gcacaagcgg tggagcatgt ggtttaattc gaagctacgc gaagaacctt accaggtcctt	1020
gacatcttct gacagtctaa gagattagag gttcccttcg gggacagaat gacaggtggt	1080
gcatggttgt cgtcagctcg tgtcgtgaga tggtgggtta agtcccgcaa cgagcgcaac	1140
ccttattact agttgccagc attaagttgg gcactctagt gagactgccg gtgacaaacc	1200
ggaggaaggt ggggacgacg tcaaactatc atgcccctta tgacctgggc tacacacgtg	1260
ctacaatgga tggtacaacg agtcgcgaga ccgcgaggtt aagctaattc cttaaaacca	1320
ttctcagttc ggactgtagg ctgcaactcg cctacacgaa gtcggaatcg ctagtaatcg	1380
cggatcagca tgccgcggtg aatacgttcc cgggccttgt acacaccgcc cgtcacacca	1440
tgagagtttg taacacccaa agccggtggg gtaacctttt aggagctagc cgtctaaggt	1500
gggacagatg attaggtga agtcgtaaca aggtagccgt aggagaacct gcggctggat	1560
cacctcctt	1569

<210> 53
 <211> 1529
 <212> DNA
 <213> *P. stilesii*

<220>
 <221> misc_feature
 <223> *P. stilesii* partial 16S sequence

NCBI Reference Sequence: NR_042401.1

<400> 53	
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cgtgggtaay ctgcccagaa gtaggggata acacctggaa acagatgcta ataccgtata	180
atagagaaaa ccgcatgggtt ttcttttgaa agatggctct gctatcactt ctggatggac	240
ccgcggcgca ttagctagtt ggtaaggtaa aggcttacca aggcagtgat gcgtagccga	300
cctgagaggg taatcggccca cattgggact gagacacggc ccagactcct acgggaggca	360
gcagtaggga atcttcaca atggacgcaa gtctgatgga gcaacgccgc gtgagtgaag	420
aagggtttcg gctcgtaaag ctctgttggt aaagaagaac gtgggtgaga gtaactgttc	480

accagtgac ggtatttaac cagaaagcca cggctaacta cgtgccagca gccgcggtaa	540
tacgtagggtg gcaagcggtta tccggattta ttgggcgtaa agcgagcgca ggcggtcttt	600
taagtctaata gtgaaagcct tcggctcaac cgaagaagtg cattggaaac tgggagactt	660
gagtgcagaa gaggacagtg gaactccatg tgtagcgggtg aaatgcgtag atatatggaa	720
gaacaccagt ggccaaggcg gctgtctggt ctgcaactga cgctgaggct cgaaagcatg	780
ggtagcgaac aggattagat accctggtag tccatgccgt aaacgatgaa tgctaagtgt	840
tggagggttt ccgcccttca gtgctgcagc taacgcatta agcattccgc ctggggagta	900
cgaccgcaag gttgaaactc aaaagaattg acggggggccc gcacaagcgg tggagcatgt	960
ggtttaattc gaagctacgc gaagaacctt accaggtctt gacatcttct gacagtctaa	1020
gagattagag gttcccttcg gggacagaat gacaggtggt gcatggttgt cgtcagctcg	1080
tgctgtgaga tggtgggtta agtcccgaac cgagcgcaac cttattact agttgccagc	1140
atttagttgg gcactctagt gagactgccg gtgacaaacc ggaggaaggt ggggacgacg	1200
tcaaatcatc atgcccctta tgacctgggc tacacacgtg ctacaatgga tgatacaacg	1260
agtcgcgaaa ccgcgaggtt tagctaattc cttaaaatca ttctcagttc ggactgtagg	1320
ctgcaactcg ccyacacgaa gtcggaatcg ctagtaatcg cggatcagca tgccgcgggtg	1380
aatacgttcc cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa	1440
agccgggtggg gtaacctttt aggagctagc cgtctaaggt gggacagatg attagggtga	1500
agtcgtaaca aggtagccgt aagaaaacc	1529

<210> 54
 <211> 20
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> forward primer sequence

<400> 54	
atacagcaga accttggcct	20

<210> 55
 <211> 20

<212> DNA
<213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> reverse primer sequence

<400> 55
gcgatcacat ggacgagaac 20

<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe sequence

<220>
<221> misc_feature
<222> (1)..(1)
<223> FAM dye

<220>
<221> misc_feature
<222> (9)..(10)
<223> ZEN quencher

<220>
<221> misc_feature
<222> (24)..(24)
<223> IABkFQ quencher

<400> 56
tttcacggat caccggacca tacg 24

<210> 57
<211> 1113
<212> DNA
<213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> pksS;Polyketide_biosynthesis_cytochrome_P450_PksS

<400> 57
gtgataattg gaaaacgtct cggatgaagat cggttcaaattttacaaaac cgtccttgcc 60

ggaaatacag atcagctgct attcgacgag gaatttaattg catggttttgt gttcaatgtg 120

cgtaaccttc atactttgat aagagatgag cggctcaaag ccaacactaa aactgtcata	180
gataaactcc ctctgaagat agaaactata cggacattaa agaattttta ttccaactgg	240
gttatgttca ccgacggaga gtctcataaa cagcttcgtc gcctagtggg aacaatcatt	300
aatactcgtt atcacgcat aaattacaca tggccgcaaa tcaataaaaa ttgtgacttc	360
actacagagt atgcaaggcc ttatgtgtac ggtatccttg ctcaactggt ggggtgtctct	420
gtagaagaca tttcaagaat ggtctcggca tcggaaacca ttaactcgtt cttactgcgc	480
gaacggctta cgctagacga tatcgaacaa gtcgcgcat caatcgaata cgcgtatcag	540
gttgtcaaag aaatcgaaga taagcatgta ggggagccgc tgtacatagg caacgaattg	600
cttgacttgc ctgaggagac acgatatccc ctcatcatta atctagtaac cgatggtttt	660
gccccattcg tagctgcgct tgatttcctg gcgttcaatc tgttgactca cccatattta	720
gaggaagagc tcaatgcaaa agcagggcaa atatcccttg aaagtcttcg gttgttcct	780
ccattcacga caataagcag gacatgcgtg catgaaatac cttttaagga aaaaattatt	840
agaccaaggc agttggtaat ttttgattta tacagcatta atcgcgaccc ggaagttttt	900
cccgatccgg aaaaatttaa ccttgagaac actgcaagag catactcctt tggggctgcg	960
cagcatctat gtcggaagaa cccgctggtg agaaaagccc tggaacaagt aacgcgcaa	1020
agcgaatcac tatataaata caagatacag tcttattgct tcaaaaattc atacggtttt	1080
accgacatga atttgtctat tgaattaaaa taa	1113

<210> 58
 <211> 333
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> higB2;Putative_toxin_HigB2

<400> 58	
atggaacca tcaaagactg gctgaccggc ctcgaccgag aatccaaact gcagatcctc	60
gccgccgtcg aagtcctgaa agaacaagga cccaacctca gacgaccact ggtaggcaaa	120
atcgaaggct ccaaaatcaa atcgatgaag gaactccgac ccggctccgc aggcaaaagc	180
gaaatacgaa tactgttcgt gttcgacccg aaccggcagg cgataatgct cgtcggcgga	240

gacaagcaaa acaaatggtc gaaatggtac aaaacggcca taccggaagc ggaagaccgg	300
tatgaggcgt ggcttaaaca gaacaacaaa tga	333

<210> 59
 <211> 1101
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> putative Riboflavin biosynthesis gene

<400> 59	
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gtgaacccca atcccatggt cggcgcggtg atcgtcaagg acgatcggat catcgggcag	120
gggtatcacg agatgttcgg cggattgcac gccgagagga acgcgttgcg gcattgcacg	180
cagtcacccg ccggggcgac gttgtacgtc acgcttgagc cgtgctgcca ttacggcaaa	240
acgccgccat gcacggaggc gatcgtggaa agcggcatcg caagggtcgt cgtcgggaacc	300
ttggactgca atcccgtggt gtccggcaag ggcgtgcgca tgctcgaaga ccacggcata	360
cgggtcgatg tgggggtgct ggccgacgag tgccggcatc tgatacgggt gttcagcaaa	420
tacatcacca cgcatacgcc gtatgtcatc atgaaatacg ccatgacgat ggacgggaag	480
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gaaatactcg ccgtcgggaag gaagggcgac cacgtcgatc tggcggacgt ggtgcggcgc	840
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gccctcgaac agcggatcgt cgatgaggcg cacgtgtaca tcgcgccgaa gatattcggc	960
ggcaccgcga aaagcccgtt gggcggccaa ggggtcgccc tgccttccga cgccgtcatg	1020
ctccggcccc gcgcctgctc ccgagtggga gaggattatc tggtggaaag cgaggtggtg	1080
tattcatgtt cacgggaata g	1101

<210> 60
<211> 1638
<212> DNA
<213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> Endo-B-N-acetylglucosaminadase

<400> 60
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gcggcagcga tggccgcaac atgcgcgttt gcaccggtag cgaatgcgga cgccgtttct 120
ccgacacagg aaaccataca atcgaccggt cgccatttca tgggtgtacta ccgcgcgtgg 180
cgtgatgtca cgatgaaggg tgtcaacacc gaccttccag acgataactg gatttcgatg 240
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gaagaacagg cgcaaccgtt ctacgataag ctcaaacttg attatgcacc gtacttgcatt 360
tcgcgtggca tcaagctggg tcggggcatt gattacaccg gcgtggcggg caatggtttt 420
cgtactttca tgaaagagca gaacaaaacc gagagcgagg cgaccgaagc tgattatgat 480
gcctatgcta agcaagtaat cgataaatac atgatctccg ttggcttgga tggcttgga 540
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gcactgtcca aacacatcgg tcccaaattc gccaaagccg ataccacgat gttcctttat 660
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gcggaatcgg atgcaaaaac tgcactccgt atggcacgtg atgccgccat cgatggtttg	1380
accggcaaga tctacacagc ggaccaagta tcagcgtggt cgcaggcatt gaaggcggcg	1440
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aaggttacca atcacaaagt gcaaggccaa ccgaagcaac tgagtgcgac cggcatctcg	1560
acggatatta tcgttgccgt aggcgtgact cttgccatcg caggggtggc tctgtctcta	1620
tcacgtaagc tctcctga	1638

<210> 61
 <211> 876
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> HTH-type transcriptional activator RhaR

<400> 61	
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ctggatcatcg cacatcaggg attcgacaaa gccaggttgc attggcatga aggcttcgag	120
gtggtatacg tccgacgctg tcggggccaca gtgatgaaag gcacccaacg ttcgatgcat	180
catgccggtg atgtagtact gattcctcca cgctgcctgc atagcatcga acttattcag	240
gatcttcggc aaccatcagc tgtaccgcag gcgctttccg taacgatctc gcccacggag	300
ttgctaccgt catatccgta tattacccaa atccaacaac agctggatta cgactacatt	360
ggcgaaaaag atcatcaaca attgctgaaa tgctgcgaac aaatgtttgc ggcactgac	420
agtggcaagc agacacgggt ccttgaagcg aattcctggt tctacaccat gcttaccaat	480
gtttttgact acgccaaacc attggctgca gcgaaccaag aagacaccga ggatgaaacc	540
atactccagg atggacgagt cattagacga atacgccact acgtgcaacg tcattatcgc	600
gagcccctat ccaccgcaca ggtgtcgcag aaattcggat attcacgaga gcatttttca	660
aggatattca gcaaatatc tggagtgcga tttaaagact acgtaacgcg tgtacgtctg	720
ctggcggcct gcgatttgct caccaacacg gatatgccaa tcaatcaaatt cgtccgggaa	780
tccggattcc ccagttctca aaccatgcga ggatcgtttg accgcgaatt cgcacgcacg	840

cccagcgaat atcgctctcg ttcgatggaa gaataa

876

<210> 62

<211> 696

<212> DNA

<213> Bifidobacterium infantis

<220>

<221> misc_feature

<223> Putative N-acetylmannosamine-6-phosphate 2-epimerase

<400> 62

atgaatacta acgataactta ttcgaaacgt cttattgatt cgctccacgg cacactgata 60

gtcagctgtc aagcatatcc cggcgagcca atgcggcatc ccgaaaccat ggcccaagtc 120

gctcaatcag tagtaatcgg cggcgctgcc gccattcgat gccaaggtct tgccgatatc 180

agcgccatca aaggccaagt aaaagttcca gtcacgga tatggaagga aggcgataac 240

ggcgtataca tcacgccaac gttacgccac gccagagcct gcattatggc gggagccgac 300

attgtggcac tcgatgctac agatcggcct cggccagacg gtctaactct gcagcagacc 360

gcgcggcaac tcaaaagcga gggcgcaata ctgatggccg actgcggctg catcgaagac 420

tccgatgcag ccgtggatgc aggattcgac atcatctcca ccacgtggc tggatacacc 480

gattccccgcg ccaaaacaga aggaccggat tacgagctcc tcgctcaa at gctggagcgg 540

cacccccacg taccggtgat atgcgagggt aggatacata ctccgtccga tgcggccaaa 600

gccatagaaa tgggtgcctg ggcagccgta gtcggtaccg ccatcaccca ccccatgacg 660

ataacgtcat ggttcgccga tgcagtaagg tcctga 696

<210> 63

<211> 1020

<212> DNA

<213> Bifidobacterium infantis

<220>

<221> misc_feature

<223> glucokinase

<400> 63

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aaaatcgccg ctggtctcat gtgcgtagac ctcgacgaac aaggaagacc gcgggacatg 120

ccagcgttga ttcgacggta cgtcataccg acgaaagcac gtctcggcgg cacctccgta	180
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ttcaacgtgc ctgccatcgt catcggagat gttcaggcac acgcccttgg tgaagcgcac	420
tggggatgcg gacgacaata ccaatcacta ctggtcgccg ccatcggcac cggtatcgga	480
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gtggagtcaa tcgcctcagg taccggcatt gccgataatt atcgacgtgc tctgcaacag	660
aacggacaca atactctccc caccgacatc aatggacgcg ctatcgccga actggccagt	720
caaggtagta cggaagccgt aaccagtatc actctggccg gcacgagtct cggcgatggt	780
cttggcggac taatcaatgc ccttgatccc gatgccgtga tcctttccgg ctccgtagtc	840
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attctttccc gaacaccggt ttgacagga acactcggcg gcagagcccc tctcatcgga	960
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<210> 64
 <211> 948
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> Lactose Transport Protein

<400> 64	
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ttcccggcct tggcgctgat caccgtgttc aatctgcttc ccctggtgcg tatcttcatc	180
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gtcgtggtgt cggtcgggct ggtgctgtcg atggcggtgg ccgtggccat caatggaaag	360

cttcgcgagg	gcagggtctt	cgaaatcctg	ttcttcatcc	cctatctgac	ctcggtgatc	420
gccatcggca	tggtgttccg	gtatctgttc	aacggcgatt	acggtcttgt	caattacgtg	480
ttgggtctgt	gcggccttgg	accctatgat	tttctcaacg	atccgaagtt	caatatgccc	540
acgctcatca	tcttcggcat	atggtcgtcc	ctggcgttca	acatcatcat	tctgttgtcg	600
ggcctgcgcg	gcatagacaa	ggaatattac	aaggtggccg	acatgttcgg	cgccacggcc	660
tgggagaagt	tccgccggat	cacgttgccg	cagatgggtg	cgattctgac	gttcctgtcc	720
atcgtggatt	tcatcaattc	cttcaagggt	tatacggagg	tgtacgcctt	gttcaacggg	780
aaggccggta	tcggcgatag	cgccacgacg	gcggtgttct	acgtgttcaa	caagttctac	840
gtggacaaca	agtatgggca	gggcatggcc	gcggcggtgg	tgctgttcct	ggtgattctg	900
gctttcacca	tcatccaagg	catcgtattg	aggaggctgg	cgaagtga		948

<210> 65
 <211> 1185
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> Sialidase gene

<400> 65	
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gcggcgcgaa	ccatgacgga
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gcgatgagtc	tggcggcccc
aggcgattac	ggtgtggcct
gctaccggat	tccggccctt
	120
gccgaggcgc	ccaacggctg
gatcctcgcg	gcgttcgacg
cgcgccccca	taactgccag
	180
gatgccccgc	aagccaattc
gatcgtgcag	cgatatctcca
aagacggcgg	ccggtcattc
	240
gagccgcagc	atgttggtggc
cgccgggcat	gatggcgtcg
acaaatacgg	gtattccgat
	300
ccgtcctatg	tggtggaccg
gcagacggga	gaggtgttcc
tgttcttcgt	caaatcctat
	360
gacgccggtt	tcggaacctc
ccaggcgggc	gtcgatccct
ctgcgcgtga	ggtgcttcaa
	420
gccgccgtca	ccagttccat
cgacaatggc	gtgacgtgga
gcgagccgcg	catcatcacc
	480
gccgacatca	cgaacagcga
atcatggatt	tcacggttcg
cttcttccgg	tgccggcatc
	540
cagctcacgt	atggcgagca
tgcggggcgc	ctgatccagc
agtacaccat	caaggagctc
	600
gacggccgct	accgtgcggt
atcggctctt	tccgacgac
acggtgcaac	ctggcatgca
	660

ggcacccccg tcggcgatca catggacgag aacaaagtcg tggaactttc cgatggccgt	720
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aacgcgcaga ttgcccgtgc gttccccgat gccccgagg ggtcggcgca ggccaaggtt	900
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gatgacggca agacctggag tgccggccga cggttcacga cagggccgat ggcgtattcg	1020
gtgatcgccg cattgagcca caaggccggc ggaggctatg gcctgctgta tgaaggtgat	1080
aataataaca ttatgtacac ccgtatctcg ctcgactggc tcaacggcca gctgaacgtc	1140
gacggaatcg gcggttttcc gctgtctggt gagggagggt gctga	1185

<210> 66
 <211> 438
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> L-fucose mutarotase

<400> 66	
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ggccacggcg atgccatagt ccttgccggac gcccactttc ccgccgaatc ggtgggcgctc	120
cgatcccacg tgatcaggta tgacggccag cccatcgagc cgctgctcga cgcggtgctg	180
cagctgatac cgctggacca atacacggaa caccggtgc tgctgatgga caaggttccc	240
ggagacaccg tggacacccc gatatgggac cggtaccgtc aggtcatcga caggcacgag	300
cccggcaagc aagcgggcat cgggatgctg gaacggttcg ctttctacga ggaggccggc	360
aggtcctatt gcatcgtcgc caccggcgaa caatcgcagt atgcgaacat catcatcaga	420
aaaggcgtca ttcgctaa	438

<210> 67
 <211> 705
 <212> DNA
 <213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> Hypothetical gene

<400> 67
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gcgatatgctg ataacgacga cttcgtgctg atgggttttg cagcgttctt gtcgcgtcat 120
ctgccgaatg ttcggtttagc ttggaaggcg aataccggaa ccgatgctct ggaatatgcg 180
acggatcccg caaatgaagc ggacattctg ctggttgaca tgagtctgga ggacatgccc 240
ggagacatgg tgtgccggga aatcagaagt cgtaacagga tgttgccggt gctggcggtg 300
acatcggtca gtttaactcg ctatgcgcga cgtgctgctg agggtggtgc tcaaggcatt 360
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actctctgtg ttcgagtagg aggggagact attggattcg aggatgtaga tgctgcatat 480
catcgtctgg ttcgacttcc cgtgaataga atcgaaagat tgtcggaacg ggaaaaatat 540
gccatggaac tatattcaca gtcgtataag cccactcaga ttgcccgat gatggatgtt 600
tcggcaggga cggtgaaaac ctatcttgac cgtgctcaga acaaactcca tcttacttcc 660
agagccgaac tgattgccta ttggtggagg cgggaacgat gctga 705

<210> 68
<211> 1722
<212> DNA
<213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> ureC: Urease subunit alpha

<400> 68
atgagaacca tcaccagaag cgactatgcg ggcatgttcg ggccgaccac cggcgatcgg 60
gtgcgcttgg gggatacggg tctgctgata gaggtcgaga aggattacgc gcgttatggc 120
gatgaattga aattcggcgg cggaaaatcc ttccgggacg gcatggggca gtcattccgtc 180
cagaaggact ccgaatcgcc ggacacggtc atcaccaacg cgctcgtcgt cgattacacc 240
ggcatctaca aagcggatat cggcatcaag gatgggaaga tcagcgcgat cggcaaggcc 300
ggcaacccgc agaccatgga cggggtgacc ccgggtcttg cagtcggcgc gtgcacggag 360
gcaatcgccg gtgaagggtc catcctcacc gccggcggca tcgacacca tattcatttc 420

atcgcgccgc agcaagtccg cacggctctt gccggtggcg tcaccacccat ggtcggcggc	480
ggcaccggggc cggctgacgg caccaacgcc accacatgct cgccggggcg gttccacatc	540
gcccgcata tgaagccgc cgaagccatg ccggtgaaca tcgcgtatct gggcaaaggc	600
aacggatcat cgccggaacc attgcgcgag cagattcgtg cgggagcggc cggattgaag	660
atccacgagg attggggcg gaccccgcc gtcacgaca cgtgcctcgg tgtcgccgac	720
gacatggacg tgcaggtggc catccatacg gacaccctga atgaggagg atgcgtcgaa	780
gacaccatcg ccgcattcaa gggccggacc atccacacct atcacaccga aggggcgggc	840
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gtcacgcatc atcttgaccg caatgtgccg gaagacatcg ctttcgccga ttcgcgtatt	1020
cgccccgaga ccatcggggc cgaggatgtg cttcatgacc ttgggctgat ctccatgatg	1080
agttcggact cgcaggccat gggacgggtc ggagaggcca tcaccgtac ctggcagacg	1140
gccgacaaga tgaaaaagca acgcggcccg ctccccgagg atgcgcacga cgacaaccgc	1200
aacgacaatt tccgtgtgaa gcggtacgtg tcgaaatata ccatcaatcc ggccatcacg	1260
cacggcatct ccgactacgt cggttccgtc gaagtcggga aaatggccga tctggtgctt	1320
tggcagccgg cgctgttcgg cgccaaaccg gagatgatca tcaaggagg atcgatcctc	1380
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gccgcccata acgacgacat cgccggccgg ctcggtctcg aacggcagg gcttccggtg	1560
cgccactgcc gtggcatcgg taagaaggat ctgaagttca atgacacccat cgcggatatt	1620
caggtcaacc ccgagacgtt ccaagtgagc gtcgacggcg agccgattca cagcgaaccg	1680
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<210> 69
 <211> 963
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature

<223> LacG Lactose Transport System

<400> 69

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tggctgttga tcgcgttggt cgtgggtggcg atcgtctatc cgatctgggt catcgtgata      180
gcctcgggtct cggaccagac gatggtcagc cagggcaagg tgttcctggt gcccggaag      240
atgaacttcg gcggttacgc caagggtgtt accgattcga ggatctgggt cggctaccgc      300
aacaccatct tctattcggg ggcgggcacg gccctgaaca tgctgggtcac gatcccggcg      360
gcgttcgcgt tgtctcgccg cgagttcaag ccgcgccgcg tgatcctggt cctgatgacg      420
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ctgctgaact cgggtgtgggt gttcatcctt ccgggcgcgg tgagcgtgtg gaacctgata      540
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gacggcctgg ggtatttcgg gtatttcctg cggatcgtgc tgccgttgag ctccgcgata      660
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gatttcgcga accagatcaa gtacggcgtg atcatcgtgt cgacgttgcc gttgctgggt      900
ttgtatccgt tcctgcagaa gtatttcaac aagggcgtga tgatcgggtc cgtgaagggc      960
tga                                                                           963
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<210> 70

<211> 954

<212> DNA

<213> Bifidobacterium infantis

<220>

<221> misc_feature

<223> putative multiple-sugar transport system permease YteP

<400> 70

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ttgccgggtgc ggttggggcg tcatttccgt cggtacggcg cgttggtggct gatgacgttg      120
ccggcgttgg tgttcgtcgg tctgttcgcg tacgtgccga tgtacggtct tcgtctcgcg      180
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ttctatgatt tcgatccggt cgagggtctg atgggcggca gggttcgcggg gctgcggtat	240
ttcgagcagt tcttccggtc gggcatgttc gtgaacatca tggatcaacac gttgcggatc	300
agcctgtgga cgctgggtcat ggggttcacg gccccgatcg tgctggcggtt gctgatcaac	360
cagatctcgt cgtcgaagat caaggggttc gtgcagacgg tgacgtacat gccgcacttc	420
atctcgacgg tcgtgatcgt gtcgatgatc aacatcttcc tgtcgccgag cacgggcatg	480
atcgggcgcc tgttcccggg caccgacctg ttgggcgagc cggggctgtt cacgccgatc	540
tactggatca gcgagggtgtg gcagcacatg gggttgaact gcatcatcta tctggcggcg	600
ttgagttcgg tggacctgtc cctgtacgag gccgcgaaga tcgacggggc cggctcgtctg	660
cagctcatcc gctacgtcga catcccggcg atcatgccga cgggtgggcat catgctgatc	720
atgaacatgg gttccgtgct caacgtgggc ttcgagaagg tgctgttgat gcagaacccg	780
atgaacctgt ccgtgtcggg ggtcatcgcg acgtacacgt accgcatggg tattctgggc	840
aaccagttca gctacacgac ggccataggc ctgttcaaca ccgtggtcaa cttcttcttc	900
ctggtgctcg ccaacttcat ttcgaagagg gcgtcggaca ccagcatctt ctag	954

<210> 71
 <211> 1395
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> por;PolyolNADP_oxidoreductase

<400> 71	
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gccgcagcgc cggatgcgcat catccatctt ggtatcggca atttcaccag ggcgcacaa	120
gcctgggtaca cggaacatgc gccggacacc gcgcagtggg gcatcgccgg tttcaccgga	180
cgttctcgcc gaatgggtcga caagctggcc cctcaggaca acgtctacac gctgatcacc	240
tcggcaccgg aaggcgattc gttcgaagtc atctcttcga tttcatcgat gcatgagggc	300
ggcgacatgg cggcactgca caagtacttc gcggatccga acgtgtccat cgtcacctcc	360
acggttaccg aagctggata caaaaggaac gccacgggtg atctagatgt caacgacacc	420
gacgtgtcgg aggacctcgc caaactgcgt aacgatgtga acgtgtccga acttgccacc	480

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caggccattg aggccgtgga cccacacttg ctggaatgga ctcgcgacaa cgtggcatgg	660
gccacttcga tggtcgaccg catcacgccg gccaccaccg acgccgaact gcagaccgtg	720
gcacaggacg agggatggta cgacgtggcg ccggtgcgca cggaaccgtt cctcgaatgg	780
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tccagtgcag actaccgtgc caagctgttg gagcgattct ccaatccgcg cattcaccat	1080
caccttttcc aaatcgccac cgatgggttcg caaaagctgc cggtagaat cgtgcctgtc	1140
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tggatcgtgt tcctgcgtcg atttggaaac acggaggcca aggacgtgaa tctcgacgag	1260
gtgaggaaac ttgccgtcaa cgatgacgtc acccagccg tgtcctacct ggacaaggat	1320
cttggcgcca acgccacttt caccaacaag gtgagcgaac tcgtcaacga gctgtcttcg	1380
gcgacagccg cgtga	1395

<210> 72
 <211> 1431
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> UxaC: uronate

<400> 72	
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gcacgtcgac tgtacaggc aatcaaggat cgtcccatca tctcccctca cggacacgtc	120
cctatcgact ggttcgcgga agacaagcat ttcaagaacc ccaccgatct attcatcact	180
cctgatcact acgtgaccg tatcatgcac ggacatagtg ttcctttcag cgagctgggt	240
gtgggccaga agaacttcac cgaagaacaa tctcgcaacg cttccgcct ctttgaaag	300

tactggtatg cctatgctgg cacgccgatg cgttactgga tggaggattc gctgtccaat	360
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aacgagctcc ttgcctccga cgatttcacc acccgcaagc ttgtgaagcg tttcaacatc	480
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aagctcgcgc aggacgacgg tctggtaatg accttgcacc ccggcgtgat gcgcaaccac	960
taccgcaagc agctcgtcaa ctacggtccg gactgtggag cggattgccc gatgccggct	1020
gattgggctc actggctgcg ccccatgctc aacgaatacg gcgagaatcc tgatttccac	1080
cttgtggcat tcacatgga tgagaccgca tactcccgcg agctcgctcc aatggcggca	1140
tactacccgg cgctgtacat cggagccccg tgggtggttc tggatgcgcc tgagccgatt	1200
ctgcgctact acgaggatgt cgttccgtac gctggtttcg ccaagctgtc gggattcatc	1260
gatgacaccc gtgcgctgtg ctccatcccc gcccgccacg acatgaaccg tcgtctgacc	1320
gcacgttaca tctccggtct ggtcgccgac caccggttga gttatgagga aggcgagcag	1380
atcgccattc gttccgtgga cggtcagcct tctgacgtgt tcaagctctg a	1431

<210> 73
 <211> 1536
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> epsK;putative_membrane_protein_EpsK

<400> 73	
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tatgggttcg tcggattggc gaacacgttc gtgagctatg cgcagctgct taccatcgca	180
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gcgaacgggt attattcgtc tacgcttgcg gcaaacggcg tcatggtcgc catactgggtg	300
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gtgtcgagcc tgttttatcc tgaacagacg aaatactatg cgcagggcaa gcataaggaa	900
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tatattcggg acttcgcctc cacagcgggt gctgccgccg tctgctgggg aatcaggcat	1380
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<210> 74
 <211> 897
 <212> DNA
 <213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> putative 2-dehydro-3-deoxy-D-pentonate aldolase YjhH

<400> 74
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gacggaacca tagattacga caactggggc aagcacctcg accacctcgt cgacgcaggc 120
gtcgacggcg tgctgctggt cggcagcatc ggcgaattct acgccatcga cgtcaagacg 180
aaggcgggaag cggctcgctt cgccgtctcg aaggctgccg gacgcatgaa ggtgctcgtc 240
ggcgtgggag acaccaacct ggacaacgtg aaggcgttgg cggcggaaag cgaagcggcc 300
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aaacggtact tctcggcggt ggccaaggcg acgaccctgc ccgtcatcct gtacaacttc 420
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gagacgttcg tcaaactgca ccgcgcatgg gaggccggcg accacgccgc ggtcgtcgaa 720
gcggccgagc gcgtctccta cctgatgcgc ctgtacgaca ccgccgacct gttcatcagc 780
gccatcaagg gcgcggtcaa ggccaaggga ctacccatcg acacgtccgt ccacgagccc 840
gccgtgcagc tgaccgacga gcagtatcgc accatccgcg ccatcctgga caagtga 897

<210> 75
<211> 1266
<212> DNA
<213> Bifidobacterium infantis

<220>
<221> misc_feature
<223> Fucosidase

<400> 75
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aaaaccgtga acggcgatac cgggtgatgtg gcctgtgatt cctaccattt gtggcagaag 180

gacatcgatt tgctcgccga tctgggcgtg gactcctacc gtctgtctgt ggccatgccg	240
cgtgtgatgc cgaccgagga cggccccgtc aacgaggagg gccttgacta ctacgagcgc	300
gtggtcgacg cgttgctcga caagggcatc aagcccacgg tcacgctcta ccactgggat	360
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atggcccagg cggcgcgtag cgaggtcggc gacaggtcgc agctgtcggg cacgctgaac	660
ctgcagttca accgtggcga cgccgacgcc gtgcaccgtc tcgacctgat cggcaaccgc	720
gtgtggctcg acccgatgct gcgcgggtac taccgaacg agctgttcgc catcaccaag	780
ggcatctgcg attgggagtt cgtcaaggac ggcgacctc aacagatcca tcagccgctg	840
gacgtgctcg gcatcaacta ctattcctcc ggcttggtca cgatgagcgg acgcccgcag	900
ttcccgcatg ccacggggcc gagcaccgcg cctggtgcca gcgacgtcga ctggctgccg	960
acgcccggcg agcacaccga catgggctgg aacatcgatc cgaagggcct atatgacctg	1020
ctgatgcgcg tgcataacga ttatccagag attccgctga tggtcaccga aaacggcatc	1080
gcggtcgagg gcggcgaccg ggtcgtcacc gaggcggatg gcaccaaggc cgtgcacgac	1140
cccaagcgca tcgactacct gaagcggcac ttcgaggccg cactcaaggc tatcgaggac	1200
ggcgtggatt tgcgcggcta cttcgtgtgg tccatcgac cagctgcaa gcagtccggc	1260
tactga	1266

<210> 76
 <211> 165
 <212> DNA
 <213> Bifidobacterium infantis

<220>
 <221> misc_feature
 <223> Hypothetical gene

<400> 76	
atgacattgc cgccgcaatc gcgaaaagac gatgactgcg gcggcatcct caacatcact	60
ccaacagaaa gcatgaccga cggcaccacg cgtcaggcgc tcagtctcat caccaatccc	120

atcatcacca tcgtgctttt tgcgctcgcc gtgttcgcct gctga 165

<210> 77
<211> 1462
<212> DNA
<213> *Faecalibacterium prausnitzii*

<220>
<221> misc_feature
<223> *Faecalibacterium prausnitzii* partial 16S sequence

NCBI Reference Sequence: NR_121697.2

<400> 77
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gagagcttgc tttctcaagc gagtggcgaa cgggtgagta acgctgagg aacctgcctc 120
aaagagggggg acaacagttg gaaacgactg ctaataccgc ataagcccac gacccggcat 180
cgggtagagg gaaaaggagc aatccgcttt gagatggcct cgcgtccgat tagctagttg 240
gtgaggtaac ggcccaccaa ggcgacgacg ggtagccgga ctgagagggt gaacggccac 300
attgggactg agacacggcc cagactccta cgggaggcag cagtggggaa tattgcacaa 360
tgggggaaac cctgatgcag cgacgccgcg tggaggaaga aggtcttcgg attgtaaact 420
cctgtttgtt aggaagataa tgacggtact caacaaggaa gtgacggcta actacgtgcc 480
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cagttactac gcaagaggac tctggccaga ctgccgttga caaaacggag gaaggtgggg 1140

atgacgtcaa atcatcatgc cctttatgac ttgggctaca cacgtactac aatggcgтта	1200
aacaaagaga agcaagaccg cgagggtggag caaaactcag aaacaacgtc ccagttcgga	1260
ctgcaggctg caactcgcct gcacgaagtc ggaattgcta gtaatcgcag atcagcatgc	1320
tgcggtgaat acgttccccg gccttgtaga caccgcccgt cacaccatga gagccggggg	1380
gacccgaagt cggtagtcta accgcaagga ggacgccgcc gaaggtaaaa ctggtgattg	1440
gggtgaagtc gtaacaaggt ac	1462

<210> 78
 <211> 1521
 <212> DNA
 <213> *Agathobacter rectalis*

<220>
 <221> misc_feature
 <223> E. rectale (*Agathobacter rectalis* partial 16S sequence)

NCBI Reference Sequence: NR_074634.1

<400> 78	
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gagtaacgcg tgggtaacct gccttgtaga gggggataac agttggaaac ggctgctaata	180
accgcataag cgcacggcat cgcattgatgc agtggtgaaa actccgggtgg tataagatgg	240
acccgcgttg gattagctag ttggtgaggt aacggccac caaggcgacg atccatagcc	300
gacctgagag ggtgaccggc cacattggga ctgagacacg gcccaaactc ctacgggagg	360
cagcagtggg gaatattgca caatgggcga aagcctgatg cagcgacgcc gcgtgagcga	420
agaagtattt cggtatgtaa agctctatca gcagggaaga taatgacggt acctgactaa	480
gaagcaccgg ctaaatacgt gccagcagcc gcggtataac gtatggtgca agcgttatcc	540
ggatttactg ggtgtaaagg gagcgaggc ggtgcggcaa gtctgatgtg aaagcccggg	600
gctcaacccc ggtactgcat tggaaactgt cgtactagag tgtcggaggg gtaagcggaa	660
ttcctagtgt agcggtgaaa tgcgtagata ttaggaggaa caccagtggc gaaggcggct	720
tactggacga taactgacgc tgaggctcga aagcgtgggg agcaaacagg attagatacc	780
ctggtagtcc acgccgtaaa cgatgaatac taggtgttgg gaagcattgc ttctcggtagc	840

cgtcgcaaac gcagtaagta ttccacctgg ggagtacgtt cgcaagaatg aaactcaaag	900
gaattgacgg ggacccgcac aagcgggtgga gcatgtgggt taattcgaag caacgcgaag	960
aaccttacca agtcttgaca tccttctgac cggtacttaa ccgtaccttc tcttcggagc	1020
aggagtgaca ggtgggtgcat ggttgtcgtc agctcgtgtc gtgagatgtt gggttaagtc	1080
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actgccaggg ataacctgga ggaaggcggg gatgacgtca aatcatcatg ccccttatga	1200
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caaattctcaa aaataacgtc tcagttcgga ctgtagtctg caacccgact acacgaagct	1320
ggaatcgcta gtaatcgag atcagaatgc tgcggtgaat acgttcccgg gtcttgtaca	1380
caccgcccgt cacaccatgg gagttgggaa tgcccgaagc cagtgacct accgaaagga	1440
aggagctgtc gaaggcaggc tcgataactg ggggtgaagtc gtaacaaggt agccgtatcg	1500
gaaggtgcgg ctggatcacc t	1521

<210> 79
 <211> 1479
 <212> DNA
 <213> Anaerobutyricum hallii

<220>
 <221> misc_feature
 <223> Anaerobutyricum hallii 16S gene

NCBI Reference Sequence: NR_118673.1

<220>
 <221> misc_feature
 <222> (617)..(617)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (955)..(955)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1087)..(1087)
 <223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (1098)..(1098)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1184)..(1185)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1227)..(1227)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1259)..(1259)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1269)..(1269)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1374)..(1375)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1391)..(1391)
<223> n is a, c, g, or t

<400> 79
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gggtgagtaa cgcgtgggta acctgccctg tacaggggga taacagctgg aaacggctgc 180
taataaccgca taagcgcacg aggagacatc tccttggtgtg aaaaactccg gtggtacagg 240
atgggcccgc gtctgattag ctggttggca gggtaacggc ctaccaaggc aacgatcagt 300
agccgggtctg agaggatgaa cggccacatt ggaactgaga cacggtccaa actcctacgg 360
gaggcagcag tgggggaatat tgcacaatgg gggaaaccct gatgcagcaa cgccgcgtga 420
gtgaagaagt atttcggtat gtaaagctct atcagcaggg aagataatga cggtacctga 480
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atccggattt actgggtgta aagggtgctg aggtggcagt gcaagtcaga tgtgaaaggc 600

cggggctcaa ccccgngct gcatttga aa ctgcwyr gct agagtacagg agaggcaggc	660
ggaattccta gtgtagcggg gaaatgcgta gatattagga ggaacaccag tggcgaaggc	720
ggcctgctgg actgttactg acactgaggc acgaaagcgt ggggagcaaa caggattaga	780
taccctggta gtccacgccg taaacgatga atactagggtg tcggggccgt ataggctycg	840
gtgccgccgc taacgcagta agtattccac ctggggagta cgttcgcaag aatgaaactc	900
aaaggaattg acggggaccc gcacaagcgg tggagcatgt ggtttaattc gaagnaacgc	960
gaagaacctt accaggtctt gacatccttc tgaccgcacc ttaatcggtg ctttccttcg	1020
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agtcccncaa cgagcgcnac ccctatcttc agtagccagc aggtaaggct gggcactctg	1140
gagagactgc cagggataac ctggaggaag gtggggacga cgttnaatca tcatgccctt	1200
tatgatctgg gcgacacacg tgctacnatg gcggtcacag agtgaggcga accygcgang	1260
gggagcaanc cacaaaaagg ccgtcccagt tcggactgta gtctgcaacc cgactacacg	1320
aagctggaat cgctagtaat cgcgatcag aatgtcgcgg tgaatacggt cccnngtctt	1380
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tatggaggga gctgtcgaag gtggagccgg taactgggg	1479

<210> 80
 <211> 1482
 <212> DNA
 <213> Anaerobutyricum soehngenii

<220>
 <221> misc_feature
 <223> Anaerobutyricum soehngenii 16S

GenBank: AJ270490.2

<400> 80	
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tgggtaacct gccctgtaca gggggataac agttggaaac ggctgctaata accgcataag	180
cgcacgagag gacatcctct tgtgtgaaaa actccggtgg tacaggatgg gcccgctct	240

gattagctgg ttggcagggt aacggcctac caaggcgacg atcagtagcc ggtctgagag	300
gatgaacggc cacattggaa ctgagacacg gtccaaactc ctacgggagg cagcagtggg	360
gaatattgca caatggggga aaccctgatg cagcaacgcc gcgtgagtga agaagtat	420
cggtatgtaa agctctatca gcagggaaga taatgacggt acctgactaa gaagctccgg	480
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ggtgtaaagg gtgcgtaggt ggtagtgcaa gtcagatgtg aaaggccggg gctcaacccc	600
ggagctgcat ttgaaactgc atagctagag tacaggagag gcaggcggaa ttcctagtgt	660
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ttactgacac tgaggcacga aagcgtgggg agcaaacagg attagatacc ctggtagtcc	780
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gcagtaagta ttccacctgg ggagtacgtt cgcaagaatg aaactcaaag gaattgacgg	900
ggacccgcac aagcgggtga gcatgtggtt taattcgaag caacgcgaag aaccttacca	960
ggtcttgaca tccttctgac cactccgtaa tgggagtctt ccttcgggac agaagagaca	1020
ggtggtgcat ggttgtccgt cagctcgtgt cgtgagatgt tgggttaagt cccgcaacga	1080
gcgcaacccc tatcttcagt agccagcagg taaggctggg cactctggag agactgccag	1140
ggataacctg gaggaagggt gggacgacgt caaatcatca tgccccttat gatctgggcg	1200
acacacgtgc tacaatggcg gtcacaaagt gaggcaaacc tgcgaggggg agcaaaccac	1260
aaaaaggccg tcccagttcg gactgtagtc tgcaaccga ctacacgaag ctggaatcgc	1320
tagtaatcgc gaatcagaat gtcgcggtga atacgttccc gggctcttgta cacaccgcc	1380
gtcacaccat gggagtcgga aatgcccga gccagtgacc caaccttttg gagggarctg	1440
tcgaagggtg agccggtaac tggggtgaag tcgtaacaag gg	1482

<210> 81
 <211> 1456
 <212> DNA
 <213> Anaerostipes caccae

<220>
 <221> misc_feature
 <223> Anaerostipes caccae 16S gene

NCBI Reference Sequence: NR_028915.1

<400> 81

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ataacagctg gaaacggctg ctaataccgc ataagcgac agaatcgcat gattcagtgt	180
gaaaagccct ggcagtatag gatgggtccc cgtctgatta gctggttggt gaggtaacgg	240
ctcaccaagg cgacgatcag tagccggctt gagagagtga acggccacat tgggactgag	300
acacggccca aactcctacg ggaggcagca gtggggaata ttgcacaatg ggggtaaacc	360
ctgatgcagc gacgccgct gagtgaagaa gtatttcggt atgtaaagct ctatcagcag	420
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gtaatacgta gggggcaagc gttatccgga attactgggt gtaaagggtg cgtagggtggc	540
atggtaagtc agaagtgaag gcccggggct taaccccggg actgcttttg aaactgtcat	600
gctggagtgc aggagaggtg agcgggaattc ctagtgtagc ggtgaaatgc gtagatatta	660
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gacgtcaaat catcatgccc cttatggcca gggctacaca cgtgctacaa tggcgtaaac	1200
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tagtctgcaa ctcgactaca tgaagctgga atcgctagta atcgtgaatc agaatgtcac	1320
ggtgaatacg ttcccgggtc ttgtacacac cgcccgtcac accatgggag tcagtaacgc	1380
ccgaagtcag tgaccaacc gcaaggaggg agctgccgaa ggtgggaccg ataactgggg	1440
tgaagtcgta acaagg	1456

<210> 82
<211> 1493
<212> DNA
<213> *Blautia producta*

<220>
<221> misc_feature
<223> *Blautia producta* 16S

NCBI Reference Sequence: NR_113270.1

<400> 82
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gtaacgcgtg ggtaacctgc ctcatcacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagcg cacaggaccg catggtctgg tgtgaaaaac tccggtggta tgagatggac 240
ccgcgtctga ttagctagtt ggaggggtaa cggcccacca aggcgacgat cagtagccgg 300
cctgagaggg tgaacggcca cattgggact gagacacggc ccagactcct acgggaggca 360
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aagtatctcg gtatgtaaac ttctatcagc aggaagaaa atgacggtac ctgactaaga 480
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atttactggg tgtaaaggga gcgtagacgg aagagcaagt ctgatgtgaa aggctggggc 600
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cctagtgtag cggtgaaatg cgtagatatt aggaggaaca ccagtggcga aggcggctta 720
ctggacggta actgacgttg aggctcgaac gcgtggggag caaacaggat tagataccct 780
ggtagtccac gccgtaaacg atgaatacta ggtgtcgggt ggcaaagcca ttcggtgccg 840
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gaatcgctag taatcgcgga tcagaatgcc gcggtgaata cgttcccggg tcttgtagac	1380
accgcccgtc acaccatggg agtcagtaac gcccgaagtc agtgacctaa ccgaaaggaa	1440
ggagctgccg aaggcgggac cgataactgg ggtgaagtcg taacaaggta acc	1493

<210> 83
 <211> 1505
 <212> DNA
 <213> Clostridium leptum

<220>
 <221> misc_feature
 <223> Clostridium leptum 16S

NCBI Reference Sequence: NR_114789.1

<400> 83	
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acgcgtgagt aacctgcctt tcagagggggg ataacgttct gaaaagaacg ctaataaccgc	180
ataacatcaa tttatcgcat gataggttga tcaaaggagc aatccgctgg aagatggact	240
cgcgtccgat tagccagttg gcggggtaac ggcccaccaa agcgacgatc ggtagccgga	300
ctgagagggt gaacggccac attgggactg agacacggcc cagactccta cgggaggcag	360
cagtggggga tattgcacaa tgggggaaac cctgatgcag caacgccgcg tgagggaaga	420
aggttttcgg attgtaaacc tctgttctta gtgacgataa tgacggtagc taaggagaaa	480
gctccggcta actacgtgcc agcagccgcg gtaatacgta gggagcgagc gttgtccgga	540
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ccggtgtagc ggtgaaatgc gtagagatcg ggaggaacac cagtggcgaa ggcggcctac	720
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agttaacaca ataagtaatc cacctgggga gtacggccgc aaggttgaaa ctcaaaggaa	900
ttgacggggg cccgcacaag cagtggagta tgtggtttta ttcgaagcaa cgcgaagaac	960
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ccacacacgt actacaatgg ctgtaaacag agggaagcaa agccgcgagg tggagcaaaa	1260
ccctaaaagc agtcccagtt cggatcgag gctgcaacc gcctgctga agtcggaatt	1320
gctagtaatc gcggatcagc atgccgcggt gaatacgttc ccgggccttg tacacaccgc	1380
ccgtcacacc atgggagccg gtaatacccg aagccagtag ttcaaccgca aggagagcgc	1440
tgtcgaaggt aggattggcg actgggggtga agtcgtaaca aggtagccgt atcggaaggt	1500
gcggc	1505

<210> 84
 <211> 1485
 <212> DNA
 <213> Roseburia hominis

<220>
 <221> misc_feature
 <223> Roseburia hominis 16S

NCBI Reference Sequence: NR_042008.1

<400> 84	
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gtgggtaacc tgcctcatac agggggataa cagtttgaaa cgactgctaa taccgcataa	180
gcgcacagga ttgcatgatc cagtgtgaaa aactccggtg gtatgagatg gacccgcgtc	240
tgattagcca gttggcgggg taacggccca ccaaagcgac gatcagtagc cgacctgaga	300
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ggaatattgc acaatggggg aaaccctgat gcagcgacgc cgcgtgagcg aagaagtatt	420

tcggtatgta aagctctatc agcaggggaag aagaatgcgg tacctgacta agaagcacccg	480
gctaaatacgc tgccagcagc cgcggtaata cgtatggtgc aagcgttatc cggatttact	540
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cggtagtgca ttggaaactg tcggactaga gtgtcggagg ggtaagtgga attcctagtgc	660
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attactgacg ctgaggctcg aaagcgtggg gagcaaacag gattagatac cctggtagtc	780
cacgccgtaa acgatgaata ctaggtgtcg gggagcattg ctcttcggtg ccgcagcaaa	840
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gggacccgca caagcggtagg agcatgtggt ttaattcgaa gcaacgcgaa gaaccttacc	960
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cacacgtgct acaatggcgt aaacaaaggg aagcaatccc gcgaggggga gcaaatctca	1260
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tcacaccatg ggagttggta atgcccgaag tcagtgacct aaccgcaagg agggagctgc	1440
cgaaggcagg actgataact ggggtgaagt cgtaacaagg gtacg	1485

<210> 85
 <211> 1482
 <212> DNA
 <213> *Roseburia intestinalis*

<220>
 <221> misc_feature
 <223> *Roseburia intestinalis* 16S

NCBI Reference Sequence: NR_027557.1

<400> 85	
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gcgtgggtaa cctgcctcat acagggggat aacagttgga aacgactgct aataccgcat	180
aagcgcacag ggtcgcata cctgggtgtga aaaactccgg tggatatgaga tggacccgcg	240
tctgattagc cagttggtgg ggtaacggcc taccaaagcg acgatcagta gccgacctga	300
gagggtgacc ggccacattg ggactgagac acggcccaaa ctctacggg aggcagcagt	360
ggggaatatt gcacaatggg ggaaaccctg atgcagcgac gccgcgtgag cgaagaagta	420
tttcggtatg taaagctcta tcagcaggga agaagaaatg acggtacctg actaagaagc	480
accggctaaa tacgtgccag cagccgcggt aatacgtatg gtgcaagcgt tatccgatt	540
tactgggtgt aaaggagcg caggcggtag ggcaagtctg atgtgaaagc ccggggctca	600
accccggtac tgcatgtgaa actgtcggac tagagtgtcg gaggggtaag tggaattcct	660
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gacgattact gacgctgagg ctcgaaagcg tggggagcaa acaggattag ataccctggt	780
agtccacgcc gtaaacgatg aatactaggt gtcggggagc attgctcttc ggtgccgcag	840
caaacgcaat aagtattcca cctggggagt acgttcgcaa gaatgaaact caaaggaatt	900
gacggggacc cgcacaagcg gtggagcatg tggtttaatt cgaagcaacg cgaagaacct	960
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acgagcgcaa cccctattct tagtagccag cgggtmagcc gggcactcta gggagactgc	1140
cagggataac ctggaggaag gtggggatga cgtcaaatca tcatgccct tatgacttgg	1200
gctacacacg tgctacaatg gcgtaaacaa agggaagcga gcctgcgagg gggagcaaat	1260
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cgctagtaat cgcgaatcag aatgtcgcgg tgaatacgtt cccgggtctt gtacacaccg	1380
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ctgccgaagc aggatcgata actgggggtga agtcgtaaca ag	1482

<210> 86
 <211> 1454
 <212> DNA
 <213> Clostridium aminovalericum

<220>
<221> misc_feature
<223> Anaerocolumna aminovalerica (Clostridium aminovalericum) 16S

NCBI Reference Sequence: NR_029245.1

<220>
<221> misc_feature
<222> (465)..(466)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (572)..(573)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (774)..(774)
<223> n is a, c, g, or t

<400> 86
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ccggaaacgg ttgctaatac cgcataagca tacagtgccg catggtacag tgtgaaaaag 180
attaagttca acttcgttca actctggtat aagatggacc cgcgtctgat tagctagttg 240
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cattggggact gagacacggc ccaaactcct acggggaggca gcagtgggga atattgcaca 360
atggggggaaa ccctgatgca gcgacgccgc gtgagtgaag aagtatttcg gtatgtaaag 420
ctctatcagc agggacgata atgacgggtac ctgactaaga agccnnggct aactacgtgc 480
cagcagccgc ggtaatacgt aggggggcaag cgttatccgg atttactggg tgtaaaggga 540
gcgtagacgg tctggtaagt caggtgtgaa anncccgggg ctcaaccccg gattgcactt 600
gaaactaccc gactagagtg caggagaggt aagtggaatt cctagtgtag cggtgaaatg 660
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gaaggcgggg atgacgtcaa atcatcatgc cccttatgat ctgggctaca cacgtgctac	1200
aatggtgact acaaagagaa gcaaagctgt gaagtggagc caatctcaaa aaggtcatct	1260
cagttcggat tgtagtctgc aactcgacta catgaagctg gaatcgctag taatcgcaga	1320
tcagaatgct gtggtgaata cgttcccggg tcttgtagac accgcccgtc acaccatggg	1380
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caatgactgg ggtg	1454

<210> 87
 <211> 1495
 <212> DNA
 <213> Anaerostipes butyraticus

<220>
 <221> misc_feature
 <223> Anaerostipes butyraticus 16S

NCBI Reference Sequence: NR_113319.1

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agtaacgcgt gggcaacctg cctcatacag ggggataaca gttagaaatg actgctaaga	180
ccgcataaga ccacagcacc gcatggtgga gtggtaaaag ctccggtggt atgagatggg	240
cccgctctg attagctggt tggtagagta acggctctac caaggcaacg atcagtagcc	300
ggcttgagag agtgaacggc cacattggga ctgagacacg gcccaaactc ctacgggagg	360
cagcagtggg gaatattgca caatggggga aaccctgatg cagcgacgcc gcgtgagtga	420
agaagtattt cggtatgtaa agctctatca gcagggaaga aaatgacggt acctgactaa	480
gaagccccgg ctaactacgt gccagcagcc gcggtaatac gtagggggca agcgttatcc	540
ggaattactg ggtgtaaagg gtgcgtaggt ggcagggcaa gtcagaagtg aaaacccggg	600
gctcaactcc gggactgctt ttgaaactgt ccagctggag tgcaggagag gtaagcggaa	660

ttcctagtgt agcggtgaaa tgcgtagata ttaggaggaa catcagtggc gaaggcggct	720
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ctggtagtcc acgccgtaaa cgatgaatac taggtgtcgg ggccgtagag gcttcgggtgc	840
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gcaaattcca aaaataacgt cacagttcgg attgtagtct gcaactcgac tacatgaagc	1320
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acaccgcccg tcacaccatg ggagtcagta acgcccgaag tcagtgacct aaccgcaagg	1440
agggagctgc cgaaggcggg accgataact ggggtgaagt cgtaacaagg taacc	1495

<210> 88
 <211> 1515
 <212> DNA
 <213> Anaerostipes hadrus

<220>
 <221> misc_feature
 <223> Anaerostipes hadrus 16S

NCBI Reference Sequence: NR_104799.1

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ggcaacctgc cctgtacagg gggataacag tcagaaatga ctgctaatac cgcataagac	180
cacagcaccg catggtgcag gggtaaaaac tccggtggta caggatggac ccgcgtctga	240
ttagctggtt ggtgaggtaa cggctcacca aggcgacgat cagtagccgg cttgagagag	300

tgaacggcca cattgggact gagacacggc ccaaactcct acgggaggca gcagtgggga	360
atattgcaca atgggggaaa ccctgatgca gcgacgccgc gtgagtgaag aagtatctcg	420
gtatgtaaag ctctatcagc agggaagaaa atgacggtag ctgactaaga agccccggct	480
aactacgtgc cagcagccgc ggtaatacgt agggggcaag cgttatccgg aattactggg	540
tgtaaagggt gcgtaggtgg tatggcaagt cagaagtga aaccagggc ttaactctgg	600
gactgctttt gaaactgtca gactggagtg caggagaggt aagcggaatt ctagtgtag	660
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gccgtaaacg atgaatacta ggtgtcgggg ccgtagaggc ttcggtgccg cagccaacgc	840
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acccgcacaa gcggtggagc atgtggttta attcgaagca acgcgaagaa cttacctgg	960
tcttgacatc cttctgaccg gtccttaacc ggacctttcc ttcgggacag gagagacagg	1020
tggtgcatgg ttgtcgtcag ctctgtcgt gagatgttgg gttaagtccc gcaacgagcg	1080
caaccctat ctttagtagc cagcatttca ggtgggcact ctagagagac tgccagggat	1140
aacctggagg aaggtgggga cgacgtcaaa tcatcatgcc cttatgacc agggctacac	1200
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aatcgcgaaat cagaatgtcg cgggaatac gttcccgggt cttgtacaca ccgcccgtca	1380
caccatggga gtcagtaacg cccgaagtca gtgacccaac cgtaaggagg gagctgccga	1440
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<210> 89
 <211> 1382
 <212> DNA
 <213> Anaerostipes rhamnosivorans

<220>
 <221> misc_feature
 <223> Anaerostipes rhamnosivorans 16S

GenBank: JX273468.1

<220>

<221> misc_feature

<222> (727)..(727)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (933)..(935)

<223> n is a, c, g, or t

<400> 89

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a a c g c g t g g g	g a a c t g c c c	t a t a c a g g g g	g a t a a c a g c t	g g a a a c g g c t	g c t a a t a c c g	120
c a t a a g c g c a	c a g a a t c g c a	t g a t t c a g t g	t g a a a a g c c c	t g g c a g t a t a	g g a t g g t c c c	180
g c g t c t g a t t	a g c t g g t t g g	c g g g g t a a c g	g c c c a c c a a g	g c g a c g a t c a	g t a g c c g g c t	240
t g a g a g a g t g	g a c g g c c a c a	t t g g g a c t g a	g a c a c g g c c c	a a a c t c c t a c	g g g a g g c a g c	300
a g t g g g g a a t	a t t g c a c a a t	g g g g g a a a c c	c t g a t g c a g c	g a c g c c g c g t	g a g t g a a g a a	360
g t a t t t c g g t	a t g t a a a g c t	c t a t c a g c a g	g g a a g a a a t a	a g a c g g t a c c	t g a c t a a g a a	420
g c c c c g g c t a	a c t a c g t g c c	a g c a g c c g c g	g t a a t a c g t a	g g g g g c a a g c	g t t a t c c g g a	480
a t t a c t g g g t	g t a a a g g g t g	c g t a g g t g g c	a t g a t a a g t c	a g a a g t g a a a	g c c c g g g g c t	540
t a a c c c c g g g	a c t g c t t t t g	a a a c t g t a a t	g c t a g a g t g c	a g g a g a g g t a	a g c g g a a t t c	600
c t a g t g t a g c	g g t g a a a t g c	g t a g a t a t t a	g g a g g a a c a c	c a g t g g c g a a	g g c g g c t t a c	660
t g g a c t g t c a	c t g a c a c t g a	g g c a c g a a a g	c g t g g g g a g c	a a a c a g g a t t	a g a t a c c c t g	720
g t a g t c n a c g	c c g t a a a c g a	t g a a t a c t a g	g t g t c g g g g c	c g t a g a g g c t	t c g g t g c c g c	780
a g c a a a c g c a	g t a a g t a t t c	c a c c t g g g g a	g t a c g t t c g c	a a g a a t g a a a	c t c a a a g g a a	840
t t g a c g g g g a	c c c g c a c a a g	c g g t g g a g c a	t g t g g t t t a a	t t c g a a g c a a	c g c g a a g a a c	900
c t t a c c t g g t	c t t g a c a t c c	t t c t g a c c g g	t t n n n a a c c g	a a c c t t t c c t	t c g g g a c a g a	960
a g t g a c a g g t	g g t g c a t g g t	t g t c g t c a g c	t c g t g t c g t g	a g a t g t t g g g	t t a a g t c c c g	1020
c a a c g a g c g c	a a c c c c t a t c	t t t a g t a g c c	a g c a t a t a a g	g t g g g c a c t c	t a g a g a g a c t	1080
g c c a g g g a t a	a c c t g g a g g a	a g g t g g g g a c	g a c g t c a a a t	c a t c a t g c c c	c t t a t g g c c a	1140
g g g c t a c a c a	c g t g c t a c a a	t g g c g t a a a c	a a a g g g a a g c	g a c c c c g c g a	g g g c a a g c a a	1200

atcccagaaa taacgtctca gttcggattg tagtctgcaa ctcgactaca tgaagctgga	1260
atcgctagta atcgtgaatc agaatgtcac ggtgaatacg ttcccgggtc ttgtacacac	1320
cgcccgtcac accatgggag tcagtaacgc ccgaagtcag tgaccaacc gcaaggagga	1380
ga	1382

<210> 90
 <211> 1365
 <212> DNA
 <213> Anaerotruncus colihominis

<220>
 <221> misc_feature
 <223> Anaerotruncus colihominis 16S

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accgcatgat gttgcggggg cacatgcccc tgcaacaaaa ggagcaatcc gctgaaagat	180
gggctcgcgt ccgattagcc agttggcggg gtaacggccc accaaagcga cgatcggtag	240
ccggactgag aggttgaacg gccacattgg gactgagaca cggcccagac tcctacggga	300
ggcagcagtg ggggatattg cacaatgggc gaaagcctga tgcagcgacg ccgcgtgagg	360
gaagacggtc ttcggattgt aaacctctgt ctttggggaa gaaaatgacg gtacccaaag	420
aggaagctcc ggctaactac gtgccagcag ccgcggtaat acgtaggag caagcgttgt	480
ccggaattac tgggtgtaaa gggagcgtag gcgggatggc aagtagaatg ttaaatccat	540
cggctcaacc ggtggctgcg ttctaaactg ccgttcttga gtgaagtaga ggcaggcgga	600
attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaaggcggc	660
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cctggtagtc cacgccgtaa acgatgatta ctaggtgtgg ggggactgac cccttcctg	780
ccgcagttaa cacaataagt aatccacctg gggagtacgg ccgcaagggt gaaactcaaa	840
ggaattgacg ggggcccga caagcagtgg agtatgtggt ttaattcgaa gcaacgcgaa	900
gaaccttacc aggtcttgac atcggcgtaa tagcctagag agtaggtgaa gcccttcggg	960
gcatccagac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt tgggttaagt	1020

cccgcaacga gcgcaaccct tattattagt tgctacgcaa gagcactcta atgagactgc	1080
cgttgacaaa acggaggaag gtggggatga cgtcaaatca tcatgcccct tatgacctgg	1140
gctacacacg tactacaatg gcactaaaac agagggcggc gacaccgca ggtgaagcga	1200
atcccagaaa aagtgtctca gttcagattg caggctgcaa cccgcctgca tgaagtcgga	1260
attgctagta atcgcggatc agcatgccgc ggtgaatacg ttcccgggcc ttgtacacac	1320
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<210> 91
 <211> 1530
 <212> DNA
 <213> *Blautia argi*

<220>
 <221> misc_feature
 <223> *Blautia argi* 16S

NCBI Reference Sequence: NR_171388.1

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cgggtgagta acgctgggt aacctgcctc atacaggga ataacagtta gaaatggctg	180
ctaatgccgc ataagcgac agggccgcat ggtctggtgt gaaaaactcc ggtggtatga	240
gatggacccg cgtctgatta ggtagttggc ggggtaacgg cccaccaagc cgacgatcag	300
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cggggcttaa cccgggact gcattggaaa ctgtccatct tgagtgccgg agaggtaagc	660
ggaattccta gtgtagcggg gaaatgcgta gatattagga ggaacaccag tggcgaaggc	720
ggcttactgg acggtactg acgttgaggc tcgaaagcgt ggggagcaaa caggattaga	780

taccctggta gtccacgccg taaacgatga atactaggtg tcgggttgca aagcaattcg	840
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aaaggaattg acgggggaccc gcacaagcgg tggagcatgt ggtttaattc gaagcaacgc	960
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<210> 92
 <211> 1378
 <212> DNA
 <213> *Blautia caecimuris*

<220>
 <221> misc_feature
 <223> *Blautia caecimuris* 16S

NCBI Reference Sequence: NR_144607.1

<400> 92	
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<210> 93
 <211> 1493
 <212> DNA
 <213> *Blautia coccoides*

<220>
 <221> misc_feature
 <223> *Blautia coccoides* 16S

<400> 93	
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gtaacgcgtg ggtaacctgc ctcatcacagg gggataacag ttagaaatga ctgctaatac	180
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gaatcgctag taatcgcgga tcagaatgcc gcggtgaata cgttcccggg tcttgtacac	1380
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<210> 94
 <211> 1534
 <212> DNA
 <213> *Blautia faecicola*

<220>
 <221> misc_feature
 <223> *Blautia faecicola* 16S

NCBI Reference Sequence: NR_170495.1

<400> 94

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gatggacccg cgttggatta gctagttggc agggtaacgg cctaccaagg cgacgatcca	300
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actaagaagc cccggctaac tacgtgccag cagccgcggt aatacgtagg gggcaagcgt	540
tatccggatt tactgggtgt aaaggagcg tagacggaat ggcaagtctg atgtgaaagg	600
ccggggctca accccgggac tgcattggaa actgccaatc tagagtaccg gaggggtaag	660
tggaattcct agtgtagcgg tgaaatgcgt agatattagg aggaacacca gtggcgaagg	720
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1534

<210> 95

<211> 1262

<212> DNA

<213> *Blautia faecis*

<220>

<221> misc_feature

<223> *Blautia faecis* 16S

NCBI Reference Sequence: NR_109014.1

<400> 95

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cctaccaagg cgacgatcca tagccggcct gagagggtga acggccacat tgggactgag 180

acacggccca gactcctacg ggaggcagca gtggggaata ttgcacaatg ggggaaaccc 240

tgatgcagcg acgccgcgtg aaggaagaag tatctcggta tgtaaaacttc tatcagcagg 300

gaagataatg acggtacctg actaagaagc cccggctaac tacgtgccag cagccgcggt 360

aatacgtagg gggcaagcgt tatccggatt tactgggtgt aaaggagcgc tagacggcgc 420

agcaagtctg atgtgaaagg caggggctta acccctggac tgcattggaa actgctgtgc 480

ttgagtgccg gaggggtaag cggaattcct agtgtagcgg tgaaatgcgt agatattagg 540

aggaacacca gtggcgaagg cggcttactg gacggtaact gacgttgagg ctcgaaagcg 600

tggggagcaa acaggattag ataccctggg agtccacgcc gtaaacgatg aatactaggt 660

gtcagggagc acagctcttt ggtgccgccg caaacgcatt aagtattcca cctggggagt 720

acgttcgcaa gaatgaaact caaaggaatt gacggggacc cgcacaagcg gtggagcatg 780

tggtttaatt cgaagcaacg cgaagaacct taccaaattc tgacatccct ctgaccggga 840

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cacgcartgg tgggcactct gaggagactg ccagggataa cctggaggaa ggcggggatg 1020

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cg	1262

<210> 96
 <211> 1468
 <212> DNA
 <213> *Blautia glucerasea*

<220>
 <221> misc_feature
 <223> *Blautia glucerasea* 16S

NCBI Reference Sequence: NR_112789.1

<220>
 <221> misc_feature
 <222> (990)..(990)
 <223> n is a, c, g, or t

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gcacaatggg ggaaaccctg atgcagcgac gccgcgtgaa ggaagaagta tctcggtatg	420
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<210> 97
 <211> 1492
 <212> DNA
 <213> Streptococcus hansenii

<220>
 <221> misc_feature
 <223> Blautia hansenii (Streptococcus hansenii) 16S

NCBI Reference Sequence: NR_104687.1

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<210> 98
 <211> 1454
 <212> DNA
 <213> *Blautia hominis*

<220>
 <221> misc_feature
 <223> *Blautia hominis* 16S

NCBI Reference Sequence: NR_163634.1

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<210> 99
 <211> 1458
 <212> DNA
 <213> Ruminococcus hydrogenotrophicus

<220>
<221> misc_feature
<223> *Blautia hydrogenotrophica* (*Ruminococcus hydrogenotrophicus*) 16S

<220>
<221> misc_feature
<222> (1416)..(1416)
<223> n is a, c, g, or t

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<210> 100
 <211> 1308
 <212> DNA
 <213> *Blautia luti*

<220>
 <221> misc_feature
 <223> *Blautia luti* (*Ruminococcus luti*) 16S

NCBI Reference Sequence: NR_041960.1

<220>
 <221> misc_feature
 <222> (702)..(705)
 <223> n is a, c, g, or t

<400> 100	
gtgggtaacc tgccttatac aggggggataa cagtcagaaa tgactgctaa taccgcataa	60
gcgcacagag ctgcatggct ccggtgtgaa aaactccggt ggtataagat ggacccgcgt	120
tggattagct agttggtgag gtaacggccc accaaggcga cgatccatag ccggcctgag	180
agggtgaacg gccacattgg gactgagaca cggcccagac tcctacggga ggcagcagtg	240
gggaatattg cacaatgggg gaaaccctga tgcagcgacg ccgctgaag gaagaagtat	300
ctcggtatgt aaacttctat cagcaggga gaaatgacg gtacctgact aagaagcccc	360
ggctaactac gtgccagcag ccgcggtaat acgtaggggg caagcgttat ccggatttac	420
tgggtgtaaa gggagcgtag acggcatgga caagtctgat gtgaaaggct ggggctcaac	480
ccggggactg cattggaaac tgcccgtctt gagtgccgga gaggtaagcg gaattcctag	540
tgtagcggtg aaatgcgtag atattaggag gaacaccagt ggcaaggcg gcttactgga	600
cggtaactga cgttgaggct cgaaagcgtg gggagcaaac aggattagat accctggtag	660
tccacgcggt aaacgatgaa tcctaggtgt cggggagcaa annnttcgg tgccgccgca	720
aacgcattaa gcattccacc tggggagtag gttcgcaaga atgaaactca aaggaattga	780
cggggacccg cacaagcggg ggagcatgtg gtttaattcg aagcaacgcg aagaacctta	840
ccaagtcttg acatccctct gaccgagtat gtatggtact tttccttcgg gagagagagg	900

agacaggtgg tgcattggtg tcgtcagctc gtgtcgtgag atgttgggtt aagtcccgca	960
acgagcgcaa cccctatccc cagtagccag cggttcggcc gggcactctg aggagactgc	1020
cagggataac ctggaggaag gcggggatga cgtcaaatca tcatgcccct tatgatttgg	1080
gctacacacg tgctacaatg gcgtaaacaa agggaagcaa gcctgcgagg gtgggcaaat	1140
cccaaaaata acgtcccagt tcggactgta gtctgcaacc cgactacacg aagctggaat	1200
cgctagtaat cgcggatcag aatgccgcgg tgaatacgtt cccgggtctt gtacacaccg	1260
cccgtcacac catgggagtc agtaacgccc gaagtcagtg acctaact	1308

<210> 101
 <211> 1398
 <212> DNA
 <213> *Blautia obeum*

<220>
 <221> misc_feature
 <223> *Blautia obeum* (*Ruminococcus obeum*) 16S

NCBI Reference Sequence: NR_118692.1

<220>
 <221> misc_feature
 <222> (1083)..(1083)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1207)..(1207)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1233)..(1233)
 <223> n is a, c, g, or t

<400> 101	
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gtctgtttct agtggcggac gggtagtaaa cgcgtgggta acctgcctta tacaggggga	120
taacaaccag aaatggttgc taataccgca taagcgcaca ggaccgcatg gtctggtgtg	180
aaaaactccg gtggtataag atggaccgcg gttggattag ctagttggca gggtaacggc	240
ctaccaaggc gacgatccat agccggcctg agagggtgaa cgccacatt gggactgaga	300

cacgccccag actcctcggg aggcagcagt ggggaatatt gcacaatggg ggaaaccctg	360
atgcagcgac gccgcgtgaa ggaagaagta tctcggtatg taaacttcta tcagcaggga	420
agatagtac ggtacctgac taagaagccc cgkctaacta cgtgccagca gccgcggtaa	480
tacgtagggg gcaagcgta tccggattta ctgggtgtaa agggagcgta gacggactgg	540
caagtctgat gtgaaaggcg ggggctcaac ccctggactg cattggaaac tgttagtctt	600
gagtgccgga gaggtaagcg gaattcctag tgtagcgggtg aaatgcgtag atattaggag	660
gaacaccagt ggcgaaggcg gcttactgga cggtactga cgttgaggct cgaaagcggtg	720
gggagcaaac aggattagat accctggtag tccacgccgc aaacgatgaa tactaggtgt	780
tggggagcaa agctcttcgg tgccgccgca aacgcattaa gtattccacc tggggagtac	840
gttcgcaaga atgaaactca aaggaattga cggggacccg cacaagcggg ggagcatgtg	900
gtttaattcg aagcaacgcg aagaacctta ccaagtcttg acatccctct gaccgtccct	960
taaccggatc tttccttcgg gacaggggag acaggtgggtg catggttggtc gtcagctcgt	1020
gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc cctatcccca gtagccagca	1080
gtncggctgg gcactctgag gagactgcca gggataacct ggaggaaggc ggggatgacg	1140
tcaaatcatc atgcccccta tgatttgggc tacacacgtg ctacaatggc gtaaacaag	1200
ggaagcnagc ctkcgraggt aagcaaattc canaaataac gtcccagttc ggactgcagt	1260
ctgcaactcg actgcacgaa gctggaatcg ctagtaatcg cggatcagaa tgccgcgggtg	1320
aatacgttcc cgggtcttgt acacaccgcc cgtcacacca tgggagtcag taacgcccga	1380
agtcagtgac ctaactgc	1398

<210> 102
 <211> 1482
 <212> DNA
 <213> *Blautia schinkii*

<220>
 <221> misc_feature
 <223> *Blautia schinkii* (*Ruminococcus schinkii*) 16S

NCBI Reference Sequence: NR_026312.1

<220>
 <221> misc_feature
 <222> (37)..(37)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (173)..(173)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (184)..(184)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (188)..(188)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (367)..(367)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1342)..(1342)

<223> n is a, c, g, or t

<400> 102

tgaacgctgg cggcgtgctt aacacatgca agtcgancgg agattgattt aacagagact 60

tcggttgaag ttgttctgat cttagtggcg gacgggtgag taacgcgtgg gtaacctgcc 120

ttgtactggg ggataacagc cagaaatgac tgctaatacc gcataagcgc acnggaccgc 180

atgntctngt gtgaaaaact ccggtggtac aagatggacc cgcgttggat tagctagttg 240

gcagggcaga ggcctaccaa ggcgacgatc catagccggc ctgagagggt gaacggccac 300

attgggactg agacacggcc cagactccta cgggaggcag cagtggggaa tattgcacaa 360

tgggggnaac cctgatgcag cgacgccgcg tgaaggaaga agtatctcgg tatgtaaact 420

tctatcagca gggaagaaaa tgacggtacc tgactaagaa gccccggcta actacgtgcc 480

agcagccgcg gtaatacgta gggggcaagc gttatccgga ttactgggt gtaaaggag 540

cgtagacggg atagcaagtc tgatgtgaaa ggcaggggct caaccctgg actgcattgg 600

aaactgttaa acttgagtgc cggagaggta agcggaattc ctagtgtagc ggtgaaatgc 660

gtagatatta ggaggaacac cagtggcgaa ggcggcttac tggacggtaa ctgacgttga 720

ggctcgaaag cgtggggagc aaacaggatt agataccctg gtagtccacg ccgtaaacga 780

tgaatactag gtgtcgggtg gcaaagccat tcggtgccgc agcaaacgca ataagtattc	840
cacctgggga gtacgttcgc aagaatgaaa ctcaaaggaa ttgacgggga cccgcacaag	900
cggcggagca tgtggtttta ttcgaagcaa cgcgaagaac cttaccaagt cttgacatcc	960
ccctgaccgg tccgtaacgg gacctttcct tcgggacagg ggagacaggt ggtgcatggt	1020
tgctgtcagc tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc aaccctatc	1080
cttagtagcc agcggtttgg ccgggcactc tagggagact gccagggata acctggagga	1140
aggtggggat gacgtcaaat catcatgccc cttatgattt gggctacaca cgtgctacaa	1200
tggcgtaaac aaagggaagc gaccgggtga ccgtgagcaa atccccaaaa taacgtccca	1260
gttcggactg tagtctgcaa cccgactaca cgaagctgga atcgctagta atcgcggtac	1320
agaatgccgc ggtgaatacg tncggggtc ttgtacacac cgcccgtcac accatgggag	1380
tcagtaacgc ccgaagtcag tgacctaacc gaaaggagg agctgccgaa ggcgggaccg	1440
atgactgggg tgaagtcgta acaaggtagc cgtatcgga gg	1482

<210> 103
 <211> 1372
 <212> DNA
 <213> *Blautia stercoris*

<220>
 <221> misc_feature
 <223> *Blautia stercoris* 16S

NCBI Reference Sequence: NR_117867.1

<400> 103	
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gcggacgggt gagtaacgcg tgggtaacct gcctcataca gggggataac agttggaaac	120
ggctgctaata accgcataag cgcacgggtat cgcatagatac agtgtgaaaa actccggtgg	180
tatgagatgg acccgctct gattagctag ttggaggggt aacggccac caaggcgacg	240
atcagtagcc ggcctgagag ggtgaacggc cacattggga ctgagacacg gccagactc	300
ctacgggagg cagcagtggg gaatattgca caatggggga aaccctgatg cagcgacgcc	360
gcgtgaagga agaagtatct cggtatgtaa acttctatca gcagggaaga aaatgacggt	420

acctgactaa gaagccccgg ctaactacgt gccagcagcc gcggtataac gtagggggca	480
agcgttatcc ggatttactg ggtgtaaagg gagcgtagac ggaagagcaa gtctgatgtg	540
aaaggctggg gcttaacccc aggactgcat tggaaactgt ttttcttgag tgccggagag	600
gtaagcggaa ttcctagtgt agcggtgaaa tgcgtagata ttaggaggaa caccagtggc	660
gaaggcggct tactggacgg taactgacgt tgaggctcga aagcgtgggg agcaaacagg	720
attagatacc ctggtagtcc acgccgtaaa cgatgaatac taggtgttgg ggagcaaagc	780
tcttcgggtgc cgcagcaaac gcaataagta ttccacctgg ggagtacgtt cgcaagaatg	840
aaactcaaag gaattgacgg ggacccgcac aagcgggtga gcatgtggtt taattcgaag	900
caacgcgaag aaccttacca agtcttgaca tcgatctgac cggttcgtaa tggaaccttt	960
ccttcgggac agagaagaca ggtggtgcat ggttgtcgtc agctcgtgtc gtgagatgtt	1020
gggttaagtc ccgcaacgag cgcaaccct atcctcagta gccagcaggt gaagctgggc	1080
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gcccccttatg atttgggcta cacacgtgct acaatggcgt aaacaaaggg aagcgagccc	1200
gcgaggggga gcaaatccca aaaataacgt cccagttcgg actgcagtct gcaactcgac	1260
tgacgaagc tggaatcgct agtaatcgcg aatcagaatg tcgcggtgaa tacgttccc	1320
ggtcttgtag acaccgccc tcacaccatg ggagtcagta acgcccgaag tc	1372

<210> 104
 <211> 1438
 <212> DNA
 <213> *Blautia wexlerae*

<220>
 <221> misc_feature
 <223> *Blautia wexlerae* 16S

NCBI Reference Sequence: NR_044054.1

<220>
 <221> misc_feature
 <222> (19)..(19)
 <223> n is a, c, g, or t

<400> 104	
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gacgggtgag taacgcgtgg gtaacctgcc ttatacaggg ggataacagt cagaaatggc	120
tgctaatacc gcataagcgc acagagctgc atggctcagt gtgaaaaact ccggtggtat	180
aagatggacc cgcgttggat tagcttgttg gtggggtaac ggcccaccaa ggcgacgac	240
catagccggc ctgagagggt gaacggccac attgggactg agacacggcc cagactccta	300
cgggaggcag cagtggggaa tattgcacaa tgggggaaac cctgatgcag cgacgccg	360
tgaaggaaga agtatctcgg tatgtaaact tctatcagca gggaagatag tgacgggtacc	420
tgactaagaa gccccggcta actacgtgcc agcagccgcg gtaatacgta gggggcaagc	480
gttatccgga tttactgggt gtaaaggag cgtagacggg gtggcaagtc tgatgtgaaa	540
ggcatgggct caacctgtgg actgcattgg aaactgtcat acttgagtgc cggaggggta	600
agcgggaattc ctagtgtagc ggtgaaatgc gtagatatta ggaggaacac cagtggcgaa	660
ggcggcttac tggacggtaa ctgacgttga ggctcgaaag cgtggggagc aaacaggatt	720
agataccctg gtagtccacg ccgtaaacga tgaataacta ggtgtcgggt ggcaaagcca	780
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gttaagtccc gcaacgagcg caaccctat cctcagtagc cagcatttaa ggtgggcact	1080
ctggggagac tgccagggat aacctggagg aaggcgggga tgacgtcaaa tcatcatgcc	1140
ccttatgatt tgggctacac acgtgctaca atggcgtaaa caaagggaag cgagattgtg	1200
agatggagca aatcccaaaa ataacgtccc agttcggact gtagtctgca acccgactac	1260
acgaagctgg aatcgctagt aatcgcggat cagaatgccg cgggtgaatac gttcccgggt	1320
ctgttacaca ccgcccgtca cccatggga gtcagtaacg cccgaagtca gtgacctaac	1380
tgcaaagaag gagctgccga aggcgggacc gatgactggg gtgaagtcgt aacaaggt	1438

<210> 105
 <211> 1511
 <212> DNA
 <213> Butyrivibrio crossotus

<220>
<221> misc_feature
<223> Butyrivibrio crossotus 16S

NCBI Reference Sequence: NR_104735.1

<400> 105
tttgatcctg gctcaggatg aacgctggcg gcgtgcttaa cacatgcaag tcgaacgaag 60
cacttcataa agcttgcttt aagaagtacg ttagtggcgg acgggtgagt aacgcgtggg 120
taacctgcct tacacagggg gataacagtt agaaatgact gctaataccg cataaaacag 180
cagagtcgca tgactcaact gtcaaagatt tatcggtgta agatggaccc gcgtctgatt 240
agctagttgg tggggtaacg gcctaccaag gcgacgatca gtagccggcc tgagagggtg 300
aacggccaca ttgggactga gacacggccc aaactcctac gggaggcagc agtggggaat 360
attggacaat gggcgaaagc ctgatccagc gacgccgcgt gagcgatgaa gtatttcggt 420
atgtaaagct ctatcagcag ggaagaaaac gacggtacct gactaagaag ccccggttaa 480
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ctgcttttga aactgtggag ctggagtgcg ggagaggtaa gcggaattcc tagttagcgc 660
gtgaaatgcg tagatattag gaggaacacc agtggcgaag gcggcttact ggactgtaac 720
tgacgttgag gctcgaaagc gtggggagca aacaggatta gataccctgg tagtccacgc 780
cgtaaacgat gaatactagg tgttgggttt cataagaagc tcggtgccgg cgcaaacgca 840
ttaagtattc cacctgggga gtacgttcgc aagaatgaaa ctcaaaggaa ttgacgggga 900
cccgcacaa ggggtggagca tgtggtttta ttcgaagcaa cgcaagaac cttaccaagt 960
cttgacatcc cgttgacctg ttatgtaatg taacatctct tcggagcaac ggagacaggt 1020
ggtgcatggt tgtcgtcagc tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc 1080
aacccttgtc cttagtagcc agcagtaaga tgggcactct agggagactg ccggggataa 1140
ctcggaggaa ggtggggacg acgtcaaata atcatgcccc ttatgacttg ggctacacac 1200
gtgctacaat ggcgtaaaca aagggaagcg aacctgtgaa ggcaagcaaa tcccaaaaat 1260
aacgtctcag ttcggattgt agtctgcaac tcgactacat gaagctggaa tcgctagtaa 1320
tcgcagatca gaatgctgcg gtgaatacgt tcccgggtct tgtacacacc gcccgtcaca 1380
ccatgggagt cgtaaagtc cgaagtcggt gacctaaccg taaggaagga gccgccgaag 1440

gcaggtatga taactggggt gaagtcgtaa caaggtagcc gtatcggaag gtgcggctgg	1500
atcacctcct t	1511

<210> 106
 <211> 1445
 <212> DNA
 <213> Clostridium hylemonae

<220>
 <221> misc_feature
 <223> Clostridium hylemonae 16S

NCBI Reference Sequence: NR_024719.1

<400> 106	
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gagattagct tgctaagatc agaactttgt attgactgag tggcggacgg gtgagtaacg	120
cgtgggcaac ctgccttaca cagggggata acagctagaa atggctgcta ataccgcata	180
agacctcagt accgcatggt agaggggtaa aaactccggt ggtgtaagat gggcccgct	240
ctgattaggt agttggtagg gtaacggcct accaagccga cgatcagtag ccgacctgag	300
agggtgaccg gccacattgg actgagacac ggcccaaact cctacgggag gcagcagtgg	360
ggaatattgc acaatggggg aaaccctgat gcagcgacgc cgcgtgaagg atgaagtatt	420
tcggtatgta aacttctatc agcaggggaag aagatgacgg tacctgacta agaagccccg	480
gctaactacg tgccagcagc cgcggtaata cgtagggggc aagcgttatc cggatttact	540
gggtgtaaag ggagcgtaga cggcatggca agtctgaagt gaaagcccgg ggctcaaccc	600
cgggactgct ttggaaactg tcaggctaga gtgtcggaga ggcaagtgga attcctagtg	660
tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaagcggct tgctggacga	720
tgactgacgt tgaggctcga aagcgtgggg agcaaacagg attagatacc ctggtagtcc	780
acgccgtaaa cgatgattac taggtgtcgg gaagcaaagc ttttcggtgc cgcagccaac	840
gcaataagta atccacctgg ggagtacgtt cgcaagaatg aaactcaaag gaattgacgg	900
ggacccgcac aagcggtgga gcatgtggtt taattcgaag caacgcgaag aaccttacct	960
gatcttgaca tcccggtgac aaagtatgta acgtactctt tcttcggaac accggtgaca	1020
ggtggtgcat ggttgtcgtc agctcgtgtc gtgagatgtt gggttaagtc ccgcaacggc	1080

gcaaccctta tcttttagtag ccagcatttg aggtgggcac tctagagaga ctgccaggga	1140
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cacgtgctac aatggcgtaa acaaaggga gcgaccctgt gaaggcaagc aaatcccaaa	1260
aataacgtct cagttcggat tgtagtctgc aactcgacta catgaagctg gaatcgctag	1320
taatcgcgaa tcagaatgtc gcggtgaata cgttcccggg tcttgtagac accgcccgtc	1380
acaccatggg gtcagtaacg cccgaagccg gtgacctaac cgcaaaggag gagccgtcga	1440
aggtg	1445

<210> 107
 <211> 1445
 <212> DNA
 <213> Clostridium nexile

<220>
 <221> misc_feature
 <223> Clostridium nexile 16S

NCBI Reference Sequence: NR_024719.1

<400> 107	
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cgtgggcaac ctgccttaca caggggggata acagctagaa atggctgcta ataccgcata	180
agacctcagt accgcatggt agaggggtaa aaactccggt ggtgtaagat gggcccgcgt	240
ctgattaggt agttggtagg gtaacggcct accaagccga cgatcagtag ccgacctgag	300
agggtgaccg gccacattgg actgagacac ggcccaaact cctacgggag gcagcagtgg	360
ggaatattgc acaatggggg aaaccctgat gcagcgacgc cgcgtgaagg atgaagtatt	420
tcggtatgta aacttctatc agcagggaag aagatgacgg tacctgacta agaagccccg	480
gctaactacg tgccagcagc cgcggtaata cgtagggggc aagcgttatc cggatttact	540
gggtgtaaag ggagcgtaga cggcatggca agtctgaagt gaaagcccgg ggctcaaccc	600
cgggactgct ttggaaactg tcaggctaga gtgtcggaga ggcaagtgga attcctagtg	660
tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaagcggct tgctggacga	720
tgactgacgt tgaggctcga aagcgtgggg agcaaacagg attagatacc ctggtagtcc	780

acgccgtaaa cgatgattac taggtgtcgg gaagcaaagc ttttcggtgc cgcagccaac	840
gcaataagta atccacctgg ggagtacgtt cgcaagaatg aaactcaaag gaattgacgg	900
ggacccgcac aagcgggtga gcatgtgggtt taattcgaag caacgcgaag aaccttacct	960
gatcttgaca tcccgggtgac aaagtatgta acgtactctt tcttcggaac accggtgaca	1020
ggtggtgcat ggttgtcgtc agctcgtgtc gtgagatgtt gggttaagtc ccgcaacggc	1080
gcaaccctta tctttagtag ccagcatttg aggtgggcac tctagagaga ctgccaggga	1140
taacctggag gaaggtgggg atgacgtcaa atcatcatgc cccttatgac cagggttaca	1200
cacgtgctac aatggcgtaa acaaaggga gcgaccctgt gaaggcaagc aaatcccaaa	1260
aataacgtct cagttcggat tgtagtctgc aactcgacta catgaagctg gaatcgctag	1320
taatcgcgaa tcagaatgtc gcggtgaata cgttcccggg tcttgtacac accgcccgtc	1380
acacatggg gtcagtaacg cccgaagccg gtgacctaac cgcaaaggag gagccgtcga	1440
aggtg	1445

<210> 108

<211> 1529

<212> DNA

<213> Clostridium scindens

<400> 108

gagagtttga tcctggctca ggatgaacgc tggcggcgtg cctaacacat gcaagtcgaa	60
cgaagcgcct ggccccgact tcttcggaac gaggagcctt gcgactgagt ggcggacggg	120
tgagtaacgc gtgggcaacc tgccttgacac tgggggataa cagccagaaa tggctgctaa	180
taccgcataa gaccgaagcg ccgcatggcg cggcggccaa agccccggcg gtgcaagatg	240
ggccccgcgtc tgattaggta gttggcgggg taacggccca ccaagccgac gatcagtagc	300
cgacctgaga gggtgaccgg ccacattggg actgagacac ggcccagact cctacgggag	360
gcagcagtgg ggaatattgc acaatggggg aaaccctgat gcagcgacgc cgcgtgaagg	420
atgaagtatt tcggtatgta aacttctatc agcagggaag aagatgacgg tacctgacta	480
agaagccccg gctaactacg tgccagcagc cgcggtaata cgtagggggc aagcgttatc	540
cggatttact ggggtgtaaag ggagcgtaga cggcgatgca agccagatgt gaaagcccgg	600
ggctcaaccc cgggactgca tttggaactg cgtggctgga gtgtcggaga ggcaggcggg	660

attcctagtg tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaaggcggc	720
ctgctggacg atgactgacg ttgaggctcg aaagcgtggg gagcaaacag gattagatac	780
cctggtagtc cacgccgtaa acgatgacta ctaggtgtcg ggtggcaagg ccattcgggtg	840
ccgcagcaaa cgcaataagt agtccacctg gggagtacgt tcgcaagaat gaaactcaaa	900
ggaattgacg gggacccgca caagcgggtg agcatgtggt ttaattcgaa gcaacgcgaa	960
gaaccttacc tgatcttgac atcccgatgc caaagcgcgt aacgcgctct ttcttcggaa	1020
catcggtgac aggtgggtgca tggttgtcgt cagctcgtgt cgtgagatgt tgggttaagt	1080
cccgcaacga gcgcaacccc tatcttcagt agccagcatt ttggatgggc actctggaga	1140
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acaccgcccg tcacaccatg ggagtcagta acgcccgaag ccggtgaccc aaccgtaag	1440
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tcggaagggtg cggtctggatc acctccttc	1529

<210> 109
 <211> 1398
 <212> DNA
 <213> Clostridium sporosphaeroides

<220>
 <221> misc_feature
 <223> Clostridium sporosphaeroides 16S

NCBI Reference Sequence: NR_044835.2

<220>
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 <223> n is a, c, g, or t

<220>
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 <223> n is a, c, g, or t

<220>

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<222> (860)..(860)
<223> n is a, c, g, or t

<220>
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<222> (920)..(920)
<223> n is a, c, g, or t

<220>
<221> misc_feature
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<223> n is a, c, g, or t

<220>
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<223> n is a, c, g, or t

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<223> n is a, c, g, or t

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<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1276)..(1276)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1291)..(1291)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1373)..(1373)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1378)..(1379)
<223> n is a, c, g, or t

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gatamcggtc ctgaaaacaa cgctaatacc gcataatata ttggtgtcgc atggcaccgg 120

tatcaaagga gcaatccgct gcaagatgga ctcgctccg atyagccagt kgatkgggta	180
aaggcccacc aaagcgacga tcggtagccg ggttgagaga ctgaacggcc acattgggac	240
tgagacacgg cccagactcc tacgggaggc agcagtgggg gatattgcac aatggaggaa	300
actctgatgc agcaatgccg cgtgaggga gacggtcttc ggattgtaaa cctctgtcct	360
tggtgaagat aatgacggta gccaaaggagg aagctccggc taactacgtg ccagcagccg	420
cggtaatacg tagggagcaa gcgttgctcg gatttactgg gtgtaaaggg tgcgtaggcg	480
gctctttaag tcgggcgtga aagctgtggg cttaacccac aaattgcgtt cgaaactgga	540
gggcttgagt gaagtagagg taggcggaat tcccgggtga gcggtgaaat gcgtagagat	600
cgggaggaac accagtggcg aaggcggcct actgggcttt aactgacgct gaggcacgaa	660
agcatgggta gcaaacagga ttagataccc tggtagtcca tgccgtaaac gatgattact	720
aggtgtgggg ggtctgacct cttccgtgcc ggagttaaca caataagtaa tccacctggg	780
gagtacggcc gcaaggttga aactcaaagg aattgacggg ggcccgcacn agcngtggag	840
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aggcagagat gcattaggtg gctncgggga aagttgagac aggtgggtcca tggttgtcgt	960
cagctcgtgt cgtgagatgt tgggttaagt cccgcaacga gcgcaaccct tgtgattagt	1020
tstacgcaag agcactctaa tcagactgcc gttgacaaaa cggaggaagg tggggacgac	1080
gtcaaatacat catgcccctt atgacctggg ctacacacgt actacaatgg tcgccaacng	1140
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gctgcaaccc gcctacatga agttggaatt gctagtaatc gcggatcagc atgccgcggc	1260
gaatacgttn nngggncctg tacacaccgc ncgtcacacc atgggagccg gtaatacccg	1320
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agtcgtaaca aggtaacc	1398

<210> 110
 <211> 1478
 <212> DNA
 <213> Clostridium symbiosum

<220>
 <221> misc_feature
 <223> Clostridium symbiosum 16S

NCBI Reference Sequence: NR_118730.1

<220>
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<222> (349)..(350)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (534)..(535)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (606)..(606)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (618)..(619)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (709)..(709)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (921)..(921)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (955)..(956)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1012)..(1013)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1015)..(1015)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1081)..(1081)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1185)..(1185)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1240)..(1240)
<223> n is a, c, g, or t

<220>
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<222> (1391)..(1392)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1470)..(1470)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1474)..(1475)
<223> n is a, c, g, or t

<400> 110
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cgggtgagta acgcgtgggt aacctgcctt gtactggggg acaacagtta gaaatgactg 180
ctaataccgc ataagcgac agtattgcat gatacagtgt gaaaaactcc ggtggtacaa 240
gatggacccg cgtctgatta gctagttagt aaggtaacgg cttaccaagg cgacgatcag 300
tagccgacct gagagggtga ccggccacat tgggactgag acacggccnn aactcctacg 360
ggaggcagca gtggggaata ttgcacaatg ggcgaaagcc tgatgcagcg acgccgcgtg 420
agtgaagaag tatttcggta tgtaaagctc tatcagcagg gaagaaaatg acggtacctg 480
actaagaagc cccggctaac tacgtgccag cagccgcggt aatacgtagg gggnnagcgt 540
tatccggatt tactgggtgt aaaggagcg tagacggtaa agcaagtctg aagtgaaagc 600
ccgcgnctca actgcggnnc tgctttggaa actgtttaac tggagtgtcg gagaggtaag 660
tggaattcct agtgtagcgg tgaaatgcgt agatattagg aggaacacna gtggcgaagg 720
cgacttactg gacgataact gacgttgagg ctcgaaagcg tggggagcaa acaggattag 780
ataccctggg agtccacgcc gtaaacgatg aatactaggt gttggggagc aaagctcttc 840

ggtgccgtcg caaacgcagt aagtattcca cctggggagt acgttcgcaa gaatgaaact	900
caaaggaatt gacggggacc ngcacaagcg gtggagcatg tggtttaatt cgaannaacg	960
cgaagaacct taccaggtct tgacatcgac tcgacggggg agtaacgtcc cnntnccttc	1020
ggggcggaga agacaggtgg tgcatggttg tcgtcagctc gtgtcgtgag atgttggtt	1080
nagtcgca acgagcgcaa cccttattct aagtagccag cggttcggcc gggaactctt	1140
gggagactgc cagggataac ctggaggaag gtggggatga cgtcnaatca tcatgccct	1200
tatgatctgg gctacacacg tgctacaatg gcgtaaacan agagaagcaa gaccgcgagg	1260
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aagctggaat cgctagtaat cgcgaaatcag aatgtcgcgg tgaatacgtt cccgggtctt	1380
gtacacaccg nncgtcacac catgggagtc agtaacgccc gaagtcagtg acccaaccgc	1440
aaggagggag ctgccgaagg cgggaccgan aacnnggg	1478

<210> 111
 <211> 1482
 <212> DNA
 <213> Clostridium viride

<220>
 <221> misc_feature
 <223> Clostridium viride 16S

NCBI Reference Sequence: NR_026204.1

<220>
 <221> misc_feature
 <222> (746)..(746)
 <223> n is a, c, g, or t

<400> 111	
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ttcggacaag ggaaagatgt gcttagtggc ggacgggtga gtaacgcgtg agtaacctgc	120
cttgagtggt ggaataacac atcgaaaggt gtgctaatac cgcgatgatgc aacgggatcg	180
catggttctg ttgccaaaga tttatcgctc tgagatggac tcgctgtctga ttagctagtt	240
ggtgaggtaa tggctcacca aggcgacgat cagtagccgg actgagaggt tgaccggcca	300

cattgggact gagacacggc ccagactcct acgggaggca gcagtgggga atattgggca	360
atgggcgcaa gcctgaccca gcaacgccgc gtgaaggaag aaggccctcg ggttgtaaac	420
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tgccagcagc cgcggtaata cgtaggtggc aagcgttatc cggatttact ggggtgtaaag	540
ggcgtgtagg cgggactgca agtcagatgt gaaattccag ggctcaactc tggacctgca	600
tttgaaactg tagttcttga gtgatggaga ggcaggcgga attccgagtg tagcggtgaa	660
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ctgaggcgcg aaagcgtggg gagcanacag gattagatac cctggtagtc cacgctgtaa	780
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caagcgggtg agtatgtggt ttaattcgaa gcaacgcgaa gaaccttacc agggcttgac	960
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cgcttaacag agggaggcaa taccgcgagg tggagcaaac ccctaaaagg cgtcccagtt	1260
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atgccgcggt gaatacgttc ccgggtcttg tacacaccgc ccgtcacacc atgagagtcg	1380
ggaacacccg aagtccgtag cctaacagca atgagggcgc ggccgaaggt gggttcgata	1440
attggggtga agtcgtaaca aggtagccgt atcgaaggt gc	1482

<210> 112
 <211> 1315
 <212> DNA
 <213> Coprococcus catus

<220>
 <221> misc_feature
 <223> Coprococcus catus 16S

NCBI Reference Sequence: NR_024750.1

<220>
<221> misc_feature
<222> (142)..(142)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (544)..(545)
<223> n is a, c, g, or t

<400> 112
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gcggacgggt gagtaacgcg tgggtaacct gcctcataca ggggaatagc agctggaaac 120
ggctgataaa accgcataag cncacagtgc cgcattggcac agtgtgaaaa actccggtgg 180
tatgagatgg acccgcgtct gattagcttg ttggcgggggt aacggcccac caaggcgacg 240
atcagtagcc ggcctgagag ggtgatcggc cacattggga ctgagacacg gcccaaactc 300
ctacgggagg cagcagtggg gaatattgca caatggggga aaccctgatg cagcgacgcc 360
gcgtgaagga agaagtatct cggatatgta acttctatca gcagggaaga taatgacggt 420
acctgactaa gaagccccgg ctaactacgt gccagcagcc gcggtaatac gtagggggca 480
agcgttatcc ggatttactg ggtgtaaagg gagcgtaggc ggcgagcaa gtcagaagtg 540
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ggtaagcggg attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg 660
cgaaggcggc ttactggact gacaatgacg ctgaggctcg aaagcgtggg gagcaaacag 720
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tgccccttac ggcctgggct acacacgtgc tacaatggcg taaacaaagg gaagcaagag 1200
ggtgacctgg agcgaatccc ataaataacg tcccagttcg gactgtagtc tgcaaccgga 1260

ctacacgaag ctggaatcgc tagtaatcgc gaatcagcat gtcgcggtga atacg 1315

<210> 113
<211> 1453
<212> DNA
<213> Coprococcus comes

<220>
<221> misc_feature
<223> Coprococcus comes 16S

NCBI Reference Sequence: NR_044048.1

<400> 113
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ttcggatgaa grggtttgtg actgagtggc ggacgggtga gtaacgcgtg ggtaacctgc 120
ctcatcacagg gggataacag ttagaaatga ctgctaatac cgcataagac cacrgagccg 180
catggctcgg tgggaaaaac tccggtggta tgagatggac ccgctgtctga ttaggtagtt 240
ggtaggggtaa cggcctacca agccaacgat cagtagccga cctgagaggg tgaccggcca 300
cattgggact gagacacggc ccaaactcct acgggaggca gcagtgggga atattgcaca 360
atgggggaaa ccctgatgca gcgacgccgc gtgagcgaag aagtatttcg gtatgtaaag 420
ctctatcagc aggggaagaaa atgacgggtac ctgactaaga agcaccggct aaatacgtgc 480
cagcagccgc ggtaatacgt atggtgcaag cgttatccgg atttactggg tgtaaaggga 540
gcgtagacgg ctgtgtaagt ctgaagtgaag agcccggggc tcaaccccgg gactgctttg 600
gaaactatgc agctagagtg tcggagaggt aagtggaatt cccagtgtag cggtgaaatg 660
cgtagatatt gggaggaaca ccagtggcga aggcggctta ctggacgatg actgacgttg 720
aggctcgaag gcgtggggag caaacaggat tagataccct ggtagtccac gccgtaaacg 780
atgactacta ggtgtcgggg agcaaagctc ttcggtgccg cagcaaacgc aataagtagt 840
ccacctgggg agtacgttcg caagaatgaa actcaaagga attgacgggg acccgcaaca 900
gcggtgggagc atgtggttta attcgaagca acgcgaagaa ccttacctgc tcttgacatc 960
ccggtgaccg gcgtgtaatg acgccttttc ttcggaacac cgggtgacagg tggtgcatgg 1020
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cttcagtagc cagcaattcg gatgggcact ctggagagac tgccagggat aacctggagg	1140
aaggtgggga tgacgtcaaa tcatcatgcc cttatgagc agggctacac acgtgctaca	1200
atggcgtaaa caaagggaag cgagcctgcg agggtaaagca aatctcaaaa ataacgtctc	1260
agttcggatt gtagtctgca actcgactac atgaagctgg aatcgctagt aatcgcgat	1320
cagcatgtcg cggtgaatac gttcccgggt cttgtacaca ccgcccgtca caccatggga	1380
gttggtaacg cccgaagtca gtgaccaac cgtaaggagg gagctgccga aggtgggacc	1440
gataactggg gtg	1453

<210> 114
 <211> 1440
 <212> DNA
 <213> Coprococcus eutactus

<220>
 <221> misc_feature
 <223> Coprococcus eutactus 16S

NCBI Reference Sequence: NR_044049.1

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atagcagttg gaaacgactg gtaaaaccgc ataagcgac rgtatcgcat gatacagtgt	180
gaaaacactc cggtggatat agatggacct gcgtctgatt agctagttgg tgaggtaacg	240
gcccaccaag gcgacgatca gtagccggcc tgagagggtg aacggccaca ttgggactga	300
gacacggccc aaactcctac gggaggcagc agtggggaat attgcacaat gggggaaacc	360
ctgatgcagc gacgccgct gagtgaagaa gtatttcggt atgtaaagct ctatcagcag	420
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taatacgtat ggtgcaagcg ttatccggat ttactgggtg taaagggtgc gtaggtggca	540
aggcaagtct gaagtgaaaa tccggggctc aaccccgga ctgctttgga aactgtttag	600
ctagagtaca ggagaggtaa gtggaattcc tagtgtagcg gtgaaatgcg tagatattag	660
gaggaacacc agtggcgaag gcgacttact ggactgctac tgacactgag gcacgaaagc	720

gtggggagca aacaggatta gataccctgg tagtccacgc cgtaaacgat gaatactagg	780
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tacgttcgca agaataaaac tcaaaggaat tgacggggac ccgcacaagc ggtggagcat	900
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cgtgtcgtga gatgttgggt taagtccgc aacgagcgca acccctattt ccagtagcca	1080
gcagtaagat gggcactctg gagagactgc cggggataac ccggaggaag gtggggatga	1140
cgtcaaatca tcatgcccct tatgatttgg gctacacacg tgctacaatg gcagttacaa	1200
agagaagcra acctgtgaag gcgagcaaac ctcaaaaagg ctgtctcagt tcggattgta	1260
gtctgcaact cgactacatg aagctggaat cgctagtaat cgcagatcag catgctgcgg	1320
tgaatacgtt cccgggtctt gtacacaccg cccgtcacac catgggagtc ggtaacgccc	1380
gaagtcagtg acccaaccgc aaggagggag ctgccgaagg caggatcgat aactggggtg	1440

<210> 115
 <211> 714
 <212> DNA
 <213> Coprococcus phoceensis

<220>
 <221> misc_feature
 <223> Coprococcus phoceensis 16S

NCBI Reference Sequence: NZ_FNWC01000006.1

<400> 115	
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actggtatta ccgaatatga agaggtaaata gaaaaacatt ttgtggatag cttgtcgata	180
acaaaggcga ttgacatgaa ttgtgtggat aacttaattg atattggaac gggagctggt	240
tttccgggaa ttccgttaaa gattgcattt cctcatctga aagtagtatt attggactca	300
ttaaataaaa gaattaaatt tttgaataca gtaattgagg aacttgaatt gattgacata	360
gaaacaattc acggaagagc agaagatttt gcaaaacagg gagagtatcg ggaacaattt	420
gatctttgtg tatcaagagc agtggcaaac ttatccacac tttctgagta ttgcatgcc	480

tatatccaca ctgatggaat gtttatcccc tacaagtctg gagaaattga ggaagaggtg	540
actgggggcaa agaaagcagt gcatgtgctt ggtggaaaaa ttgaggatgt ggtgaagttt	600
caacttccgg gaactgaaat tggtcgttct tttgtaaaga taaaaaaata tcaaaacaca	660
ccaaaaaaat atccgagaaa agcaggatta cctgcaaagg agccaatagc ataa	714

<210> 116
 <211> 1479
 <212> DNA
 <213> Dorea formicigenerans

<220>
 <221> misc_feature
 <223> Dorea formicigenerans (Eubacterium formicigenerans) 16S

NCBI Reference Sequence: NR_044645.2

<220>
 <221> misc_feature
 <222> (123)..(125)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (220)..(222)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (287)..(287)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (349)..(350)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (517)..(517)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (534)..(535)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (725)..(725)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (918)..(918)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (921)..(921)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (955)..(956)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1184)..(1185)

<223> n is a, c, g, or t

<400> 116

ttaaacgaga gtttgatcct ggctcaggat gaacgctggc ggcgtgctta acacatgcaa 60

gtcgagcgaa gcacataagt ttgattcttc ggatgaagac ttttgtgact gagcggcgga 120

cgnnngagta acgcgtgggt aacctgcctc atacagggggg ataacagyta gaaatggctg 180

ctaataccgc ataagaccac agtactgcat ggtacagtgn nnaaaactcc ggtggtatga 240

gatggacccg cgtctgatta ggtagttggt gaggtaacgg cccaccnagc cgacgatcag 300

tagccgacct gagaggggtga ccggccacat tgggactgag acacggccnn gactcctacg 360

ggaggcagca gtggggaata ttgcacaatg ggcgaaagcc tgatgcagcg acgccgcgtg 420

aaggatgaag tatttcggta tgtaaaacttc tatcagcagg gaagaaaatg acggtacctg 480

actaagaagc cccggctaac tacgtgccag cagccnggt aatacgtagg gggnnagcgt 540

tatccggatt tactgggtgt aaagggagcg tagacggctg tgcaagtctg aagtgaaagg 600

catgggctca acctgtggac tgctttggaa actgtgcagc tagagtgtcg gagaggtaag 660

tggaattcct agtgtagcgg tgaaatgcgt agatattagg aggaacacca gtggcgaagg 720

cggcntactg gacgatgact gacgttgagg ctcgaaagcg tggggagcaa acaggattag 780

ataccctgggt agtccacgcc gtaaacgatg actgctaggt gtcgggtagc aaagctattc 840

ggtgccgcag ctaacgcaat aagcagtcca cctggggagt acgttcgcaa gaatgaaact 900

caaaggaatt gacgggggcc ngcacaagcg gtggagcatg tggtttaatt cgaannaacg 960

cgaagaacct tacctgatct tgacatcccg atgaccgctt cgtaatggaa gytttttcttc	1020
ggaacatcgg tgacaggtgg tgcatggttg tcgtcagctc gtgtcgtgag atgttggggtt	1080
aagtcccgca acgagcgcaa cccttatctt cagtagccag catttaggat gggcactctg	1140
gagagactgc cagggataac ctggaggaag gtggggatga cgtinnaatca tcatgccctt	1200
tatgaccagg gctacacacg tgctacaatg gcgtaaacag agggaggcag agccgcgagg	1260
ccgagcaaat ctcaaaaata acgtctcagt tcggattgta gtctgcaact cgactacatg	1320
aagctggaat cgctagtaat cgagatcag aatgctgcgg tgaatacggtt cccgggtctt	1380
gtacacaccg cccgtcacac catgggagtc agtaacgcc gaagtcagt acccaaccga	1440
aaggagggag ctgccgaagg tgggaccgat aactgggggt	1479

<210> 117
 <211> 1316
 <212> DNA
 <213> Dorea longicatena

<220>
 <221> misc_feature
 <223> Dorea longicatena 16S

NCBI Reference Sequence: NR_028883.1

<400> 117	
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gcataagacc acgtaccgca tgggtacagt gtaaaaactc cgggtggtatg agatggaccc	120
gcgtctgatt aggtagttagg tggggtaacg gcctaccaag ccgacgatca gtagccgacc	180
tgagaggggtg accggccaca ttgggactga gacacggccc agactcctac gggaggcagc	240
agtgggggaat attgcacaat ggaggaaact ctgatgcagc gacgccgct gaaggatgaa	300
gtatttcggt atgtaaactt ctatcagcag ggaagaaaat gacgggtacct gactaagaag	360
ccccggctaa ctacgtgccg gcagccgcgg taatacgtag ggggcaagcg ttatccggat	420
ttactgggtg taaagggagc gtagacggca cggcaagcca gatgtgaaaa gcccggggct	480
caaccccgagg actgcatttg gaactgctga gctagagtgt cggagaggca agtggaattc	540
ctagtgtagc ggtgaaatgc gtagatatta ggaggaacac cagtggcgaa ggcggccttg	600

tggaacgatga ctgacgttga ggctcgaaag cgtgggggagc aaacaggatt agataccctg	660
gtagtccacg ccgtaaacga tgactgctag gtgtcgggtg gcaaagccat tcggtgccgc	720
agctaacgca ataagcagtc cacctgggga gtacgttcgc aagaatgaaa ctcaaaggaa	780
ttgacgggga cccgcacaag cgggtggagca tgtggtttta ttcgaagcaa cgcgaagaac	840
cttacctgat cttgacatcc cgatgaccgc ttcgtaatgg aagtttttct tcggaacatc	900
ggtgacaggt ggtgcatggt tgtcgtcagc tcgtgtcgtg agatgttggg ttaagtcccg	960
caacgagcgc aaccctatc ttcagtagcc agcagggtta gctgggcact ctggagagac	1020
tgccagggat aacctggagg aaggtgggga tgacgtcaaa tcatcatgcc ctttatgacc	1080
agggctacac acgtgctaca atggcgtaaa caaagagaag cgaactcgcg agggtaagca	1140
aatctcaaaa ataacgtctc agttcggatt gtagtctgca actcgactac atgaagctgg	1200
aatcgctagt aatcgcatg cagaatgctg cgggtgaatac gttcccgggt cttgtacaca	1260
ccgcccgtca caccatggga gtcataacgc ccgaagtcag tgaccaacc gtaagg	1316

<210> 118
 <211> 1390
 <212> DNA
 <213> Eisenbergiella tayi

<220>
 <221> misc_feature
 <223> Eisenbergiella tayi 16S

NCBI Reference Sequence: NR_118643.1

<400> 118	
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aaaaactccg gtggtacagg atggtcccg gtctgattag ccagttggca gggtaacggc	180
ctaccaaagc gacgatcagt agccggcctg agagggtgaa cggccacatt gggactgaga	240
cacggcccaa actcctacgg gaggcagcag tggggaatat tgcacaatgg gggaaaccct	300
gatgcagcga cgccgcgtga gtgaagaagt atttcggtat gtaaagctct atcagcaggg	360
aagaaaatga cggtagctga ctaagaagcc ccggctaact acgtgccagc agccgcggta	420

atacgtaggg ggcaagcgtt atccggatth actgggtgta aaggagcgt agacggcatg	480
gcaagccaga tgtgaaaacc cagggtcaa ccttgggatt gcatttgga ctgccaggct	540
ggagtgcagg agaggtaagc ggaattccta gtgtagcggg gaaatgcgta gatattagga	600
ggaacaccag tggcgaaggc ggcttactgg actgtaactg acgttgaggc tcgaaagcgt	660
ggggagcaaa caggattaga taccctggta gtccacgcgg taaacgatga ttgctagggtg	720
taggtgggta tggacccatc ggtgccgcag ctaacgcaat aagcaatcca cctggggagt	780
acgttcgcaa gaatgaaact caaaggaatt gacggggacc cgcacaagcg gtggagcatg	840
tggtttaatt cgaagcaacg cgaagaacct taccaagtct tgacatcca atgacgcacc	900
tgtaaagagg tgttcccttc ggggcattgg agacaggtgg tgcattggtg tcgtcagctc	960
gtgtcgtgag atgttggggtt aagtcgca acgagcgcaa cccttattct tagtagccag	1020
caggtaaagc tgggcactct aaggagactg ccggggataa cccggaggaa ggcggggatg	1080
acgtcaaac atcatgcccc ttatgatttg ggctacacac gtgctacaat ggcgtaaaca	1140
aagggaagcg agacagtgat gtggagcaaa tcycagaaat aacgtctcag ttcggattgt	1200
agtctgcaac tcgactacat gaagctggaa tcgctagtaa tcgcgaatca gcatgtcgcg	1260
gtgaatacgt tcccgggtct gtacacacc gccggtcaca ccatgggagt tggaaatgcc	1320
cgaagtctgt gacctaaccg aaaggaggga gcagccgaag gcaggtctga taactgggggt	1380
gaagtcgtaa	1390

<210> 119
 <211> 1395
 <212> DNA
 <213> Enterocloster aldenensis

<220>
 <221> misc_feature
 <223> Enterocloster aldenensis (Clostridium aldenense) 16S

NCBI Reference Sequence: NR_043680.1

<400> 119	
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ggataacagt tagaaatggc tgctaatacc gcataagcgc acagtaccgc atggtacggt	120
gtgaaaaacc cagggtggtgt gagatggatc cgcgtctgat tagccagttg gcggggtaac	180

ggcccaccaa agcgacgac agtagccgac ctgagagggt gaccggccac attgggactg	240
agacacggcc caaactccta cgggaggcag cagtggggaa tattgcacaa tgggcgcaag	300
cctgatgcag cgacgccgcg tgagtgaaga agtatctcgg tatgtaaagc tctatcagca	360
gggaagaaaa tgacggtacc tgactaagaa gccccggcta actacgtgcc agcagccgcg	420
gtaatacgta gggggcaagc gttatccgga tttactgggt gtaaaggag cgtagacggc	480
gacgcaagtc tggagtgaag gcccggggcc caaccccgagg actgctttgg aaactgtgtt	540
gctggagtgc aggagaggta agtggaattc ctagtgtagc ggtgaaatgc gtagatatta	600
ggaggaacac cagtggcgaa ggccggcttac tggactgtaa ctgacgttga ggctcgaaag	660
cgtgggggagc aaacaggatt agataccctg gtagtccacg ccgtaaacga tgaatgctag	720
gtgtcggggg gcaaagccct tcggtgccgc cgctaacgca ataagcattc cacctgggga	780
gtacgttcgc aagaatgaaa ctcaaaggaa ttgacgggga cccgcacaag cggtggagca	840
tgtggtttta ttcgaagcaa cgcaagaac cttaccaagt cttgacatcc ccctgaccgg	900
cacgtaacgg tgcccttcct tcgggacagg ggagacaggt ggtgcatggt tgctgctcagc	960
tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc aacccttatc cttagtagcc	1020
agcacgtcgt ggtgggcact ctagggagac tgccagggat aacctggagg aaggtgggga	1080
tgacgtcaaa tcatcatgcc ctttatgatt tgggctacac acgtgctaca atggcgtaaa	1140
caaaggagg cgaccctgcg aaggcaagca aatcccaaaa ataacgtccc agttcggact	1200
gtagtctgca acccgactac acgaagctgg aatcgctagt aatcgcggat cagaatgccg	1260
cggtgaatac gttcccgggt cttgtacaca ccgcccgtca caccatggga gtcagcaacg	1320
cccgaagtca gtgaccaac cttaacagga gggagctgcc gaaggcgggg caggtaactg	1380
gggtgaagtc gtaac	1395

<210> 120
 <211> 1468
 <212> DNA
 <213> Enterocloster asparagiformis

<220>
 <221> misc_feature
 <223> Enterocloster asparagiformis (Clostridium asparagiforme) 16S

NCBI Reference Sequence: NR_042200.1

<220>

<221> misc_feature

<222> (831)..(840)

<223> n is a, c, g, or t

<400> 120

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attctagatg actgagtggc ggacgggtga gtaacacgtg gataacctgc ctcacactgg	120
gggacaacag ttagaaatga ctgctaatac cgcataagcg cacagtaccg catggtacgg	180
tgtgaaaaac tccggtgggtg tgagatggat ccgcgtctga ttagccagtt ggcggggtaa	240
cggcccacca aagcgacgat cagtagccga cctgagaggg tgaccggcca cattgggact	300
gagacacggc ccaaactcct acgggaggca gcagtgggga atattgcaca atgggcgaaa	360
gcctgatgca gcgacgccgc gtgagtgaag aagtatttcg gtatgtaaag ctctatcagc	420
agggaagaaa atgacggtac ctgactaaga agccccggct aactacgtgc cagcagccgc	480
ggtaatacgt agggggcaag cgttatccgg atttactggg tgtaaaggga gcgtagacgg	540
catggcaagt ctgaagtga aacccagggc tcaaccctgg gactgctttg gaaactgtca	600
agctagagtg caggagaggt aagtggaatt cctagtgtag cggtgaaatg cgtagatatt	660
aggaggaaca ccagtggcga aggcggctta ctggactgta actgacgttg aggctcgaaa	720
gcgtggggag caaacaggat tagataccct ggtagtccac gccgtaaacg atgagtgcta	780
ggtgttgggg ggcaaagccc ttcggtgccg tcgcaaacgc aataagcatt nnnnnnnnn	840
agtacgttcg caagaatgaa actcaaagga attgacgggg acccgacaaa gcggtggagc	900
atgtggttta attcgaagca acgcgaagaa ccttaccaag tcttgacatc ctcttgaccg	960
gcgtgtaacg gcgccttccc ttcggggcaa gagagacagg tggatcatgg ttgtcgtcag	1020
ctcgtgtcgt gagatgttgg gttaagtccc gcaacgagcg caacccttat ccttagtagc	1080
cagcaggtag agctgggcac tctagggaga ctgccaggga taacctggag gaaggtgggg	1140
atgacgtcaa atcatcatgc cccttatgat ttgggctaca cacgtgctac aatggcgtaa	1200
acaaagggaa gcaaggcagt gatgtggagc aaatcccaaa aataacgtcc cagttcggac	1260
tgtagtctgc aaccgacta cacgaagctg gaatcgctag taatcgcgaa tcagaatgtc	1320
gcggtgaata cgttcccggg tcttgtacac accgcccgtc acaccatggg agtcagcaac	1380

gcccgaagtc agtgacccaa ctcgcaagag agggagctgc cgaaggcggg gcaggtaact	1440
ggggtgaagt cgtaacaagg taaccgta	1468

<210> 121
 <211> 1498
 <212> DNA
 <213> Enterocloster bolteae

<220>
 <221> misc_feature
 <223> Enterocloster bolteae (Clostridium bolteae) 16S

NCBI Reference Sequence: NR_025567.1

<400> 121	
agagtttgat cctggctcag gatgaacgct ggcggcgtgc ctaacacatg caagtcgaac	60
gaagcaatta aaatgaagtt ttcggatgga tttttaattg actgagtggc ggacgggtga	120
gtaacgcgtg gataacctgc ctcacactgg gggataacag ttagaaatga ctgctaatac	180
cgcataagcg cacagtgccg catggtacag tgtgaaaaac tccggtggtg tgagatggat	240
ccgcgtctga ttagccagtt ggcggggtaa cggcccacca aagcgacgat cagtagccga	300
cctgagaggg tgaccggcca cattgggact gagacacggc ccaaactcct acgggaggca	360
gcagtgggga atattgcaca atgggcgaaa gcctgatgca gcgacgccgc gtgagtgaag	420
aagtattttcg gtatgtaaag ctctatcagc aggggaagaaa atgacggtac ctgactaaga	480
agccccggct aactacgtgc cagcagccgc ggtaatacgt agggggcaag cgttatccgg	540
atttactggg tgtaaaggga gcgtagacgg cgaagcaagt ctgaagtga aaccagggc	600
tcaaccctgg gactgctttg gaaactgttt tgctagagtg tcggagaggt aagtggaatt	660
cctagtgtag cggtgaaatg cgtagatatt aggaggaaca ccagtggcga aggcggctta	720
ctggacgata actgacgttg aggctcgaaa gcgtggggag caaacaggat tagataccct	780
ggtagtcac gccgtaaacg atgaatgcta ggtgttgggg ggcaaagccc ttcggtgccg	840
tcgcaaacgc agtaagcatt ccgcctgggg agtacgttcg caagaatgaa actcaaagga	900
attgacgggg acccgcaaa gcggtggagc atgtggttta attcgaagca acgcgaagaa	960
ccttaccaag tcttgacatc ctcttgaccg gcgtgtaacg gcgccttccc ttcggggcaa	1020
gagagacagg tggatcatgg ttgtcgtcag ctcgtgtcgt gagatgttgg gttaagtccc	1080

gcaacgagcg caacccttat ccttagtagc cagcaggtag agctgggcac tctagggaga	1140
ctgccaggga taacctggag gaaggtgggg atgacgtcaa atcatcatgc cccttatgat	1200
ttgggctaca cacgtgctac aatggcgtaa acaaaggga gcaaggcagt gatgtggagc	1260
aaatcccaaa aataacgtcc cagttcggac tgtagtctgc aacccgacta cacgaagctg	1320
gaatcgctag taatcgcgaa tcagaatgtc gcggtgaata cgttcccggg tcttgtacac	1380
accgcccgtc acaccatggg agtcagcaac gcccgaaagtc agtgacccaa ctcgaagag	1440
agggagctgc cgaaggcggg gcaggttaact ggggtgaagt cgtaacaagg taaccgta	1498

<210> 122
 <211> 1420
 <212> DNA
 <213> Enterocloster citroniae

<220>
 <221> misc_feature
 <223> Enterocloster citroniae (Clostridium citroniae) 16S

NCBI Reference Sequence: NR_043681.1

<400> 122	
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gggtgactga gtggcggacg ggtgagtaac gcgtggataa cctgcctcac actgggggat	120
aacagttaga aatggctgct aataccgcat aagcgcacag taccgcatgg tacggtgtga	180
aaaactccgg tgggtgtgaga tggatccgcg tctgattagt tagttggcgg ggtaacggcc	240
caccaagaca gcgatcagta gccgacctga gagggtgacc ggccacattg ggactgagac	300
acggcccaaa ctctacggg aggcagcagt ggggaatatt gcacaatggg cgaaagcctg	360
atgcagcgac gccgcgtgag tgaagaagta tttcggatat taaagctcta tcagcaggga	420
agaaactgac ggtacctgac taagaagccc cggctaacta cgtgccagca gccgcggtaa	480
tacgtagggg gcaagcgta tccggattta ctgggtgtaa agggagcgta gacggcgaag	540
caagtctgga gtgaaaacc agggctcaac cctgggactg ctttggaac tgttttgcta	600
gagtgtcgga gaggtgaagt gaattcctag tgtagcgggtg aaatgcgtag atattaggag	660
gaacaccagt ggcgaaggcg gcttactgga cgataactga cgttgaggct cgaaagcgtg	720
gggagcaaac aggattagat accctggtag tccacgccgt aaacgatgaa tgctaggtgt	780

tggggggcaa agcccttcgg tgccgtcgca aacgcaataa gcattccacc tggggagtac	840
gttcgcaaga atgaaactca aaggaattga cggggacccg cacaagcggg ggagcatgtg	900
gtttaattcg aagcaacgcg aagaacctta ccaagtcttg acatccccct gaccggtcag	960
taaagtgacc tttccttcgg gacaggggag acaggtggtg catggttgtc gtcagctcgt	1020
gtcgtgagat gttgggttaa gtcccgcaac gagcgcaacc cttatcctta gtagccagca	1080
ggtaaagctg ggcactctag ggagactgcc agggataacc tggaggaagg tggggatgac	1140
gtcaaatcat catgccccctt atgatttggg ctacacacgt gctacaatgg cgtaaacaaa	1200
gggaagcgac cctgcgaagg caagcaaadc caaaaataa cgtcccagtt cggactgtag	1260
tctgcaaccc gactacacga agctggaatc gctagtaatc gcgaatcaga atgtcgcggg	1320
gaatacgttc ccgggtcttg tacacaccgc ccgtcacacc atgggagtca gcaacgccc	1380
aagtcagtga cccaaccgaa aggagggagc tgccgaaggc	1420

<210> 123
 <211> 1382
 <212> DNA
 <213> Enterocloster clostridioformis

<220>
 <221> misc_feature
 <223> Enterocloster clostridioformis (Clostridium clostridioforme) 16S
 NCBI Reference Sequence: NR_171498.1

<400> 123	
tgcaagtcca gcgagagaaa tcccttcggg gatggatcta gcggcggacg ggtgagtaac	60
acgtgggcaa cctgcctcaa agagggggat agcctcccga aaggagatt aataccgcat	120
aatgttgttt tactgcatag taaagcaacc aaaggagtaa tccactttga gatgggccc	180
cgccgcatta gttagtgtgt ggggtaacgg ctcaccaagg cgacgatgcg tagccgacct	240
gagagggtga tcggccacat tggaactgag agacgggtcca gactcctacg ggaggcagca	300
gtggggaata ttgcacaatg ggcggaagcc tgatgcagca acgccgcgtg ggtgatgaag	360
gttttcggat tgtaaagccc tgtcttttgg gacgataatg acggtaccaa aggaggaagc	420
cacggctaac tacgtgccag cagccgcggg aatacgtagg tggcgagcgt tgtccgatt	480
tactgggcgt aaagggtgag taggcggata tttaagtggg atgtgaaaac cccgggctta	540
acccggggac tgcatittcaa actggatatc tggagtgcag gagaggaaag cggaattcct	600

agtgtagcgg tgaaatgcgt agagattagg aagaacacca gtggcgaagg cggctttctg	660
gactgtaact gacgctgagg cacgaaagcg tgggtagcaa acaggattag ataccttggt	720
agtccacgcc gtaaacgatg agtactaggt gtaggaggta tcgacccctt ctgtgccgca	780
gtaaacgcaa taagtactcc gcctgggaag tacgatcgca agattaaaac tcaaaggaat	840
tgacgggggc ccgcacaagc agcggagcat gtggtttaat tcgaagcaac gcgaagaacc	900
ttacctagac ttgacatccc ctgaattacc tgtaattagg gaagccctcc ggggcaggga	960
gacaggtggt gcatggttgt cgtcagctcg tgtcgtgaga tgttaggtta agtcctgcaa	1020
cgagcgcaac ccctatcatt agttgctacc attaagttga gcactctagt gagactgccc	1080
gggtcaaccg ggaggaaggt ggggatgacg tcaaatcatc atgcccctta tgtctagggc	1140
tacacacgtg ctacaatggt gaatacagag agatgcaaac ccgcaagggt gagccaaact	1200
ttaaaattca cctcagttcg gattgcaggc tgaaaccgc ctgcatgaag ctggagttgc	1260
tagtaatcgc gaatcagaat gtcgcggtga atgcgttccc gggccttgta cacaccgccc	1320
gtcacaccat gagagttggc aacacccgaa gtccgtgggg taaccgtaag gaaccagcgg	1380
cc	1382

<210> 124
 <211> 1454
 <212> DNA
 <213> Enterocloster lavalensis

<220>
 <221> misc_feature
 <223> Enterocloster lavalensis (Clostridium lavalense) 16S

NCBI Reference Sequence: NR_044289.1

<400> 124	
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catggtacag tgtgaaaaac tccggtggtg tgagatggat ccgcgtctga ttagccagtt	240
ggcggggtaa cggcccacca aagcgacgat cagtagccga cctgagaggg tgaccggcca	300
cattgggact gagacacggc ccaaactcct acgggaggca gcagtgggga atattgcaca	360

atgggcgaaa gcctgatgca gcgacgccgc gtgagtgaag aagtatttcg gtatgtaaag	420
ctctatcagc aggggaagata atgacgggtac ctgactaaga agccccggct aactacgtgc	480
cagcagccgc ggtaatacgt aggggggcaag cgttatccgg atttactggg tgtaaaggga	540
gcgtagacgg catggcaagt ctgaagtga aaccagggc tcaaccctgg gactgctttg	600
gaaactgtca agctagagtg caggagaggt aagtggaatt cctagtgtag cggtgaaatg	660
cgtagatatt aggaggaaca ccagtggcga aggcggctta ctggactgta actgacgttg	720
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ccacctgggg agtacgttcg caagaatgaa actcaaagga attgacgggg acccgacaaa	900
gcggtggagc atgtgggtta attcgaagca acgcgaagaa ccttaccaag tcttgacatc	960
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gttcggactg tagtctgcaa cccgactaca cgaagctgga atcgctagta atcgcgaaatc	1320
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akgtaactgg ggtg	1454

<210> 125
 <211> 1453
 <212> DNA
 <213> Eubacterium siraeum

<220>
 <221> misc_feature
 <223> Eubacterium siraeum 16S

NCBI Reference Sequence: NR_118675.1

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<223> n is a, c, g, or t

<220>
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<222> (716)..(716)
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<222> (904)..(904)
<223> n is a, c, g, or t

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<223> n is a, c, g, or t

<220>
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<222> (938)..(939)
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<220>
<221> misc_feature
<222> (1150)..(1150)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1440)..(1440)
<223> n is a, c, g, or t

<400> 125
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atcgggatgg catcttcctg ataccaaaga ttttatcgct tagagatggg ctgcgctctg 240
attagatagt tggcggggta acggcccacc aagtcgacga tcagtagccg gactgagagg 300
ttgaacggcc acattgggac tgagacacgg cccagactcc tacgggaggc agcagtgggg 360
gatattggac aatgggggca accctgatcc agcgacgccg cgtgagggaa gaaggttttc 420

ggattgtaaa cctctgttga cggagaaaaa aatgatggta tccgtttaga aagccacggc	480
taactacgtg ccagcagccg cggtaatacg taggtggcna gcgttgtccg gaattactgg	540
gtgtaaaggg agtgtaggcg gnntatcaag tcagaagtga aaattacggg ctcaactcgt	600
aacctgcttt tgaaactgac attcttgagt gaagtagagg caagcggaat tcctagtgtgta	660
gcggtgaaat gcgtagatat taggaggaac accagtggcg aaggcggcctt gctggnccttt	720
tactgacgct gaggctcgaa agcgtgggga gcaaacagga ttagataccc tggtagtcca	780
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gccngcacia gcagtggagt atgtggttta attcncnna acgcgaagaa ccttaccagg	960
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acaatggcgt ttaacaaaga gaagcaaagc cgcgaggcag agcaaatttc caaaaaacgt	1260
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ggtcagcata ctacggtgaa tacgttcccg ggccttgtac acaccgcccg tcaaaccatg	1380
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gttgatgatt agg	1453

<210> 126
 <211> 1481
 <212> DNA
 <213> Eubacterium ventriosum

<220>
 <221> misc_feature
 <223> Eubacterium ventriosum 16S

NCBI Reference Sequence: NR_118670.1

<220>
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 <223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (535)..(537)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (608)..(608)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (920)..(920)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (924)..(924)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (958)..(959)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1136)..(1136)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1243)..(1243)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1394)..(1394)
<223> n is a, c, g, or t

<400> 126
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tgctaatacc gcataagcgc acagtaccgc atgggtacggt gtgaaaaact ccggtggtac 240
aagatggacc cgcgtctgat tagctgggtg gtgaggtaac ggcccaccaa ggcgacgac 300
agtagccgac ttgagagagt gatcggccac attgggactg agacacggcc nnaactccta 360

cgggaggcag cagtagggaa tattgcacaa tgggggaaac cctgatgcag cgacgccgcg	420
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gttatccgga tttactgggt gtaaaggag cgtaggcggc atggcaagtc agaagtgaaa	600
gcctgggnct caaccccgga attgcttttg aaactgtcag gctagagtgt cggaggggta	660
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ggcggcttac tggacgatta ctgacgctga ggctcgaaag cgtggggagc aaacaggatt	780
agataccctg gtagtccacg ccgtaaacga tgaatactag gtgtcggggg acaatagttc	840
ctcggtgccg aagcaaacgc attaatgtatt ccacctgggg agtacgttcg caagaatgaa	900
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ccttacgagc agggctacac acgtgctaca atggcgtaaa canagggaag cgaccccgctg	1260
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<210> 127
 <211> 1521
 <212> DNA
 <213> Faecalicatena contorta

<220>
 <221> misc_feature
 <223> Faecalicatena contorta (Eubacterium contortum) 16S

NCBI Reference Sequence: NR_104803.1

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gcgtgggtaa cctgcctcat acaggggggat aacagttaga aatgactgct aataccgcat	180
aagaccacgg taccgcatgg tacagtggga aaaactccgg tggatatgaga tggacccgcg	240
tctgattagc tagttggtaa ggtaacggct taccaaggcg acgatcagta gccgacctga	300
gagggtgacc ggccacattg ggactgagac acggcccaaa ctcttacggg aggcagcagt	360
ggggaatatt gcacaatggg ggaaaccctg atgcagcgac gccgcgtgaa ggatgaagta	420
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cggctaacta cgtgccagca gccgcggtaa tacgtagggg gcaagcgta tccggattta	540
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cgatgactga cgttgaggct cgaaagcgtg gggagcaaac aggattagat accctggtag	780
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aacgcaataa gtattccacc tggggagtac gttcgcaaga atgaaactca aaggaattga	900
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acaggtggtg catggttgct gtcagctcgt gtcgtgagat gttgggttaa gtcccgaac	1080
gagcgcaacc cttatcttta gtagccagcg gtttggccgg gcactctaga gagactgcca	1140
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cgtcacacca tgggagttgg taacgcccga agtcagtgac ccaaccgcaa ggaggagct	1440
gccgaaggtg ggaccgataa ctggggtgaa gtcgtaacaa ggtagccgta tcggaaggtg	1500
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<210> 128
 <211> 1522
 <212> DNA

<213> Faecalicatena fissicatena

<220>

<221> misc_feature

<223> Faecalicatena fissicatena (Eubacterium fissicatena) 16S

NCBI Reference Sequence: NR_104800.1

<400> 128

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aacgcgtggg taacctgcct catacagggg gataacagtt agaaatgact gctaataccg	180
cataagacca cagtaccgca tggtagctg ggaaaaactc cggtaggtatg agatggaccc	240
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<210> 129
 <211> 1482
 <212> DNA
 <213> Faecalicatena orotica

<220>
 <221> misc_feature
 <223> Faecalicatena orotica (Clostridium oroticum) 16S

NCBI Reference Sequence: NR_118729.2

<220>
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 <223> n is a, c, g, or t

<220>
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 <222> (604)..(609)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (832)..(832)
 <223> n is a, c, g, or t

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gcgttatccg gatttactgg gtgtaaaggg agcgtagacg gtaatgcaag tctgatgtga	600
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tcttgtagac accgcccgtc acaccatggg agttggtaac gcccgaagtc agtgacccaa	1440
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<210> 130
 <211> 1550
 <212> DNA
 <213> Flavonifractor plautii

<400> 130	
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gtgggttcga taattggggg gaagtcgtaa caaggtagcc gtatcggaag gtgcggctgg	1500
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<210> 131
 <211> 1409
 <212> DNA
 <213> Hungatella effluvia

<220>
 <221> misc_feature
 <223> Hungatella effluvia 16S

NCBI Reference Sequence: NR_133762.1

<400> 131

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gatcagtagc cgacctgaga gggtgaccgg ccacattggg actgagacac ggcccaaact	300
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gaaagcccgg ggctcaacct cgggtactgct ttggaaactg tttgacttga gtgcaggaga	600
ggtaagtgga attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg	660
cgaaggcggc ttactggact gtaactgacg ttgaggctcg aaagcgtggg gagcaaacag	720
gattagatac cctggtagtc cacgccgtaa acgatgaata ctaggtgtcg ggggacaaag	780
tccttcgggtg ccgccgctaa cgcaataagt attccacctg gggagtacgt tcgcaagaat	840
gaaactcaaa ggaattgacg gggacccgca caagcgggtg agcatgtggt ttaattcgaa	900
gcaacgcgaa gaaccttacc aagtcttgac atcccattga aaatcattta accggtatcc	960
ctcttcggag caatggagac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt	1020
tgggttaagt cccgcaacga gcgcaaccct tatccttagt agccagcaca taatggtggg	1080
cactctgggg agactgccag ggataacctg gaggaagggtg gggatgacgt caaatcatca	1140
tgcccccttat gatttgggct acacacgtgc tacaatggcg taaacaaagg gaagcaaagg	1200
agcgatctgg agcaaaccac aaaaataacg tctcagttcg gattgcaggc tgcaactcgc	1260
ctgcatgaag ctggaatcgc tagtaatcgc gaatcagaat gtcgcggtga atacgttccc	1320
gggtcttgta cacaccgccc gtcacaccat gggagttggt aacgcccga gtcagtgacc	1380
caaccgcaag gagggagctg ccgaaggcg	1409

<210> 132

<211> 1431

<212> DNA

<213> Hungatella hathewayi

<220>
<221> misc_feature
<223> Hungatella hathewayi (Clostridium hathewayi) 16S

NCBI Reference Sequence: NR_036928.1

<220>
<221> misc_feature
<222> (191)..(191)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (211)..(211)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (248)..(248)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (979)..(979)
<223> n is a, c, g, or t

<400> 132
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cctgccttac actgggggat aacagttaga aatgactgct aataccgcat aagcgcacag 180
ggccgcatgg nctgggtgtga aaaactccgg nggtgtaaga tggacccgcg tctgattagg 240
tagttgngg ggtaacggcc caccaagccg acgatcagta gccgacctga gagggtgacc 300
ggccacattg ggactgagac acggcccaa ctcctacggg aggcagcagt ggggaatatt 360
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taaagctcta tcagcaggga agaaaatgac ggtacctgac taagaagccc cggctaacta 480
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ctttggaaac tgttagactt gtagtcagga gaggtaagtga gaattcctag tgtagcggtg 660
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aaacgatgaa tactaggtgt cggggggcaa agcccttcgg tgccgccgca aacgcaataa	840
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cacaagcggg ggagcatgtg gtttaattcg aagcaacgcg aagaacctta ccaagtcttg	960
acatcccact gaaaacacnt taaccgtgat ccctcttcgg agcagtggag acaggtggtg	1020
catggttgtc gtcagctcgt gtcgtgagat gttgggttaa gtcccgcaac gagcgcaacc	1080
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gctacaatgg cgtaaacaaa gggaggcaaa ggagcgatct ggagcaaacc caaaaataa	1260
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gcgaatcaga atgtcgcggg gaatacgttc ccgggtcttg tacacaccgc ccgtcacacc	1380
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<210> 133
 <211> 1480
 <212> DNA
 <213> Hungatella xylanolytica

<220>
 <221> misc_feature
 <223> Hungatella xylanolytica (Bacteroides xylanolyticus) 16S

NCBI Reference Sequence: NR_104899.1

<400> 133	
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ctcatcacagg gggataacag ttagaaatga ctgctaatac cgcataagcg cacagtgcc	180
catggcacag tgtgaaaaac tccgggtgta tgagatggac ccgcgtctga ttaggtagtt	240
ggtgaggtaa tggctcacca agccgacgat cagtagccga cctgagaggg tgaccggcca	300
cattgggact gagacacggc ccaaactcct acgggaggca gcagtgggga atattggaca	360
atgggggaaa ccctgatcca gcgacgccgc gtgagtgaag aagtgtttcg gcatgtaaag	420
ctctatcagc aggaagaaa atgacggtac ctgactaaga agccccggct aactacgtgc	480
cagcagccgc ggtaatacgt agggggcaag cgttatccgg atttactggg tgtaaaggga	540

gcgtagacgg ttctgcaagt ctggagtgaag agcccggggc tcaaccccgg gactgctttg	600
gaaactgtgg aactagagtg caggagaggt aagtgggaatt cctagtgtag cggtgaaatg	660
cgtagatatt aggaggaaca ccagtggcga aggcggctta ctggactgta actgacgttg	720
aggctcgaag gcgtggggag caaacaggat tagataccct ggtagtccac gccgtaaacg	780
atgaatacta ggtgttgggg agcaaagctc ttcggtgccg ccgctaacgc aataagtatt	840
ccacctgggg agtacgttcg caagaatgaa actcaaagga attgacgggg acccgacaaa	900
gcggtggagc atgtggttta attcgaagca acgcgaagaa cttaccaag tcttgacatc	960
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ccttagtagc cagcagttcg gctgggcact ctggggagac tgccagggat aacctggagg	1140
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cagaatgctg cggtgaatac gttcccgggt cttgtacaca ccgcccgtca caccatggga	1380
gttggtaacg cccgaagtca gtgaccaaac cgaaaggagg gagctgccga aggcgggact	1440
gataactggg gtgaagtcgt aacaaggtag ccgtatcgga	1480

<210> 134
 <211> 1860
 <212> DNA
 <213> *Lachnospira eligens*

<220>
 <221> misc_feature
 <223> *Lachnospira eligens* (*Eubacterium eligens*) 16S

NCBI Reference Sequence: NR_074613.1

<400> 134	
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tgagtaacgc gtgggtaacc tgccttgtac tgggggatag cagctggaaa cggctggtaa	180
taccgcataa gcgcacaatg ttgcatgaca tgggtgtgaaa aactccggtg gtataagatg	240

gacccgcgtc tgattagcta gttggtgaga taacagccca ccaaggcgac gatcagtagc	300
cgacctgaga gggtgaccgg ccacattggg actgagacac ggcccagact cctacgggag	360
gcagcagtgg ggaatattgc acaatggagg aaactctgat gcagcgacgc cgcgtgagtg	420
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agaagctccg gctaaatacg tgccagcagc cgcggtaata cgtatggagc aagcgttatc	540
cggatttact ggggtgtaaag ggagtgtagg tggccatgca agtcagaagt gaaaatccgg	600
ggctcaaccc cggaactgct ttgaaactg taaggctgga gtgcaggagg ggtgagtgga	660
attcctagtg tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaaggcggc	720
tcactggact gtaactgaca ctgaggctcg aaagcgtggg gagcaaacag gattagatac	780
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gccgcagcaa acgcaataag tattccacct ggggagtagc ttcgcaagaa tgaaactcaa	900
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acaagagaga cagggtggtgc atggttgtcg tcagctcgtg tcgtgagatg ttgggttaag	1080
tcccgaacg agcgcaaccc ctatccttag tagccagcag taagatgggc actctaggga	1140
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aaggcgcggc tggatcacct aagggtgggga tgacgtcaaa tcatcatgcc ctttatgatt	1560
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aatctcaaaa ataacgtctc agttcggatt gtagtctgca actcgactac atgaagctgg	1680
aatcgctagt aatcgcatg cagaatgctg cggtgaatac gttcccgggt cttgtacaca	1740
ccgcccgtca caccatggga gttggtaacg cccgaagtca gtgaccaaac cgyaaggagg	1800
gagctgccga aggcgggact gataactggg gtgaagtcgt aacaaggtag ccgtatcgga	1860

<210> 135
<211> 1518
<212> DNA
<213> *Lachnospira multipara*

<220>
<221> misc_feature
<223> *Lachnospira multipara* 16S

NCBI Reference Sequence: NR_104758.1

<400> 135
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acgcgtgggt aacctgcctt atacaggggg atagcagctg gaaacggctg ataataccgc 180
ataagcgcac ggcatcgcat gatgcagtgt gaaaaactcc ggtggtataa gatggacccg 240
cgtctgatta gctagttggt gaggtaacgg cccaccaagg caacgatcag tagccgacct 300
gagaggggtga ccggccacat tgggactgag acacggccca gactcctacg ggaggcagca 360
gtggggaata ttgcacaatg gaggaaactc tgatgcagcg acgccgcgtg agcgaagaag 420
tatttcggta tgtaaagctc tatcagcagg gaagataatg acggtacctg actaagaagc 480
tccggctaaa tacgtgccag cagccgcggt aatacgtatg gagcaagcgt tatccgatt 540
tactgggtgt aaaggagtg taggtggcaa agcaagtcag tagtgaaaat ccggggctca 600
acctcggaac tgctattgaa actgttttagc tagagtgcag gagaggtaag tggaattcct 660
agtgtagcgg tgaaatgcgt agatattagg aggaacacca gtggcgaagg cggcttactg 720
gactgtaact gacactgagg ctcgaaagcg tggggagcaa acaggattag ataccctggt 780
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aacgagcgca acccctatct ctagtagcca gcagttcggc tgggcactct agagagactg 1140
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ggctacacac gtgctacaat ggcgtaaaca aagtgaagcg agagtgtgag ctttaagcaaa	1260
tcacaaaaaat aacgtctcag ttcggattgt agtctgcaac tcgactacat gaagctggaa	1320
tcgctagtaa tcgcagatca gaatgctgcg gtgaatacgt tcccgggtct tgtacacacc	1380
gcccgtcaca ccatgggagt cgaaaatgcc cgaagtcggt gacctaacgt aagaaggagc	1440
cgccgaaggc aggtttgata actgggggtga agtcgtaaca aggtagccgt atcggaaggt	1500
gcggctggat cacctcct	1518

<210> 136
 <211> 1465
 <212> DNA
 <213> *Lachnospira pectinoschiza*

<220>
 <221> misc_feature
 <223> *Lachnospira pectinoschiza* 16S

NCBI Reference Sequence: NR_118667.1

<220>
 <221> misc_feature
 <222> (28)..(28)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (72)..(73)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (79)..(79)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (85)..(85)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (101)..(102)
 <223> n is a, c, g, or t

<220>
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 <222> (108)..(108)
 <223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (203)..(203)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (350)..(350)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (432)..(432)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (516)..(516)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (535)..(535)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (617)..(618)
<223> n is a, c, g, or t

<220>
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<222> (642)..(642)
<223> n is a, c, g, or t

<220>
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<222> (682)..(682)
<223> n is a, c, g, or t

<220>
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<222> (1201)..(1201)
<223> n is a, c, g, or t

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<222> (1203)..(1203)
<223> n is a, c, g, or t

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<222> (1264)..(1264)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1376)..(1377)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1391)..(1391)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1394)..(1394)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1398)..(1398)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1401)..(1401)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1432)..(1432)

<223> n is a, c, g, or t

<220>

<221> misc_feature

<222> (1453)..(1453)

<223> n is a, c, g, or t

<400> 136

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gaacgaagca tnnaagacnr gattnyttcg gratgaagtc nnttatgnct gagtggcgga 120

cgggtgagta acgcgtgggt aacctgcctc acacaggggg atagcagttg gaaacggctg 180

ataataccgc ataagcgac agnaccgcat ggtacagtgt gaaaaactcc ggtggtgtga 240

gatggacccg cgtctgatta gctggttggc agggtaacgg cctaccaagg caacgatcag 300

tagccgacct gagagggtga ccggccacat tgggactgag acacggcccn gactcctacg 360

ggaggcagca gtggggaata ttgcacaatg gaggaaactc tgatgcagcg acgccgcgtg 420

agtgaagaag tnattcgta tgtaaagctc tatcagcagg gaagatagtg acggtacctg 480

actaagaagc tccggctaaa tacgtgccag cagccncggt aatacgtatg gagcnagcgt	540
tatccggatt tactgggtgt aaagggagt taggtggcat cacaagtcag aagtgaaagc	600
ccggggctca accccggnac tgcttttgaa actgtggagc tngagtgcag gagaggcaag	660
tggaattcct agtgtagcgg tnaaatgcgt agatattagg aggaacacca gtggcgaagg	720
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tcaaaggaat tgacggggac ccgcacragc ggtggagcat gtggtttaat tcgaagcaac	960
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ntnatgactt gggctacaca cgtgctacaa tggcgtaaac aaagtgaagc gagagtgtga	1260
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tgaagctgga atcgctagta atcgcgatc agaatgtcgc ggtgaatacg ttcccnngtc	1380
ttgtacacac ngcncgtnac nccatgggag tcggaaatgc ccgaagtcgg tnacctaacg	1440
aaagaaggag ccnccgaagg caggt	1465

<210> 137
 <211> 1470
 <212> DNA
 <213> *Lacrimispora aerotolerans*

<220>
 <221> misc_feature
 <223> *Lacrimispora aerotolerans* (*Clostridium aerotolerans*) 16S

NCBI Reference Sequence: NR_119068.1

<220>
 <221> misc_feature
 <222> (1082)..(1083)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature

<222> (1085)..(1089)

<223> n is a, c, g, or t

<400> 137

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ataacagtta gaaatgactg ctaataccgc ataagcgac agtgctgcat agcacagtgt	180
gaaaaactcc ggtgggtatga gatggacccg cgtctgatta ggtagttggt gaggtaacgg	240
cccaccaagc cgacgatcag tagccgacct gagagggtga ccggccacat tgggactgag	300
acacggccca aactcctacg ggaggcagca gtggggaata ttggacaatg ggggaaaccc	360
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gaagaaaatg acggtacctg actaagaagc cccggctaac tacgtgccag cagccgcggt	480
aatacgtagg gggcaagcgt tatccggatt tactgggtgt aaaggagcg tagacggctc	540
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anntnnnnnt gggcactctg gggagactgc cagggataac ctggaggaag gtggggatga	1140
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<210> 138
<211> 1502
<212> DNA
<213> *Lacrimispora algidixylanolytica*

<220>
<221> misc_feature
<223> *Lacrimispora algidixylanolytica* (*Clostridium algidixylanolyticum*)
16S

NCBI Reference Sequence: NR_028726.1

<400> 138
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gtaacgcgtg ggtaacctgc ctcatacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagcg cacagtgtg catagcacag tgtgaaaaac tccggtggta tgagatggac 240
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gcagtgggga atattggaca atgggggaaa ccctgatcca gcgacgccgc gtgactgaag 420
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tcaaccccg gactgctttg gaaactgtgg agctagagtg caggagaggt aagtggaatt 660
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tctagacagg tggtgcatgg ttgtcgtcag ctcgtgtcgt gagatgttgg gttaagtccc 1080
gcaacgagcg caacccttat ccttagtagc cagcagttcg gctgggcact ctggggagac 1140

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ccgcccgtca caccatggga gttggtaacg cccgaagtca gtgaccaaac cgtaaggagg	1440
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ga	1502

<210> 139
 <211> 1485
 <212> DNA
 <213> *Lacrimispora amygdalina*

<220>
 <221> misc_feature
 <223> *Lacrimispora amygdalina* (*Clostridium amygdalinum*) 16S

NCBI Reference Sequence: NR_115211.1

<400> 139	
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cctgcctcat acagggggat aacagttgga aacgactgct aataccgcat aagcgcacag	180
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ggccacattg ggactgagac acggcccaaa ctctacggg aggcagcagt ggggaatatt	360
ggacaatggg ggaaaccctg atccagcgac gccgcgtgac tgaagaagta tttcggtatg	420
taaaggctta tcagcagga agaaaatgac ggtacctgac taagaagccc cggctaacta	480
cgtgccagca gccgcggtaa tacgtagggg gcaagcgtaa tccggattta ctgggtgtaa	540
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ctttggaaac tgtgttgcta gtagtcagga gaggtaagtg gaattcctag tgtagcgggtg	660
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gtattccacc tggggagtagc gttcgcaaga atgaaactca aaggaattga cggggacccg	900
cacaagcggg ggagcatgtg gtttaattcg aagcaacgcg aagaacctta ccaagtcttg	960
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catggttgtc gtcagctcgt gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc	1080
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cggatcagaa tgccgcgggtg aatacgttcc cgggtcttgt acacaccgcc cgtcacacca	1380
tgggagttgg taacgcccga agtcagtgac ccaaccgtaa ggaggagct gccgaaggcg	1440
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<210> 140
 <211> 1499
 <212> DNA
 <213> *Lacrimispora celerecrescens*

<220>
 <221> misc_feature
 <223> *Lacrimispora celerecrescens* (*Clostridium celerecrescens*) 16S

NCBI Reference Sequence: NR_026100.1

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (48)..(48)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1118)..(1118)
 <223> n is a, c, g, or t

<400> 140

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acaggggggat aacagttgga aacgactgct aataccgcat aagcacacag tgccgcatgg	180
tacggtgtga aaaactccgg tggtatgaga tggacccgcg tctgattagg tagttggtga	240
ggtaacggcc caccaagccg acgatcagta gccgacctga gagggtgacc ggccacattg	300
ggactgagac acggcccaaa ctctacggg aggcagcagt ggggaatatt ggacaatggg	360
ggaaaccctg atccagcgac gccgcgtgag tgaagaagta tttcggtatg taaagctcta	420
tcagcaggga agaaaatgac ggtacctgac taagaagccc cggctaacta cgtgccagca	480
gccgcggtaa tacgtagggg gcaagcgtta tccggattta ctgggtgtaa agggagcgt	540
gacggcactg caagtctgga gtgaaagccc ggggctcaac cccgggactg ctttgaaac	600
tgtggtgcta gagtgcagga gaggtaagtg gaattcctag tgtagcggtg aaatgcgtag	660
atattaggag gaacaccagt ggcgaggcg gcttactgga ctgtaactga cgttgaggct	720
cgaagcgtg gggagcaaac aggattagat accctggtag tccacgccgt aaacgatgaa	780
tactaggtgt tggggagcaa agctcttcgg tgccgccgct aacgcaataa gtattccacc	840
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gtcagctcgt gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc cttatcctta	1080
gtagccagca ggtcaagctg ggcactctgg ggagactncc agggataacc tggaggaagg	1140
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cgtaaacaaa gggaggcaaa ggagcgatct ggagcaaacc ccaaaaataa cgtctcagtt	1260
cggattgtag tctgcaactc gactacatga agctggaatc gctagtaatc gcggatcaga	1320
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gtaacgcccg aagtcagtga cccacccgta aggagggagc tgccgaaggc gggactgata	1440
actggggtga agtcgtaaca aggtagccgt atcggaaggt gcggctggat cacctcctt	1499

<210> 141
 <211> 1488
 <212> DNA

<213> *Lacrimispora indolis*

<220>

<221> misc_feature

<223> *Lacrimispora indolis* (*Clostridium indolis*) 16S

NCBI Reference Sequence: NR_026493.1

<400> 141

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ggtaacctgc ctcatcagg gggataacag ttggaaacga ctgctaatac cgcataagca	180
cacagtgccg catggtacgg tgtgaaaaac tccggtggta tgagatggac ccgcgtctga	240
ttaggtagtt ggtgaggtaa cggcccacca agccgacgat cagtagccga cctgagaggg	300
tgaccggcca cattgggact gagacacggc ccaaactcct acgggaggca gcagtgggga	360
atattggaca atgggggaaa ccctgatcca gcgacgccgc gtgagtgaag aagtgtttcg	420
gcatgtaaag ctctatcagc agggaagaaa atgacggtac ctgactaaga agccccggct	480
aactacgtgc cagcagccgc ggtaatacgt agggggcaag cgttatccgg atttactggg	540
tgtaaaggga gcgtagacgg cgatgcaagt ctggagtgaag agcccggggc tcaaccccgg	600
gactgctttg gaaactgtgt tgctggagtg caggagaggt aagtggaatt cctagtgtag	660
cggtgaaatg cgtagatatt aggaggaaca ccagtggcga aggcggctta ctggactgta	720
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gccgtaaacg atgaatacta ggtgttgggg agcaaagctc ttcggtgccg ccgctaacgc	840
aataagtatt ccacctgggg agtacgttcg caagaatgaa actcaaagga attgacgggg	900
acccgcacaa gcggtggagc atgtggttta attcgaagca acgcgaagaa ccttaccaag	960
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aataacgtct cacttcggat ttagtctgc aactcgacta catgaagctg gaatcgctag	1320

taatcgcgga tcagaatgcc gcggtgaata cgttcccggg tcttgtacac accgcccgtc	1380
acaccatggg agttggtaac gcccgaagtc agtgacccaa ccgcaaggag ggagctgccg	1440
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<210> 142
 <211> 1499
 <212> DNA
 <213> *Lacrimispora saccharolytica*

<220>
 <221> misc_feature
 <223> *Lacrimispora saccharolytica* (*Clostridium saccharolyticum*) 16S

NCBI Reference Sequence: NR_026494.1

<400> 142	
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taacctgcct catacagggg gataacagtt ggaaacggct gctaataccg cataagcgca	180
cagtgtgca tggcacagtg tgaaaaactc cggtggtatg agatggacc gcgtctgatt	240
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accggccaca ttgggactga gacacggccc aaactcctac gggaggcagc agtggggaat	360
attggacaat gggggaaacc ctgatccagc gacgccgct gagtgaagaa gtatttcggt	420
atgtaaagct ctatcagcag ggaagaaaat gacggtacct gactaagaag ccccgctaa	480
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taaagggagc gtagacggca ctgcaagtct ggagtgaaag cccggggctc aacccggga	600
ctgctttgga aactgtggtg ctggagtgc ggagaggtaa gtggaattcc tagttagcg	660
gtgaaatgcg tagatattag gaggaacacc agtggcgaag gcggcttact ggactgtaac	720
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cgtaaacgat gaatactagg tgttggggag caaagctctt cggtgccgcc gctaacgcaa	840
taagtattcc acctggggag tacgttcgca agaataaac tcaaaggaat tgacggggac	900
ccgcacaagc ggtggagcat gtggtttaat tcgaagcaac gcgaagaacc ttaccaagtc	960
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ccatgggagt tggtaacgcc cgaagtcagt gacccaaccg taaggaggga gctgccgaag	1440
gcgggactga taactgggggt gaagtcgtaa caaggtagcc gtatcggaag gtgcggctg	1499

<210> 143
 <211> 1495
 <212> DNA
 <213> *Lacrimispora sphenoides*

<220>
 <221> misc_feature
 <223> *Lacrimispora sphenoides* (*Bacillus sphenoides*) 16S

NCBI Reference Sequence: NR_026409.1

<400> 143	
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gtgggtaacc tgcctcatac aggggggataa cagtcggaaa cgactgctaa taccgcataa	180
gcacacagtg ccgcatggta cgggtgtgaaa aactccggtg gtatgagatg gacccgcgtc	240
tgattaggta gttggtgagg taacggccca ccaagccgac gatcagtagc cgacctgaga	300
gggtgaccgg ccacattggg actgagacac ggcccaaact cctacgggag gcagcagtgg	360
ggaatatagg acaatggggg aaaccctgat ccagcgacgc cgctgagtg aagaagtatt	420
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gggtgtaaag ggagcgtaga cggcactgca agtctggagt gaaagcccgg ggctcaaccc	600
cgggactgct ttggaaactg tgggtgctaga gtgcaggaga ggtaagtgga attcctagtg	660
tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaaggcggc ttactggact	720

gtaactgacg ttgaggctcg aaagcgtggg gagcaaacag gattagatac cctggtagtc	780
cacgccgtaa acgatgaata ctaggtgttg gggagcaaag ctcttcggtg ccgccgctaa	840
cgcaataagt attccacctg gggagtacgt tcgcaagaat gaaactcaaa ggaattgacg	900
gggacccgca caagcgggtg agcatgtggt ttaattcgaa gcaacgcgaa gaaccttacc	960
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gtcacaccat gggagttggt aacgcccga gtcagtgacc caaccgtaag gagggagctg	1440
ccgaaggcgg gactgataac tgggggtgaag tcgtaacaag gtagccgtat cggaa	1495

<210> 144
 <211> 1441
 <212> DNA
 <213> *Lacrimispora xylanolytica*

<220>
 <221> misc_feature
 <223> *Lacrimispora xylanolytica* (*Clostridium xylanolyticum*) 16S

NCBI Reference Sequence: NR_037068.1

<220>
 <221> misc_feature
 <222> (830)..(830)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1001)..(1001)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1386)..(1386)
 <223> n is a, c, g, or t

<400> 144
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gtgggtaacc tgcctcatac aggggggataa cagttagaaa tgactgctaa taccgcataa 180
gcgcacagtg ctgcatagta cagtgtgaaa aactccggtg gtatgagatg gacccgcgtc 240
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gggtgaccgg ccacattggg actgagacac ggcccaaact cctacgggag gcagcagtgg 360
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tcggtatgta aagctctatc agcaggggaag aaaatgacgg tacctgacta agaagccccg 480
gctaactacg tgccagcagc cgcggttaata cgtagggggc aagcgttatc cggatttact 540
gggtgtaaag ggagcgtaga cggctctgca agtctggagt gaaagcccgg ggctcaaccc 600
cgggactgct ttggaaactg tggagctaga gtgcaggaga ggtaagtgga attcctagtg 660
tagcggtgaa atgcgtagat attaggagga acaccagtgg cgaaggcggc ttactggact 720
gtaactgacg ttgaggctcg aaagcggtgg gagcaaacag gattagatac cctggtagtc 780
cacgccgtaa acgatgaata ctaggtgttg gggagcaaag ctcttcggtn ccgccgctaa 840
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gtcacnccat gggagttagt aacgcccga gtcagtgacc caaccgtaag gagggagctg 1440
c 1441

<210> 145
<211> 1438

<212> DNA
<213> Lactonifactor longoviformis

<220>
<221> misc_feature
<223> Lactonifactor longoviformis 16S

NCBI Reference Sequence: NR_043551.1

<400> 145
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aagcatatag agacgagtat ttcggtatga gtaactatat gactgagtgg cggacgggtg 120
agtaacgcgt ggataacctg cctcatacag ggggataaca gttagaaatg actgctaata 180
ccgcataagc gcacagtgct gcatggcaca gtgtgaaaag ctccggcgggt atgagatgga 240
tccgcgtttg attagctagt tgggtggggta aaggcctacc aaggcgacga tcaatagccg 300
acctgagagg gtgaccggcc acattgggac tgagacacgg cccaaactcc tacgggaggc 360
agcagtgggg aatattgcac aatgggggaa accctgatgc agcgacgccg cgtgaaggaa 420
gaagtatttc ggtatgtaaa cttctatcag cagggaagaa aatgacggta cctgactaag 480
aagccccggc taattacgtg ccagcagccg cggtaatagc taaggggcaa gcgttatccg 540
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caaatcccaa aaataacgtc tcagttcgga ttgtagtctg caactcgact acatgaagct 1320

ggaatcgcta gtaatcgcg atcagaatgt cgcggtgaat acgttcccgg gtctttgtaca	1380
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<210> 146
 <211> 1456
 <212> DNA
 <213> Marvinbryantia formatexigens

<220>
 <221> misc_feature
 <223> Marvinbryantia formatexigens (Bryantella formatexigen) 16S

NCBI Reference Sequence: NR_114807.1

<400> 146	
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ggggataaca gccagaaatg gctgctaata ccgcataagc gcacggtacc gcatggtaca	180
gtgtgaaaaa ctccggtggt ataagatggg tccgcgttgg attaggcagt tggcggggta	240
aaggcccacc aaaccgacga tccatagccg gcctgagagg gtggacggcc acattgggac	300
tgagacacgg cccagactcc tacgggaggc agcagtgggg aatattgcac aatgggggaa	360
accctgatgc agcgacgccg cgtgggtgaa gaagtatttc ggtatgtaaa gccctatcag	420
cagggaagaa aatgacggta cctgaccaag aagccccggc taactacgtg ccagcagccg	480
cggtaatacg tagggggcaa gcgttatccg gatttactgg gtgtaaaggg agcgtagacg	540
gccatgcaag tctggtgtga aaggcggggg ctcaaccccc ggactgcatt ggaaactgta	600
tggcttgagt gccggagagg taagcggaat tcctggtgta gcggtgaaat gcgtagatat	660
caggaggaac accagtggcg aaggcggctt actggacggt aactgacgtt gaggctcgaa	720
agcgtgggga gcaaacagga ttagataccc tggtagtcca cgccgtaaac gatgaatacc	780
aggtgtcggg ggacacggtc cttcggtgcc gcagcaaacg cactaagtat tccacctggg	840
gagtacgttc gcaagaatga aactcaaagg aattgacggg gacccgcaca agcggtgagg	900
catgtggttt aattcgaagc aacgcgaaga acctaccag gtcttgacat ccggacgacc	960
ggacagtaac gtgtccttcc cttcggggcg tccgagacag gtggtgcatg gttgtcgtca	1020
gctcgtgtcg tgagatgttg ggttaagtcc cgcaacgagc gcaaccctg ttcccagtag	1080

ccagcattca ggatgggcac tctggggaga ctgccaggga taacctggag gaaggcgggg	1140
atgacgtcaa atcatcatgc cccttatgat ctgggctaca cacgtgctac aatggcgtga	1200
acagagggaa gcgaaccgc gagggggagc aaatcccaga aataacgtcc cagttcggat	1260
tgtagtctgc aaccggcta catgaagctg gaatcgctag taatcgcgga tcagcatgcc	1320
gcggtgaata cgttcccggg tcttgtagac accgcccgtc acaccatggg agtcggaaat	1380
gcccgaagtc agtgaccaa ccggaaggag ggagctgccg aaggcggggc cggtaaactgg	1440
ggtgaagtcg taacaa	1456

<210> 147
 <211> 1493
 <212> DNA
 <213> *Mediterraneibacter butyricigenes*

<220>
 <221> misc_feature
 <223> *Mediterraneibacter butyricigenes* 16S

GenBank: LC423447.1

<400> 147	
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acctgccttg tacaggggga taacagttag aaatgactgc taataccgca taagaccaca	180
gcatcacatg atgcaggggt aaaaactgag gtggtacaag atgggccgc gtctgattag	240
ctggttggtg aggtaacggc tcaccaaggc gacgatcagt agccgacctg agagggtgac	300
cggccacatt gggactgaga cacggcccaa actcctacgg gaggcagcag tggggaatat	360
tgcacaatgg gggaaaccct gatgcagcga cgccgcgtga gtgaagaagt atttcggtat	420
gtaaagctct atcagcaggg aagaaaatga cggtacctga ctaagaagcc ccggctaact	480
acgtgccagc agccgcggta atacgtaggg ggcaagcgtt atccggattt actgggtgta	540
aaggagcgt agacggaaca gcaagtctga tgtgaaaacc cggggctcaa cccgggact	600
gcattgaaa ctgttgatct agagtgtcgg agaggtaagt ggaattccta gtgtagcgg	660
gaaatgcgta gatattagga ggaacaccag tggcgaaggc ggcttactgg acgatgactg	720

acgttgaggc tcgaaagcgt ggggagcaaa caggattaga taccctggta gtccacgccg	780
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gcacaagcgg tggagcatgt ggtttaattc gaagcaacgc gaagaacctt acctgccctt	960
gacatccgaa tgaccggtga gtaatgtcgc ctttccttcg ggacattcga gacaggtggt	1020
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ccttatcttt agtagccagc aattaggatg ggcactctag agagactgcc agggataacc	1140
tggaggaagg tggggatgac gtcaaatcat catgcccctt atgggcaggg ctacacacgt	1200
gctacaatgg cgtaaacaaa gggaagcaga gtcgtgaggc cgagcaaadc tcaaaaataa	1260
cgtctcagtt cggattgtag tctgcaactc gactacatga agctggaatc gctagtaatc	1320
gcgaatcaga atgtcgcggt gaatacgttc ccgggtcttg tacacaccgc ccgtcacacc	1380
atgggagttg gtaacgccc aagtcagtga cccaaccgta aggaggagc tgccgaaggt	1440
gggaccgata actgggggtg aagtcgtaac aaggtagccg tatcggaagg gcg	1493

<210> 148
 <211> 1404
 <212> DNA
 <213> *Mediterraneibacter faecis*

<220>
 <221> misc_feature
 <223> *Mediterraneibacter faecis* (*Ruminococcus faecis*) 16S

NCBI Reference Sequence: NR_116747.1

<400> 148	
atgcaagtcg aacgaagcac cttgatttga ttcttcggat gaagatcttg gtgactgagt	60
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tgactgctaa taccgcataa gaccacagca ccgcatggtg caggggtaaa aactccggtg	180
gtatgagatg gaccgcgctc tgattaggta gttggtgggg taacggccta ccaagccgac	240
gatcagtagc cgacctgaga gggtagaccg ccacattggg actgagacac ggcccaaact	300
cctacgggag gcagcagtgg ggaatattgc acaatggggg aaaccctgat gcagcgacgc	360
cgcgtgagcg atgaagtatt tcggtatgta aagctctatc agcagggaag aaaatgacgg	420

tacctgacta agaagcaccg gctaaatacg tgccagcagc cgcggttaata cgtatggtgc	480
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gaaaacccgg ggctcaaccc cgggactgca ttggaaactg tcaatctaga gtaccggaga	600
ggtaagcggg attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg	660
cgaaggcggc ttactggacg gtaactgacg ttgaggctcg aaagcgtggg gagcaaacag	720
gattagatac cctggtagtc cacgccgtaa acgatgacta ctaggtgtcg ggcagcaaag	780
ctgttcggtg ccgcagcaaa cgcaataagt agtccacctg gggagtacgt tcgcaagaat	840
gaaactcaaa ggaattgacg gggacccgca caagcgggtg agcatgtggt ttaattcgaa	900
gcaacgcgaa gaaccttacc tgctcttgac atctccctga ccggcaagta atgttgctt	960
tccttcggga cagggatgac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt	1020
tgggttaagt cccgcaacga gcgcaacccc tatctttagt agccagcggg ttggccgggc	1080
actctagaga gactgccagg gataacctgg aggaaggtgg ggatgacgtc aaatcatcat	1140
gccccttatg agcagggcta cacacgtgct acaatggcgt aaacaaaggg aggcagaacc	1200
gcgaggtcga gcaaatccca aaaataacgt ctcaagtcgg attgtagtct gcaactcgac	1260
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<210> 149
 <211> 1493
 <212> DNA
 <213> *Mediterraneibacter glycyrrhizinilyticus*

<220>
 <221> misc_feature
 <223> *Mediterraneibacter glycyrrhizinilyticus* (*Clostridium glycyrrhizinilyticum*) 16S

NCBI Reference Sequence: NR_112553.1

<220>
 <221> misc_feature
 <222> (207)..(207)
 <223> n is a, c, g, or t

<400> 149
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gtaacgcgtg ggtaacctgc ctcatcacagg gggataacag ttagaaatga ctgctaatac 180
cgcataagac cacaggaccg catggtnccg tggtaaaaac tccggtggta tgagatggac 240
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cctgagaggg tgaccggcca cattgggact gagacacggc ccaaactcct acgggaggca 360
gcagtgggga atattgcaca atgggggaaa ccctgatgca gcgacgccgc gtgagcgatg 420
aagtatttcg gtatgtaaag ctctatcagc agggagaagt taggacggta cctgactaag 480
aagcaccggc taaatacgtg ccagcagccg cggtaatacg tatggtgcaa gcgttatccg 540
gatttactgg gtgtaaaggg agcgtagacg gagaggcaag tctgatgtga aaaccgggg 600
ctcaaccccc ggactgcatt ggaaactgtt tttctagagt gtcggagagg taagtggaat 660
tcctagtgtg gcggtgaaat gcgtagatat taggaggaac accagtggcg aaggcggctt 720
actggacgat gactgacgtt gaggctcga agcgtgggga gcaaacagga ttagataccc 780
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gcagcaaagc caataagcag tccacctggg gactacgttc gcaagaatga aactcaaagg 900
aattgacggg gacccgcaca agcgggtggg catgtggttt aattcgaagc aacgcgaaga 960
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gaatcgctag taatcgcgaa tcagaatgtc gcggtgaata cgttcccggg tcttgtagac 1380
accgcccgtc acaccatggg agttggtaac gccgaagtc agtgacccaa ccgtaaggag 1440
ggagctgccg aaggtgggac cgataactgg ggtgaagtcg taacaaggta acc 1493

<210> 150
<211> 1481

<212> DNA
<213> *Mediterraneibacter gnavus*

<220>
<221> misc_feature
<223> *Mediterraneibacter gnavus* (*Ruminococcus gnavus*) 16S

<220>
<221> misc_feature
<222> (148)..(148)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1071)..(1071)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1341)..(1341)
<223> n is a, c, g, or t

<400> 150
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cggattgaag ccttggtgac tgagcggcgg acgggtgagt aacgcgtggg taacctgcct 120
catacagggg gataacagtt ggaaacgnct gctaataccg cataagcgca cagtaccgca 180
tggtacggtg tgaaaaactc cgggtggtatg agatggaccc gcgtctgatt aggtagttag 240
tggggtaacg gcctaccaag ccgacgatca gtagccgacc tgagagggtg accggccaca 300
ttgggactga gacacggccc aaactcctac gggaggcagc agtggggaat attgcacaat 360
gggggaaacc ctgatgcagc gacgccgctg gagcgatgaa gtatttcggt atgtaaagct 420
ctatcagcag ggaagaaaat gacggtacct gactaagaag ccccggttaa ctacgtgcca 480
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aactgtcagg ctagagtgtc ggagaggaaa gcggaattcc tagtgtagcg gtgaaatgcg 660
tagatattag gaggaacacc agtggcgaag gcggctttct ggacgatgac tgacgttag 720
gctcgaaagc gtgggggagca aacaggatta gataccctgg tagtccacgc cgtaaagcat 780
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gtcgtcagct cgtgtcgtga gatgttgggt taagtcccg c aacgagcgca ncccctatct	1080
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ggcgtaaaca aagggaagcg agcccgcgag ggggagcaaa tccccaaaat aacgtctcag	1260
ttcggattgt agtctgcaac tcgactacat gaagctggaa tcgctagtaa tcgcgaatca	1320
gaatgtcgcg gtgaatacgt ncccgggtct tgtacacacc gcccgtcaca ccatgggagt	1380
cagtaacgcc cgaagtcagt gacccaaccg caaggaggga gctgccgaag gtgggaccga	1440
taactgggggt gaagtcgtaa caaggtagcc gtatcggaag g	1481

<210> 151
 <211> 1402
 <212> DNA
 <213> *Mediterraneibacter lactaris*

<220>
 <221> misc_feature
 <223> *Mediterraneibacter lactaris* (*Ruminococcus lactaris*) 16S

NCBI Reference Sequence: NR_027579.1

<220>
 <221> misc_feature
 <222> (11)..(11)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (330)..(330)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (333)..(333)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (357)..(357)
 <223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (927)..(927)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1237)..(1237)
<223> n is a, c, g, or t

<400> 151
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cctatttgac tgagcggcgg acgggtgagt aacgcgtggg taacctcct catacagggg 120
gataacagtt agaaatgact gctaataccg cataagacca cagcaccgca tggatgcaggg 180
gtaaaaactc cggatggatg agatggaccc gcgtctgatt agttagttgg tggggtaacg 240
gcctaccaag gcgacgatca gtagccgacc tgagagggtg accggccaca ttgggactga 300
gacacggccc aaactcctac gggaggcagn agnggggaat attgcacaat ggggganacc 360
ctgatgcagc gacgccgct gagcgaagaa gtatttcggt atgtaaagct ctatcagcag 420
ggaagaaaat gacggtacct gactaagaag ccccggttaa ctacgtgcca gcagccgagg 480
taatacgtag ggggcaagcg ttatccggat ttactgggtg taaaggagc gtagacggag 540
cagcaagtct gatgtgaaaa cccggggctc aaccccgga ctgcattgga aactgttgat 600
ctggagtgcc ggagaggtaa gcggaattcc tagtgtagcg gtgaaatgcg tagatattag 660
gaggaacacc agtggcgaag gcggcttact ggacggtaac tgacgttgag gctcgaaagc 720
gtggggagca aacaggatta gataccctgg tagtccacgc cgtaaagat gactactagg 780
tgtcgggtgg caaagccatt cggtgccgca ggcaacgcaa taagtagtcc acctggggag 840
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gtggtttaat tcgaagcaac gcgaagnaac cttacctgct cttgacatcc cggtgacggc 960
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agcggtaagg ccgggcactc tggagagact gccagggata acctggagga aggtggggat 1140
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aaagggaagc gaacccgca ggggtggcaa atcccaaaa taacgtctca gttcggattg 1260
tagtctgcaa ctcgactaca tgaagctgga atcgctagta atcgcgaaatc agaatgtcgc 1320

ggtgaatacgc ttccccgggtc ttgtacacac cgcccgtcac accatgggag tcagtaacgc	1380
ccgaagtcag tgaccaacc gt	1402

<210> 152
 <211> 837
 <212> DNA
 <213> *Mediterraneibacter massiliensis*

<220>
 <221> misc_feature
 <223> *Mediterraneibacter massiliensis* 16S

NCBI Reference Sequence: NZ_LN913000.1

<400> 152	
atgtcaggaa cactttactt atgcgcaacg ccaattggaa atttggaga tatgacgttt	60
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ataaaattac ttaatcattt tgaaatacag actcccatga ccagttatca tgagtataat	180
aaatatgaaa aagggaagaa attgatcgaa aaactgcagg cagggcacaaa tattgcattg	240
atcacagacg caggcacgcc gggaatttca gatccgggag aagaattggt gcgtatgtgt	300
tatgaggcgg gtatcacggt gacatcactg cctggcgcag ccgcatgtat tacggcgcctg	360
acactttcag ggctttctac ccggagggtt gcatttgagg catttttgcc gtcagataaa	420
aaagaacggg agtgtatcct aaaagaactt actgccgaaa caagaacgat tattttgtat	480
gaggcgccgc acagactttt aaagacattg gtactattaa gagaaacact tggaaacagg	540
aaagtcactg tatgcagaga attgacaaaa aagcatgaaa acgtgatgac atttactctg	600
gaagaggcaa cggcatttta tgcggaacat acgccaaaag gggaatgtgt actggcgata	660
gagggaacaaa gtgcagaaga agtaaagcag gaagaacggg ctaaattgga ggaaatgagt	720
atagaggaac acatgcagtt ctacatggaa gcaggaaaag agaaaaagga agccatgaag	780
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<210> 153
 <211> 1384
 <212> DNA
 <213> *Mediterraneibacter torques*

<220>

<221> misc_feature

<223> Mediterraneibacter torques (Ruminococcus torques) 16S

GenBank: MT903152.1

<400> 153

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gactgctaata accgcataag accacagcac cgcattgggtg gggggtaaaa actccgggtg	180
tatgagatgg accgcgtct gattagctgg ttggtaaggt aacggcttac caaggcgacg	240
atcagtagcc gacctgagag ggtgaccggc cacattggga ctgagacacg gccc aaactc	300
ctacgggagg cagcagtggt gaattattgca caatggggga aaccctgatg cagcgacgcc	360
gcgtgagcga agaagtattt cggatatgta agctctatca gcagggaaga aaatgacggt	420
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agcgttatcc gggatttact ggggtgtaaag ggagcgtaga cggatgggca agtctgatgt	540
gaaaacccgg ggctcaacc cgggactgca ttggaaactg ttcattctaga gtgctggaga	600
ggtaagtgga attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg	660
cgaaggcggc ttactggaca gtaactgacg ttgaggctcg aaagcgtggg gagcaaacag	720
gattagatac cctggtagtc cacgccgtaa acgatgacta ctaggtgtcg ggtggcaaag	780
ccattcgggtg ccgcagcaaa cgcaataagt agtccacctg gggagtagct tcgcaagaat	840
gaaactcaaa ggaattgacg gggacccgca caagcgggtg agcatgtggt ttaattcgaa	900
gcaacgcgaa gaaccttacc tgctcttgac atcccgtga ccggacggta atgcgtcctt	960
cccttcgggg cagcggagac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt	1020
tgggttaagt cccgcaacga gcgcaacccc tatctttagt agccagcggc caggccgggc	1080
actctagaga gactgccggg gataaccggg aggaaggtgg ggatgacgtc aaatcatcat	1140
gccccttatg agcagggtc cacacgtgct acaatggcgt aaacaaaggg aagcgagacc	1200
gcgaggtgga gcaaatccca aaaataacgt ctcagttcgg attgtagtct gcaactcgac	1260
tacatgaagc tggaatcgct agtaatcgcg aatcagaatg tcgcggtgaa tacgttcccg	1320
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aacc	1384

<210> 154
<211> 1433
<212> DNA
<213> Murimonas intestine

<220>
<221> misc_feature
<223> Murimonas intestine 16S

NCBI Reference Sequence: NR_134772.1

<400> 154
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tgctaatacc gcataagcgc acagcgccac atggcgcggt gtgaaaaact ccggtggtat 180
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tgagcgaaga agtatttcgg tatgtaaagc tctatcagca gggaagaaaa tgacgggtacc 420
tgactaagaa gccccggcta actacgtgcc agcagccgcg gtaatacgta gggggcaagc 480
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agcgggaattc ctagtgtagc ggtgaaatgc gtagatatta ggaggaacac cagtggcgaa 660
ggcggcttac tggacggtaa ctgacgttga tgctcgaaag cgtggggagc aaacaggatt 720
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tcggtgccgc cgcaaacgca ttaagtattc cacctgggga gtacgttcgc aagaatgaaa 840
ctcaaaggaa ttgacgggga cccgcacaag cggtaggagca tgtggtttta ttcgaagcaa 900
cgcgaagaac cttaccaagc cttgacatcc cattgaagcc agagtaacgt ctgacggcct 960
tcgggacaat ggagacaggt ggtgcatggt tgtcgtcagc tcgtgtcgtg agatgttggg 1020
ttaagtcccg caacgagcgc aacccttatc ttcagtagcc agcacgcgat ggtgggcact 1080
ctggagagac tgccagggac aacctggagg aaggtgggga tgacgtcaaa tcatcatgcc 1140

ccttatggct tgggctacac acgtgctaca atggcgtaaa cagagggaag cagccctgcg	1200
aaggtgagcg aatcccaaaa ataacgtctc agttcggatt gtagtctgca actcgactac	1260
atgaagctgg aatcgctagt aatcgcgaaat cagaatgtcg cgggtaatac gttcccgggt	1320
cttgtaacaca ccgcccgtca caccatggga gtcagtaacg cccgaagtca gtgacctaaa	1380
ccgaaaggaa ggagctgccg aaggcgggac tggtaactgg ggtgaagtcg taa	1433

<210> 155
 <211> 1409
 <212> DNA
 <213> *Oscillibacter massiliensis*

<220>
 <221> misc_feature
 <223> *Oscillibacter massiliensis* 16S

NCBI Reference Sequence: NR_118156.1

<400> 155	
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agtggcggac tggtgagtaa cgcgtgagga acctgccttt cagaggggga caacagttgg	120
aaacgactgc taataccgca tgaagcagcg aggggacatc cccttgctgt caaagattta	180
tcgctgaaag atggcctcgc gtctgattag ctagttgggtg gggtaacggc ccaccaaggc	240
gacgatcagt agccggactg agaggttgac cggccacatt gggactgaga tacggcccag	300
actcctacgg gaggcagcag tgggggaatat tgggcaatgg acgcaagtct gaccagcaa	360
cgccgcgtga aggaagaagg ctttcgggtt gtaaacttct tttaacaggg aagagaagaa	420
gacggtacct gttgaataag ccacggctaa ctacgtgcca gcagccgcgg taatacgtag	480
gtggcaagcg ttgtccggat ttactgggtg taaagggcgt gtagccggga aggcaagtca	540
gatgtgaaat ctggaggctc aacctcaaaa ctgcatttga aactgctttt cttgagtatc	600
ggagaggtaa tcggaattcc ttgtgtagcg gtgaaatgcg tagatataag gaagaacacc	660
agtggcgaag gcggattact ggacgacaac tgacggtagag gcgcgaaagc gtggggagca	720
aacaggatta gataccctgg tagtcacgc tgtaaacgat caatactagg tgtgcgggga	780
ctgaccccct gcgtgccgca gttaacacaa taagtattgc acctggggag tacgatcgca	840
aggttgaaac tcaaaggaat tgacgggggc ccgcacaagc ggtggattat gtggtttaat	900

tcgaagcaac gcgaagaacc ttaccaggac ttgacatcct actaacgagg tagagatacg	960
tcaggtgccc ttcggggaaa gtagagacag gtggtgcatg gttgtcgtca gctcgtgtcg	1020
tgagatgttg ggtaagtcc cgcaacgagc gcaacccta ttgttagttg ctacgcaaga	1080
gcactctagc gagactgccg ttgacaaaac ggaggaaggt ggggacgacg tcaaatcatc	1140
atgcccccta tgtcctgggc tacacacgta atacaatggc ggtcaacaga gggatgcaaa	1200
gccgtgaggc agagcgaacc cctaaaagcc gtctcagttc ggatcgtagg ctgcaactcg	1260
cctacgtgaa gtcggaatcg ctagtaatcg cggatcagaa tgccgcggtg aatacgttcc	1320
cgggccttgt acacaccgcc cgtcacacca tgagagtcgg gaacaccga agcccgtagc	1380
ctaactgcaa agagggcgcg tcgaaggtt	1409

<210> 156
 <211> 1525
 <212> DNA
 <213> Robinsoniella peoriensis

<220>
 <221> misc_feature
 <223> Robinsoniella peoriensis 16S

NCBI Reference Sequence: NR_041882.1

<400> 156	
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cgaagcatta aaaccgattt cttcggattg aagtttttgt gactgagcgg cggacgggtg	120
agtaacgcgt gggtgacctg cctcatacag ggggataaca gacagaaatg tctgctaata	180
ccgcataagc gcacagtgct gcatggcaca gtgtgaaaaa ctccggtggt atgagatgga	240
cccgcgtctg attagctagt tggtaaggta acggcttacc aaggcgacga tcagtagccg	300
gcctgagagg gtgaacggcc acattgggac tgagacacgg cccaaactcc tacgggaggc	360
agcagtgggg aatattgcac aatgggggaa accctgatgc agcgacgccg cgtgaaggaa	420
gaagtatttc ggtatgtaaa cttctatcag cagggaagaa aatgacggta cctgactaag	480
aagccccggc taactacgtg ccagcagccg cggtaatacg tagggggcaa gcgttatccg	540
gatttactgg gtgtaaaggg agcgtagacg gcatggcaag tctggtgtga aaggcagggg	600
ctcaaccctt ggactgcatt ggaaactgtc aggctggagt gcaggagagg taagtggaat	660

tcctagtgtgta gcggtaaaaat gcgtagatat taggaggaac accagtggcg aaggcgactt	720
actggactgt aactgacgtt gaggctcgaa agcgtgggga gcaaacagga ttagataccc	780
tggtagtcca cgccgtaaac gatgaatact aggtgtcagg gagcaaagct ctttggtgcc	840
gcagctaacg caataagtat tccacctggg gagtacgttc gcaagaatga aactcaaagg	900
aattgacggg gacccgcaca agcgggtggag catgtggttt aattcgaagc aacgcgaaga	960
accttaccaa gtcttgacat cctcttgacc ggacagtaac gtgtcctttc cttcgggaca	1020
agagtgcag gtgggtgcatg gttgtcgtca gctcgtgtcg tgagatgttg ggttaagtcc	1080
cgcaacgagc gcaaccctta tcttcagtag ccagcaattc ggttgggcac tctggagaga	1140
ctgccaggga taacctggag gaaggtgggg atgacgtcaa atcatcatgc cccttatgat	1200
ttgggctaca cacgtgctac aatggcgtaa acaaaggga gacgccctgt gaaggtgagc	1260
aaatcccaaa aataacgtct cagttcggat tgtagtctgc aactcgacta catgaagctg	1320
gaatcgctag taatcgcgaa tcagaatgtc gcggtgaata cgttcccggg tcttgtagac	1380
accgcccgtc acaccatggg agtcggaaat gcccgaaagtc ggtgacccaa ccgtaaggag	1440
ggagctgccg aaggtggagc cggttaactgg ggtgaagtcg taacaaggta gccgtatcgg	1500
aaggtgcggc tggatcacct ccttc	1525

<210> 157
 <211> 1456
 <212> DNA
 <213> Roseburia faecis

<220>
 <221> misc_feature
 <223> Roseburia faecis 16S

NCBI Reference Sequence: NR_042832.1

<400> 157	
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cttcggaaat gaagattttg tgactgagtg gcggacgggt gagtaacgcg tgggtaacct	120
gcctcataca gggggataac agttggaaac gactgctaata accgcataag cgcacaggat	180
cgcgatgatcc ggtgtgaaaa actccggtgg tatgagatgg acccgctct gattagccag	240

ttggcagggt aacggcctac caaagcgacg atcagtagcc gacctgagag ggtgaccggc	300
cacattggga ctgagacacg gcccaaactc ctacgggagg cagcagtggg gaatattgca	360
caatggggga aaccctgatg cagcgacgcc gcgtgagcga agaagtattt cggtatgtaa	420
agctctatca gcagggaaga agaatgacgg tacctgacta agaagcaccg gctaaatacg	480
tgccagcagc cgcggtaata cgtatggtgc aagcgttatc cggatttact ggggtgtaaag	540
ggagcgcagg cggtgcggca agtctgatgt gaaagcccgg ggctcaaccc cggtactgca	600
ttggaaactg tcgtactaga gtgtcggagg ggtaagtgga attcctagtg tagcggtgaa	660
atgcgtagat attaggagga acaccagtgg cgaaggcggc ttactggacg ataactgacg	720
ctgaggctcg aaagcgtggg gagcaaacag gattagatac cctggtagtc cagccgtaa	780
acgatgaata ctaggtgtcg gggagcattg ctcttcggtg ccgcagcaaa cgcaataagt	840
attccacctg gggagtacgt tcgcaagaat gaaactcaaa ggaattgacg gggacccgca	900
caagcgggtg agcatgtggt ttaattcgaa gcaacgcgaa gaaccttacc aagtcttgac	960
atcccgatga cagagtatgt aatgtacytt ctcttcggag catcggtgac aggtggtgca	1020
tggttgtcgt cagctcgtgt cgtgagatgt tgggttaagt cccgcaacga gcgcaacccc	1080
tgtccttagt agccagcggg tcggccgggc actctaggga gactgccagg gataacctgg	1140
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acaatggcgt aaacaaaggg aagcggagcc gtgaggccga gcaaattctca aaaataacgt	1260
ctcagttcgg actgtagtct gcaacccgac tacacgaagc tggaatcgct agtaatcgca	1320
gatcagaatg ctgcggtgaa tacgttcccg ggtcttgtag acaccgcccg tcacaccatg	1380
ggagttggaa atgcccgaag tcagtgaccc aaccgcaagg agggagctgc cgaaggcagg	1440
ttcgataact ggggtg	1456

<210> 158
 <211> 1454
 <212> DNA
 <213> Roseburia inulinivorans

<220>
 <221> misc_feature
 <223> Roseburia inulinivorans 16S

NCBI Reference Sequence: NR_042007.1

<400> 158

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gcgtgggtaa cctgcctcac acagggggat aacagttgga aacggctgct aataccgcat	180
aagcgcacag taccgcatgg tacagtgtga aaaactccgg tgggtgtgaga tggacccgcg	240
tctgattagc tagttggcag ggcaacggcc taccaaggcg acgatcagta gccgacctga	300
gagggtgacc ggccacattg ggactgagac acggcccaaa ctctacggg aggcagcagt	360
ggggaatatt gcacaatggg ggaaaccctg atgcagcgac gccgcgtgag cgaagaagta	420
tttcggtatg taaagctcta tcagcaggga agaagaaatg acggtacctg actaagaagc	480
accggctaaa tacgtgccag cagccgcggg aatacgtatg gtgcaagcgt tatccggatt	540
tactgggtgt aaaggagcg caggcggaag gctaagtctg atgtgaaagc ccggggctca	600
accccggtac tgcatggaa actggtcac tagagtgtcg gaggggtaag tggaattcct	660
agtgtagcgg tgaaatgcgt agatattagg aggaacacca gtggcgaagg cggcttactg	720
gacgataact gacgctgagg ctcgaaagcg tggggagcaa acaggattag ataccctggt	780
agtccacgcc gtaaacgatg aatactaggt gtcggaaagc acagcttttc ggtgccgccg	840
caaacgcatt aagtattcca cctggggagt acgttcgcaa gaatgaaact caaaggaatt	900
gacggggacc cgcacaagcg gtggagcatg tggtttaatt cgaagcaacg cgaagaacct	960
taccaagtct tgacatcctt ctgaccggac agtaatgtgt cctttccttc gggacagaag	1020
tgacagggtg tgcatggttg tcgtcagctc gtgtcgtgag atgttgggtt aagtcccga	1080
acgagcgcaa cccttatccc cagtagccag cggttcggac gggcactctg aggagactgc	1140
cagggataac ctggaggaag gtggggatga cgtcaaatca tcatgcccct tatgacttgg	1200
gctacacacg tgctacaatg gcgtaaacia agggaagcga gaccgtgagg tggagcaaat	1260
cccaaaaata acgtctcagt tcggactgta gtctgcaacc cgactacacg aagctggaat	1320
cgctagtaat cgcagatcag aatgctgcgg tgaatacgtt cccgggtctt gtacacaccg	1380
cccgtcacac catgggagtt ggaaatgccc gaagtcagtg acccaaccgc aaggaggagg	1440
ctgcaaggc aggt	1454

<210> 159

<211> 1407
<212> DNA
<213> Ruminococcus albus

<220>
<221> misc_feature
<223> Ruminococcus albus 16S

NCBI Reference Sequence: NR_025929.1

<400> 159
ttgatcctgg ctcaggacga acgctggcgg cacgcttaac acatgcaagt cgaacgagcg 60
aaagagtgct tgcactctct agctagtggc gggcgggtga gtaacacgtg agcaatctgc 120
ctttcggaga gggatacaca ttggaaacga ttgttaatac ctcataacat aacgaagccg 180
catgactttg ttatcaaatg aatttcgccg aaagatgagc tcgctgtctga ttaggtagtt 240
ggtagagtaa cggccacaca agccgacgat cagtagccgg actgagaggt tgaacggcca 300
cattgggact gagacacggc ccagactcct acgggaggca gcagtgggga atattgcaca 360
atgggcgaaa gcctgatgca gcgatgccgc gtgagggaag aaggtttttag gattgtaaac 420
ctctgtcttt ggggacgata atgacggtag ccaaggagga agctccggct aactacgtgc 480
cagcagccgc ggtaatacgt agggagcagc cgttgtccgg aattactggg tgtaaaggga 540
gcgtaggcgg gattgcaagt caggtgtgaa atttaggggc ttaaccctg aactgcactt 600
gaaactgtag ttcttgagtg aagtagaggt aagcgggaatt cctagtgtag cggtgaaatg 660
cgtagatatt aggaggaaca tcagtggcga aggcggctta ctgggcttta actgacgctg 720
aggctcgaac gcgtggggag caaacaggat tagataccct ggtagtccac gccgtaaacg 780
atgattacta ggtgtggggg gactgacccc ttccgtgccg cagttaacac aataagtaat 840
ccacctgggg agtacggccg caaggctgaa actcaaagga attgacgggg gccgcacaa 900
gcagtggagt atgtggttta attcgaagca acgcgaagaa cttaccagg tcttgacatc 960
gtacgcatag catagagata tgtgaaatcc cttcggggac gtatagacag gtggtgcatg 1020
gtgtgtgtca gctcgtgtcg tgagatgttg ggttaagtcc cgcaacgagc gcaaccctta 1080
ctgttagttg ctacgcaaga gcactctagc aggactgccg ttgacaaaac ggaggaaggt 1140
ggggatgacg tcaaatcatc atgcccctta tgacctgggc tacacacgta ctacaatggc 1200

tgtaacaga gggaagcaaa acagtgatgt ggagcaaaac cctaaaagca gtcttagttc	1260
ggattgtagg ctgcaaccg cctacatgaa gtaggaattg ctagtaatcg cggatcagca	1320
tgccgcggtg aatacgttcc cgggccttgt acacaccgcc cgtcacgcca tgggagtcgg	1380
taaccccgaa gcctgtgttc taaccgc	1407

<210> 160
 <211> 1380
 <212> DNA
 <213> Ruminococcus bromii

<220>
 <221> misc_feature
 <223> Ruminococcus bromii 16S

NCBI Reference Sequence: NR_025930.1

<220>
 <221> misc_feature
 <222> (11)..(11)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (541)..(541)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (830)..(831)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1063)..(1063)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (1283)..(1283)
 <223> n is a, c, g, or t

<400> 160	
tcgaacggaa ntgttttgaa agatttcttc ggaatgaatt tgatttagtt tagtggcgga	60
cgggtgagta acgcgtgagt aacctgcctt caagaggggg ataacattct gaaaagaatg	120
ctaataccgc atgacatatc ggaaccacat ggttctgata tcaaagattt tatcgcttga	180

agatggactc gcgtccgatt agttagttgg tgaggtaacg gctcaccaag accgcatcg	240
gtagccggac tgagaggttg aacggccaca ttgggactga gacacggccc agactcctac	300
gggaggcagc agtgggggat attgcgcaat gggggcaacc ctgacgcacc aacgccgct	360
gaaggatgaa ggttttcggg ttgtaaactt cttttattaa ggacgaaaaa tgacggtact	420
taatgaataa gctccggcta actacgtgcc agcagccgcg gtaatacgta gggagcaagc	480
gttgtccgga tttactgggt gtaaagggtg cgtaggcggc tttgcaagtc agatgtgaaa	540
ntctatgggc tcaaccata aactgcattt gaaactgtag agcttgagtg aagtagaggc	600
aggcgggaatt ccccgtagtag cggtgaaatg cgtagagatg gggaggaaca ccagtggcga	660
aggcggcctg ctgggcttta actgacgctg aggcacgaaa gcgtgggtag caaacaggat	720
tagataccct ggtagtccac gctgtaaacg atgattacta ggtgtggagg gtctgacccc	780
ttccgtgccg gagttaacac aataagtaat ccacctgggg agtacggmcn naargttgaa	840
actcaaagga attgacgggg gcccgacaaa gcagtggagt atgtggttta attcgaagca	900
acgcgaagaa cttaccagg tcttgacatc caactaacga agtagagata cattaggtgc	960
ccttcgggga aagttgagac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt	1020
tggtktaagt cccgcaacga gcgcaaccct tgctattagt tgntacgcaa gagcactcta	1080
ataggactgc cgttgacaaa acggaggaag gtggggacga cgtcaaatca tcatgccctt	1140
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gtggagcaaa cccctaaaaa cattctcagt tcagattgca ggctgcaacc cgcctgcatg	1260
aagatggaat tgctagtaat cgnggatcag aatgmcgagg tgaatacgtt cccgggcctt	1320
gtacacaccg cccgtcacac catgggagcc ggtaataccc gaagtcagta gtccaacctc	1380

<210> 161
 <211> 1380
 <212> DNA
 <213> Subdoligranulum variabile

<220>
 <221> misc_feature
 <223> Subdoligranulum variabile 16S

<220>
 <221> misc_feature

<222> (11)..(11)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (541)..(541)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (830)..(831)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1063)..(1063)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (1283)..(1283)
<223> n is a, c, g, or t

<400> 161
tcgaacggaa ntgttttgaa agatttcttc ggaatgaatt tgatttagtt tagtggcgga 60

cgggtgagta acgcgtgagt aacctgcctt caagagggggg ataacattct gaaaagaatg 120

ctaataccgc atgacatatc ggaaccacat ggttctgata tcaaagattt tatcgcttga 180

agatggactc gcgtccgatt agttagttgg tgaggtaacg gctcaccaag accgcgatcg 240

gtagccggac tgagaggttg aacggccaca ttgggactga gacacggccc agactcctac 300

gggaggcagc agtgggggat attgcgcaat gggggcaacc ctgacgcacc aacgccgcgt 360

gaaggatgaa ggttttcgga ttgtaaactt cttttattaa ggacgaaaaa tgacggtact 420

taatgaataa gtcctggcta actacgtgcc agcagccgcg gtaatacgta gggagcaagc 480

gttgtccgga tttactgggt gtaaagggtg cgtaggcggc ttgcaagtc agatgtgaaa 540

ntctatgggc tcaaccata aactgcattt gaaactgtag agcttgagtg aagtagaggc 600

aggcgggaatt ccccgtagtag cggtgaaatg cgtagagatg gggaggaaca ccagtggcga 660

aggcggcctg ctgggcttta actgacgtg aggcacgaaa gcgtgggtag caaacaggat 720

tagataccct ggtagtccac gctgtaaacg atgattacta ggtgtggagg gtctgacccc 780

ttccgtgccg gagttaacac aataagtaat ccacctgggg agtacggmcn naargttgaa 840

actcaaagga attgacgggg gcccgacaaa gcagtggagt atgtggttta attcgaagca 900

acgcgaagaa ccttaccagg tcttgacatc caactaacga agtagagata cattaggtgc	960
ccttcgggga aagttgagac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt	1020
tggkttaaagt cccgcaacga gcgcaaccct tgctattagt tgntacgcaa gagcactcta	1080
ataggactgc cgttgacaaa acggaggaag gtggggacga cgtcaaatca tcatgccctt	1140
tatgacctgg gctacacacg tactacaatg gatgttaaca gagggaagca agacagtgat	1200
gtggagcaaa cccctaaaaa cattctcagt tcagattgca ggctgcaacc cgcctgcatg	1260
aagatggaat tgctagtaat cnggatcag aatgmcgcgg tgaatacgtt cccgggcctt	1320
gtacacaccg cccgtcacac catgggagcc ggtaataccc gaagtcagta gtccaacctc	1380

<210> 162
 <211> 1461
 <212> DNA
 <213> Syntrophococcus sucromutans

<220>
 <221> misc_feature
 <223> Syntrophococcus sucromutans 16S

NCBI Reference Sequence: NR_119287.1

<400> 162	
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aacctgcccc ataccggggg ataacagttg gaaacgactg ctaataccgc ataagcgcac	180
aggaaggcat cttccagtgt gaaaaactcc ggtggtatgg gatggaccg cgttggatta	240
gccagttggt ggggtaacgg cctaccaaag cgacgatcca tagccggcct gagagggcga	300
ccggccacat tgggactgag acacggccca aactcctacg ggaggcagca gtggggaata	360
ttgcacaatg ggggaaacct tgatgcagcg acgccgcgtg agtgatgaag tatttcggta	420
tgtaaagctc tatcagcagg gaagaagacg acggtacctg actaagaagc cccggctaac	480
tacgtgccag cagccgcggt aatacgtagg gggcaagcgt tatccggatt tactgggtgt	540
aaagggagcg catacggcag tgcaagtctg aagtgaaaac ccgaggctca accacgggat	600
tgctttggaa actgtacagc tagagtgtcg gaggggtaag cggaattcct agtgtagcgg	660
tgaaatgcgt agatattagg aggaacaccg gtggcgaagg cggcttactg gacgataact	720

gacgttgagg ctcgaaagcg tggggagcaa acaggattag ataccttggt agtccacgcc	780
gtaaacgatg aatactaggt gttggcacgc aaggcgtgtc ggtgccgccg caaacgcatt	840
aagtattcca cctgggggagt acgttcgcaa gaatgaaact caaaggaatt gacggggacc	900
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tgacatccgc ctgaccggcc ggtaacgcgg cccttccttc gggacaggcg agacaggtgg	1020
tgcatggttg tcgtcagctc gtgtcgtgag atgttgggtt aagtcccgca acgagcgcaa	1080
cccttatcct cagtagccag cacgaaaggt ggggcactct ggggagactg cccaggagaa	1140
cctggaggaa ggtggggatg acgtcaaadc atcatgcccc ttatgatttg ggctacacac	1200
gtgctacaat ggcgtgaaca gaggggaagcg aaggagcgat ccggagcaaa tctcaaaaaa	1260
cacgtcccag ttcggactgt aggctgcaac ccgactgcac gaagctggaa tcgctagtaa	1320
tcgcagatca gaatgctgcg gtgaatacgt tcccgggtct tgtacacacc gcccgtcaca	1380
ccatgggagt cggtaatgcc cgaagcctgt gacccaacca gcaatggagg gagcagtcga	1440
aggcagggcc ggtgactggg g	1461

<210> 163
 <211> 1492
 <212> DNA
 <213> Faecalimonas umbilicate

<220>
 <221> misc_feature
 <223> Faecalimonas umbilicate 16S

NCBI Reference Sequence: NR_156907.1

<400> 163	
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gtaacgcgtg ggtaacctgc ctcatcacagg gggataacag ttagaaatga ctgctaatac	180
cgcataagca cacgtgatcg catgatcgag tgtgaaaaac tccggtggta tgagatggac	240
ccgcgtctga ttagctagtt ggtgggggtaa cggcccacca aggcgacgat cagtagccgg	300
cctgagaggg tgaacggcca cattgggact gagacacggc ccaaactcct acgggaggca	360
gcagtgggga atattgcaca atgggggaaa ccctgatgca gcgacgccgc gtgaaggatg	420

aagtatttcg gtatgtaaac ttctatcagc agggaagaaa atgacggtac ctgactaaga	480
agccccggct aactacgtgc cagcagccgc ggtaatacgt agggggcaag cgttatccgg	540
atttactggg tgtaaaggga gcgtagacgg cagtgcgaagt ctgaagtgaag agcccggggc	600
tcaaccccg gactgctttg gaaactgtgc agctagagtg tcggagaggc aagcgggaatt	660
cctagtgtag cgggtgaaatg cgtagatatt aggaggaaca ccagtggcga aggcggcttg	720
ctggacgatg actgacgttg aggctcgaag gcgtggggag caaacaggat tagataacct	780
ggtagtccac gccgtaaacg atgactacta ggtgtcgggg agcaaagctc ttcggtgccg	840
cagccaacgc aataagtagt ccacctgggg agtacgttcg caagaatgaa actcaaagga	900
attgacgggg acccgcaaa gcggtggagc atgtggttta attcgaagca acgcgaagaa	960
ccttacctgc tcttgacatc cctctgaccg ctctttaatc ggagctttcc ttcgggacag	1020
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gcaacgagcg caaccctat cttcagtagc cagcggtaag gccgggcact ctggagagac	1140
tgccagggat aacctggagg aaggtgggga tgacgtcaaa tcatcatgcc ctttatgagc	1200
agggctacac acgtgctaca atggcgtaaa caaagggaag cagagtcgtg aggccgagca	1260
aatcccaaaa ataacgtctc agttcggatt gtagtctgca actcgactac atgaagctgg	1320
aatcgctagt aatcgcgaaat cagaatgtcg cgggtgaatac gttcccgggt cttgtacaca	1380
ccgcccgtca caccatggga gtcagtaacg cccgaagtca gtgaccaaac cgcaaggagg	1440
gagctgccga aggtgggacc gataactggg gtgaagtcgt aacaaggtaa cc	1492

<210> 164
 <211> 1397
 <212> DNA
 <213> Merdimonas faecis

<220>
 <221> misc_feature
 <223> Merdimonas faecis 16S

NCBI Reference Sequence: NR_157642.1

<400> 164	
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tgactgctaa taccgcataa gaccccagct tcgcatgaag cggtggtaaa aactccggtg	180
gtatgagatg gacccgcgtc tgattagcta gttggtaagg taacggctta ccaaggcgac	240
gatcagtagc cgacctgaga ggggtgaccgg ccacattggg actgagacac ggcccagact	300
cctacgggag gcagcagtgg ggaatattgc acaatggggg aaaccctgat gcagcgacgc	360
cgcgatgaagg atgaagtatt tcggtatgta aacttctatc agcagggaag aaagtgcagg	420
tacctgacta agaagccccg gctaactacg tgccagcagc cgcggttaata cgtagggggc	480
aagcgttatc cggatttact ggggtgtaaag ggagcgtaga cgggatagca agtctgaagt	540
gaaagcccgg ggctcaaccc cgggactgct ttggaaactg ttgacctgga gtgctggaga	600
ggcaagtgga attcctagt tagcggtgaa atgcgtagat attaggagga acaccagtgg	660
cgaaggcggc ttgctggaca gtgactgacg ttgaggctcg aaagcgtggg gagcaaacag	720
gattagatac cctggtagtc cacgccgtaa acgatgacta ctaggtgtcg gtgagcaaag	780
ctcatcggtg ccgcagccaa cgcaataagt agtccacctg gggagtacgt tcgcaagaat	840
gaaactcaaa ggaattgacg gggacccgca caagcggtagg agcatgtggt ttaattcgaa	900
gcaacgcgaa gaaccttacc tgatcttgac atccccctga ccggtgagta atgtcacctt	960
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gccccttatg accagggcta cacacgtgct acaatggcgt aaacaaaggg aagcgaagga	1200
gtgatccgga gcaaatctca aaaataacgt ctcagttcgg attgtagtct gcaactcgac	1260
tacatgaagc tggaatcgct agtaatcgcg aatcagcatg tcgcggtgaa tacgttccc	1320
ggtcttgtag acaccgccc tcacaccatg ggagtcagta acgcccgaag ccggtgaccc	1380
aacctacaag gagggag	1397

<210> 165
 <211> 1475
 <212> DNA
 <213> Clostridium innocuum

<220>
 <221> misc_feature
 <223> Clostridium innocuum 16S

<220>
<221> misc_feature
<222> (905)..(905)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (942)..(942)
<223> n is a, c, g, or t

<400> 165
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gaacgaagtc ttcaggaagc ttgcttccaa aaagacttag tggcgaacgg gtgagtaaca 120
cgtaggtaac ctgcccattgt gtccgggata actgctggaa acggtagcta aaaccggata 180
ggtatacggg gcgcatgctc tgtatattaa agcgcccttc aaggcgtgaa catggatgga 240
cctgcgacgc attagctagt tggtagaggta acggcccacc aaggcgatga tgcgtagccg 300
gcctgagagg gtaaacggcc acattgggac tgagacacgg cccaaactcc tacgggaggc 360
agcagtaggg aattttcgtc aatgggggaa accctgaacg agcaatgccg cgtgagtgaa 420
gaaggctctc ggatcgtaaa gctctgttgt aagtgaagaa cggctcatag aggaaatgct 480
atgggagtga cggtagctta ccagaaagcc acggctaact acgtgccagy agccgcggta 540
atacgtaggt ggcaagcgtt atccggaatc attgggcgta aagggtgcgt aggtggcgta 600
ctaagtctgt agtaaaaggc aatggctcaa ccattgtaag ctatggaaac tggatatgctg 660
gagtgcagaa gagggcgatg gaattccatg tgtagcggta aaatgcgtag atatattggag 720
gaacaccagt ggcgaaggcg gtcgcctggc ctgtaactga cactgaggca cgaaagcgtg 780
gggagcaaatt aggattagat accctagtag tccacgccgt aaacgatgag aactaagtgt 840
tggagaaatt cagtgtgca gttaacgcaa taagttctcc gcctggggag tatgcacgca 900
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ggggataatt atggatcaca cagggtggtgc atggttgtcg tcagctcgtg tcgtgagatg 1080
ttgggttaag tcccgaacg agcgcaacc ttgtcgcatt ttaccagcat caagttgggg 1140
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gccccttatg gcctgggcta cacacgtact acaatggcga ccacaaagag cagcgacttg 1260

gtgacaagaa gcgaatctca taaagatcgt ctcagttcgg attgaagtct gcaactcgac	1320
ttcatgaagt cggaatcgct agtaatcgca gatcagcatg ctgcggtgaa tacgtttctcg	1380
ggccttgtac acaccgcccc tcaaaccatg ggagtcagta ataccgaag ccggtggcat	1440
aaccgtaagg agtgagccgt cgaaggtagg accga	1475

<210> 166
 <211> 1519
 <212> DNA
 <213> *Erysipelatoclostridium ramosum*

<220>
 <221> misc_feature
 <223> *Erysipelatoclostridium ramosum* 16S

NCBI Reference Sequence: NR_029247.1

<400> 166	
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caggggggata actattggaa acggatagct aagaccgcat aggtacggac actgcatggt	180
gaccgtatta aaagtgccctc aaagcactgg tagaggatgg acttatggcg cattagctgg	240
ttggcgggggt aacggccac caaggcgacg atgcgtagcc gacctgagag ggtgaccggc	300
cacactggga ctgagacacg gccagactc ctacgggagg cagcagtagg gaattttcgg	360
caatggggga aaccctgacc gagcaacgcc gcgtgaagga agaaggtttt cggattgtaa	420
acttctgtta taaagaagaa cggcggctac aggaaatggt agccgagtga cggtacttta	480
ttttagaaag ccacggctaa ctacgtgcca gcagccgcgg taatacgtag gtggcaagcg	540
ttatccggaa ttattgggcg taaagaggga gcaggcggca gcaagggtct gtggtgaaag	600
cctgaagctt aacttcagta agccatagaa accaggcagc tagagtgcag gagaggatcg	660
tggaattcca tgtgtagcgg tgaaatgcgt agatatatgg aggaacacca gtggcgaagg	720
cgacgatctg gcctgcaact gacgctcagt cccgaaagcg tggggagcaa ataggattag	780
ataccctagt agtcacgcc gtaaacgatg agtactaagt gttggatgtc aaagttcagt	840
gctgcagtta acgcaataag tactccgcct gagtagtacg ttcgcaagaa tgaaactcaa	900
aggaattgac gggggccgca caagcgggtg agcatgtggt ttaattcgaa gcaacgcgaa	960

gaaccttacc aggtcttgac atactcataa aggctccaga gatggagaga tagctatatg	1020
agatacaggt ggtgcatggt tgtcgtcagc tcgtgtcgtg agatgttggg ttaagtccc	1080
caacgagcgc aacccttatac gttagttacc atcattaagt tggggactct agcgagactg	1140
ccagtgacaa gctggaggaa ggcggggatg acgtcaaatac atcatgcccc ttatgacctg	1200
ggctacacac gtgctacaat ggatggtgca gagggaagcg aaccgagagg tgaagcaaaa	1260
cccataaaaa ccattctcag ttcggattgt agtctgcaac tcgactacat gaagttggaa	1320
tcgctagtaa tcgcgaatca gcatgtcgcg gtgaatacgt tctcgggcct tgtacacacc	1380
gcccgtcaca ccacgagagt tgataacacc cgaagccggt ggcctaaccg caaggaagga	1440
gctgtctaag gtgggattga tgattggggg gaagtcgtaa caaggtatcc ctacgggaac	1500
gtgcggctgg atcacctcc	1519

<210> 167
 <211> 1296
 <212> DNA
 <213> Ruminococcaceae

<220>
 <221> misc_feature
 <223> Ruminococcaceae isolate S16

<400> 167	
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atTTTTtaggg gtttgctctg catcgtctgct ttgcttccct ctgttgatgg ccattgtagt	180
acgtgtgtag cccaggtcat aaggggcatg atgatttgac gtcgtcccca ctttctccg	240
ttttgtcaac ggcagtccta ttagagtgct cttgcgtagc aactaatagc aagggttgcg	300
ctcgttgagg gacttaacct aacatctcac gacacgagct gacgacaacc atgcaccacc	360
tgtctcaact ttccccgaag ggcacctaat gtatctctac ttcgttagtt ggatgtcaag	420
acctggtaag gttcttcgag ttgcttcgaa ttaaaccaca tactccactg cttgtgcggg	480
ccccgtcaa ttcctttgag tttcaacctt gcggccgtac tccccaggtg gattacttat	540
tgtgttaact gcggcacgga gggggtcaga cccccacac ctagtaatca tcgtttacgg	600
cgtggactac cagggtatct aatcctgttt gctaccacg ctttcgtgcc tcagcgtcag	660

ttaaagccca gcaggccgcc ttcgccactg gtgttcctcc ctatctctac gcatttcacc	720
gctacacagg gaattccgcc tgcctctact tcaactcaagc aaaacagttt caaatgcagt	780
tcgtgggtta agcccacgga tttcacatct gacttgctct gccgcctacg caccctttac	840
accagtaaa tccggacaac gcttgctccc tacgtattac cgcggctgct ggcacgtagt	900
tagccggagc ttattcatta agtaccgtca cttcttcgtc ctttaataaaa gaactttaca	960
atccgaagac cttcatcggt cacgcggcgt tgctgcgtca gggttgcccc cattgcgcaa	1020
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tcaacctctc agtccggcta ccgatcgtcg ctttggtggg ccgttacccc gccaaactggc	1140
taatcggacg cgagtccatc ttcaagcgat aaaatctttg atacggttgc catgcgacat	1200
ccgtatgtta tgcggtatta gcgttctttt cagaacgtta ttcccctctt gaaggcaggt	1260
tactcacgcg ttactcacc gtccgccact aaactt	1296

<210> 168
 <211> 498
 <212> DNA
 <213> Eubacterium rectale

<220>
 <221> misc_feature
 <223> Eubacterium rectale

butyryl-CoA:acetate CoA-transferase

GenBank: GQ231300.1

<400> 168	
ggcggttatg agagaaagct tatcaagaga ggctgttctt tctactcacc aatccgttac	60
tcagagcttc ctcgttatta tagagattca acaacacctg acgatgtcgc tatgtttccag	120
gttgaccga tggattcaca cggttacttc aactttgggtc ctaacgcata tcacctcggt	180
gctgtatgcg agacttcaaa gaaaatcatc gttgaggtca atgaaaacat gcctcgtgt	240
cacggcgggt cagaggccaa tgtacatatt tcacaggttt cttacattgt tgagggtgac	300
aaccctgcaa tcggagagct tggtgccggt ggtcctgcaa cagatgtaga caagaaggtt	360
gcagagctta tcgttgacca gattccaaac ggtgcctgtc tccagctcgg tatcggcgga	420
atgccaaacg cagtaggctc actcatcgct gagtcagacc tcaaggatct cggtgtacac	480

acagagatgt acgttgac

498

<210> 169
<211> 498
<212> DNA
<213> Eubacterium hallii

<220>
<221> misc_feature
<223> Eubacterium hallii strain

butyryl-CoA:acetate CoA-transferase

<400> 169
ggtggtttgg agagaaaggc aatcagtaaa ggatttgcac actattctcc attaaaatat 60
tcagaacttc cacgttatta cagagagaat atcaagcatt tgaatgttgc gatgttccag 120
gttgctccaa tggataaaca tggattcttt aactttggac caaatgcatc ccatatgatg 180
gcagtttgtg aagctgcaga tgtaattatc gtagaggtta atgagaatat gcctcgctgt 240
ttgggtggat ttgaagaagg cattcatgtt tctcgcgtag attacatcgt agaaggcgag 300
aatccagcta ttggtgagtt aggagctggc gcaccaccaa cagaagtaga caaagccgta 360
gcacagctta tcgtagaaga gattccagat ggagcatgtt tacagcttgg tatcggtgga 420
atgcctaata cagtaggttc catgattgct gaatctgatt taaaggactt aggtgtacat 480
acagagatgt acgttgat 498

<210> 170
<211> 1341
<212> DNA
<213> Anaerobutyricum soehngenii

<220>
<221> misc_feature
<223> Anaerobutyricum soehngenii

butyryl-CoA:acetate CoA-transferase

GenBank: JAHLP010000009.1

<400> 170
ctatctctta ttggaacgcc gccatatctt tcttttttcg gcttccttaa tcagttcatc 60

tctgaaatcc ggatgggcaa tggaaataag cccctctgct ctctcccatg ttgaacgccc	120
ttccatgttg atcactccat attccgttgc aagaaaatat acctgactcc gcggagatgt	180
aataatatct ccattaaact gcggcaatac tcttgaaaaa agctgtccgc ttttatcttt	240
atacgtagag cccatacaga taaatgcctt accccctctg gctgaagatg ctccgattaa	300
aaagtcaagc tgtcctccgg taccactgat ctgccttgca ccaaagctct cggatgatac	360
ctgtccatac agatctacag aaacacagct attgatggac accatattgt caatctgggc	420
aattacatcc ggtctgttca catattccaa tggatatgct gctacaccat gattatcatc	480
taaccattca tacagttctg ccgaaccaat agccacacca aatacacctt tacccttatt	540
gattgtcttc tttttattgg taagcttccc tgctttatat aaatgcaggt acgcatctga	600
gcaaagttca gtatgcatgc caagatcctt aagatctgat tccgcaaaca gttcaccaac	660
tgcatcggc atacttccaa ttccaagctg caaggttgat ccatcacaaa tatacggtag	720
aatattctgt acaatctttc gatcagtctc agtcggtgca tagcgcctga ctgtcgtaat	780
aggttcatgt cttccttcta cgatataatc cacttcagac acatgaatac attccccata	840
tccacatgg atcttcggca tatgctcatt aacctctaca ataacaatat ctgcattctg	900
cacgataggt ccggctactc cggtatttac cgaataattg aaatatccat gcttgtccat	960
cggtgaaacg ctgaccatta ctacattgac attcagaaaa tacttataat aggctgcatt	1020
attgtgaaat accatcggaa tatagtaaca tagtcctctg tcacaaagct ttctctcata	1080
agtagaacia tgccatgtat gatagacaaa atgttcctga ctttcatcac attctgccac	1140
ttcaatcggc cctccataa gattccctcg aatctttaca tcaaaaagtt catctcttct	1200
tttagcaaga gcccgatcta aaagaaccgg ctttccaagt gagctggtat aatcaaccca	1260
gtctccactc ttactactt ctaccgcctc ttccggtgta caaagctttt gtctgtactc	1320
agttgtaaaa tcctttaaca c	1341

<210> 171
 <211> 498
 <212> DNA
 <213> *Faecalibacterium prausnitzii*

<220>
 <221> misc_feature
 <223> *Faecalibacterium prausnitzii*

butyryl-CoA:acetate CoA-transferase

GenBank: GQ231311.1

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<400> 171
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tcggagctgc cccgctacta ccgcgagagt cccgacccgc tggacatcgc cgtcttccag      120
gtgactccga tggacgagca cggctacttc aacttcggcc ccagcacttc ccatctgggt      180
gccgtttgtg agaaggccag gaagatcatc gtggaggtca acaccaatat gccccgctgc      240
ctcggcggtg tggagaactg tgtccatgtc tcccaggtca ccggcatcgt ggagggcggc      300
aatccgcca tcggccagat ggccgctgcc ggccccgctt ccgaggtcga tttgaaggtc      360
gcaaacctcg tcgtgccgca gatccccgac ggtgcctgcc tgcagctggg catcggcggt      420
atgccaacg ccatcggcag cctcatcgcc cagagcgatt tgaaggacct gggcgtccac      480
accgagatgt atgttgac                                         498
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<210> 172
<211> 498
<212> DNA
<213> Roseburia intestinalis
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<220>
<221> misc_feature
<223> Roseburia intestinalis
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butyryl-CoA:acetate CoA-transferase

GenBank: GQ231304.1

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tccgaactgc cacgttacta ccgcgagctt gactgcccgg atgatgtagc aatgtttcag      120
gtagctccga tggattccca tggatatttc aatttcggac caagtgcctc ccatctcggt      180
gcaatgtgtg agagagcaaa acacatcatc gtagaggtca atgaaaacat gccgcgctgc      240
cttggcgga cagaatgcgg aattcacatt tccgatgtta cctatatcgt agagggttcg      300
aatcctccga tcggcgagct tggtgccggc ggtcctgcaa cagatatcga caaaacggtt      360
gcaaaaactga tcgtagacga gatcccgaac ggtgcatgct tacaacttgg tatcggcggt      420
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atgccaaacg ctgtcggttc cctgattgca gagtctgact taaaagacct cggtgtccac 480
acagagatgt atgtagat 498

<210> 173
<211> 1341
<212> DNA
<213> Roseburia hominis

<220>
<221> misc_feature
<223> Roseburia hominis

butyryl-CoA:acetate CoA-transferase

NCBI Reference Sequence: NZ_WQNU01000046.1

<400> 173
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gaaatcagga tgcgcgatcg agatcagagc ctcggctctc tgccaggtag acagaccctt 120
taagttcacc ttgccgtatt cggttacaac atagtgtgta ttcggtcttg cgtcggtaac 180
gatggaaccg tttgccagcg tcgggcggat acgggactgc acctgaccgt ccttggctctt 240
gaaggtagag gataagcaga taaagctctt gccgcccttg gacagataag ctccgagcac 300
gaagtcaagc tgtccgcctg cgccgctgat ctgcttgatg cctgcagact ctgcatttac 360
ctgaccatag agatcaatat ccacggcatt gttgatggaa ataaagttat ccagtgcgga 420
gatcgagcgg atgtcattcg tgtagtcgac cggagcgctc atcagttccg ggttgtcgtc 480
cagataatcg tacattttct tgggtgccggc gccgaaagcg taggtctggc ggtaacggtc 540
gatattcttt ttggaaccgt tgatcttacc tgcctttgca atatcgacaa atgcatccac 600
gtacatctca gtgtgaacgc cgagatcctt caagtcggac tctgcaatca gggaaccgac 660
agcgtttggc atgccgccga taccgagctg taagcaggca ccgttcggaa tctcatcgac 720
gatcagcttt gcgacagcct tatccacatc tgtagcagga ccgcctgcac caagttcacc 780
gattggcggg ttggagcctt ctacgatgta ggtgacatcg gaaatgtgga tgccgcactc 840
ggtaccgccg aggcagcgtg gcatattttc attgacttct acgatgatgt gctttgcgcg 900
ctcgcacatt gcaccagat gtgaggcact cggaccgaag ttaaagtagc cgtgcgcatc 960
catcggagcg acctggaaca tggcaacgtc atccgggcag tcaagctcgc ggtagtagcg 1020

cggcagctcg gagtagcgga tcggacagta gtaagccacg cctctgttta tcatcttgcg	1080
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aaaaacagcc agcggcttca tcaggatacc gccgcgcagc ttgacgtctg tcagttcgtc	1200
ggtgcgcttt gcgagagcct gatccagtgc gtcaacggtg ttggtgcacc agccgtaatc	1260
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gtattcttca cgaaaatcca t	1341

<210> 174
 <211> 1341
 <212> DNA
 <213> Anaerostipes caccae

<220>
 <221> misc_feature
 <223> Anaerostipes caccae

butyryl-CoA transferase

European Nucleotide Archive Coding: ABA39273.1

<400> 174	
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aaggctttgg caaaaagaat gccggaattg gaaaatatta atatccgggg cggaatcgtc	180
atgtggccgc tggaaatcac taagatcgac tcccctgccg atcactttac atggaattcc	240
tggcacatgg gcggactgga gagaaaatgg atcaaggaag gtttttccta ctacgcaccg	300
atccgttatt ccgagctgcc gggatactac cgcaattaca tcgatcacgt ggatgttgcg	360
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cacctggctg caatgcttga aaaagccgac tgtgtcatcg tggaagtcaa cgaaaatatg	480
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gaaggcgaaa atcctgcgat cgcagagctg ggcggaggcg gagcagccac cgacgtggac	600
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accggtgcc	gaaaaaatat	cgaccgctac	cgtcagactt	atgcattcgc	agcagggacc	840
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acaaatgata	ttgcaagggt	ttcttccatt	gacaatttca	tctctatcaa	caatgccgta	960
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gtatgcctgt	cttccacttt	cactgacaag	gccggacaga	tgcattcccg	tattcttcct	1140
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gaatacggaa	tggcaaacat	gaaaggactc	tctgcatggc	agcgcgcgga	agccctgata	1260
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tggagaagat	ccaacaaata	g				1341

<210> 175
 <211> 1068
 <212> DNA
 <213> Clostridium butyricum

<220>
 <221> misc_feature
 <223> butyrate kinase (buk) from Clostridium butyricum

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gaagatgaaa	aagaattatt	tgaagaaact	ttaagacata	caaatgaaga	attaaagcag	120
tttgatgcga	ttttgatca	atttcaattt	agaaaagatg	taatttttaa	agttttaagt	180
gaaaaaaact	ttgatataaa	aacattaagt	gctgttggtg	gtagaggtgg	aatgcttaaa	240
ccagttgaag	gtggtactta	tgctgtaaat	gatgcaatgg	tagaagattt	aaaggtagga	300
gttcaaggac	ctcatgcttc	taacttagga	ggtatacttg	caaggtcaat	agctgatgaa	360
ataggagtac	catctttcat	tgttgatcca	gttgttacag	atgaacttgc	agatgttgca	420
agattatctg	gtacaccaga	tattccaaga	aaaagtaagt	tccatgcatt	aaatcaaaag	480
gcagttgcaa	agagatatgg	aaaagaaagt	ggaaaaggat	atgaaaattt	aaatcttggt	540
gttgtagaca	tgggtggtgg	agtttctggt	ggagctcaca	atcatggaaa	agttgttgat	600
gtaaacaatg	cacttgatgg	agatggtcca	ttttctccag	aaagagctgg	atcagttcca	660

gctggagatt taattaaaat gtgtttcagt ggtaagtata gcgaatcaga agtatacagc	720
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attgataaga tgggaagctgg agataaggaa tgtgaaaaca tatataaagc tttcttatat	840
caaataacaa aagcaattgg agaaatgtca gctgcattaa atggtaaagt tgatcagata	900
gttttaacag gtggtattgc atattctcca acacttgtagc cagatttaaa agctaattgtt	960
gaatggattg caccagtaac agtatatcca ggagaagatg aattgttagc tttagctcaa	1020
ggtgctataa gagttcttga tggagaagaa aaggctaaag tttattaa	1068

<210> 176
 <211> 1296
 <212> DNA
 <213> Flavonifractor plautii

<220>
 <221> misc_feature
 <223> 4-hydroxybutyrate CoA-transferase/4Hbt (Flavonifractor plautii)

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gacgtaatgg tggccaacgc caaggcctac agggacgtgg agatcgtcca catggtggcc	180
atgggcaagg ccgagtactg caagcccag tatgccggta acttccgcca caacgccttc	240
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ttcttctttg aggtgccccg ccagttcagc tccactatgc cgggtggacgt ggccatggtc	360
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gccgtgctcc tcttcctcaa gcacaagaag gacctgggca tccactccga gatgttctcc	720
gacggcgtgg tggagctggc cgaggccggc gtcacacca acgcaaaaa gaccctccac	780
cccggcaagt ttgaggtggc gttcctcatg ggcacccgcc gcctttacga cttcgtggat	840

cacaaccccg acgtggagct gcgccctgtg gactatgtca acaaccctt tgtcattgcc	900
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gcctccgaga gcatcggccc caagcagatc tccggcgtgg gcggccaggt ggacttcgtc	1020
cgcggcgctt ccgccagcaa gggcggcgtg tccatcatgg ccatgccctc caccgtcaag	1080
ggcaaaatct ccaagatcgt gccgctgctg gatgagggcg ccgccgtcac caccagccgc	1140
aacgacgtgg actacatcgt caccgagtac ggcggtggccg cgctgaaggg ccagaccctc	1200
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gcggagtacg agaagcgctt ccactgcaag tatta	1296

<210> 177
 <211> 660
 <212> DNA
 <213> Butyricimonas faecalis

<220>
 <221> misc_feature
 <223> Butyrate-acetoacetate CoA-transferase subunit B from
 Butyricimonas faecalis)

<400> 177	
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aacgtgcacg tgatcctaca atccgagaac ggattattag gtatgggtcc gaaaccggaa	180
gaaggtcaag aaaatccgga gttgacggat gctggtggtg gttacatcac ggcaatcgaa	240
ggagcctgca gctttgacag tgcaacctct tttggactta tccgcggcgg acacgtggat	300
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cccggaacaa aagccccggg tatgggtgga gccatggacc ttttggttgg tgctaaaaaa	420
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ctgccgttga cggctgccgg ggaagttgac atgattatca ccgaaatggg tgttatgaac	540
gttaccctcg aaggtatcga actggtagaa ttaaaccctg aatttacgtt agatgacatc	600
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<210> 178
 <211> 645

<212> DNA
<213> Butyricimonas faecalis

<220>
<221> misc_feature
<223> Butyrate-acetoacetate CoA-transferase subunit B from
Butyricimonas faecalis

<400> 178
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tcaggcggtta agaacttgac gttgatctgt aatgacacgg cttaccgga caaaggagta180
ggtcaattga ttgccaacaa acaagtaaag aaacttttcg tgtcacacat cgggaccaac240
ccgcacacga gcgaacaaat gaatagcgggagctagaaa tcgaattctg cccgcaaggt300
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aacgtgaaga caccttccat catggtggac ttcacgtta aataa645