

484-17\_sequence\_listing (1).txt  
SEQUENCE LISTING

<110> FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA  
SCUOLA INTERNAZIONALE SUPERIORE DI STUDI AVANZATI

<120> FUNCTIONAL NUCLEIC ACID MOLECULE AND USE THEREOF

<130> 484-17

<160> 65

<170> BiSSAP 1.3

<210> 1

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV(d) IRUP

<400> 1

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cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuuc uuggauaaac ccgcuaaag ccuggagauu ugggugugcc	300
cccgcaagac ugcuaagccga guaguguugg gucgcgaaag gccuuguggu acugccugau	360
agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugaaa cacauacuau aaaucuagua cucaggauugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca ccccccacccc ucccacuaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauuaaa acaaaaccaa	660
gaucucucca ccuuuuuuu gcuuuuucag acuuuguaau aaggccuuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuauu cuuaugcaau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900

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gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
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ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuaucu gacagccaac cuucccauac auuucuuug gcauacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguaac caagcuu	1437

<210> 2

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV(i) IRUP

<400> 2

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agaccucccg gggcacucgc aagcacccua ucaggcagua ccacaaggcc uuucgcgacc	180
caacacuacu cggcuagcag ucuugcgggg gcacgcccua aucuccaggc auugagcggg	240
uuuauccaag aaaggacccg gucguccugg caauuccggu guacucaccg guuccgcaga	300
ccacuauggc ucucccgga gggggggucc uggaggcugc acgacacuca uacuaacgcc	360
auggcuagac gcuuucugcg ugaagacagu aguuccucac aggggaguga uucauggugg	420
agugucgccc ccaucagggg gcuggcaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc ucccuaaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauauaa acaaaaccaa	660
gaucucucca ccuuuuuuu gcuuuuucag acuuuguaau aaggccuuu ggagugcagg	720

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auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuau cuuaugcaau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cucccugcug agacuuccau ugaaccgaug aguucugaau agaaugucc	1200
ccccacccc cccaccagug uagaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuau cuuuccauac auuucuuagg gcauacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 3

<211> 1366

<212> RNA

<213> Artificial Sequence

<220>

<223> Polio(d) IRUP

<400> 3

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uauggcuaac gccauaggac gcuaguugug aacaaggugu gaagagccua uugagcuaca	180
uaagaauccu ccggccccug aaugcggcua aucccaaccu cggagcaggu ggucacaaac	240
cagugauugg ccugucguua cgcgcaaguc cguggcggaa ccgacuacuu uggguguccg	300
uguuuccuuu uauuuuauug uggcugcuua uggugacaau cacagauugu uaucauaaag	360
cgaauuggau uggccagucu cuuaaaaaac aaacaaacga acgaacagca agggagcugg	420
guaugacaac acauacuaua auucuaguac ucaggaugcu gaaacaggag gauugccuga	480
cugggagaua uaaggagaau cuguugucac cccaccccu ccccauaaag gcagaauaaa	540

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agaacguccu auaaacaauu aaacaaacaa cccaauaaaa caaaaccaag aucucuccac	600
cuuuuucuuug cuuuuucaga cuuuguaaua aggcccuuug gagugcagga uauucggcag	660
gacaagcaga gagggagacc aucaguucuu ucuuugauca agaagacuau guuccuuagc	720
aaacuggugu guauuauuc uuaugcaaug agccuggaaa gagggcacag ccaccgagga	780
ugguacagca uggauuggaug guacgcuaca gagacucggg agcccaacug ugaguggcug	840
acuggcaugg uagguucagg gaagaauugg ccugugaaga aaauguucuu gaaaagugaa	900
caaggugcag gagguaggag uggguccugg gcaaagcagg gggugcaucc cagccucagg	960
gaauagcaca gcagaggucu guugaugcau gcgagugcau gaccugcuug ccaauagacg	1020
aucaagaauug ggcaaagcau caugggugau gagugggaga ggggaugaga cauuccuuuc	1080
ucccugcuga gacuuccauu gaaccgauga guucugaaua gaagaugccc cccaccccc	1140
ccaccagugu agaaucugaa gggaggcaua uauuaccua uauuacucug uguuggcggc	1200
gagcuauucug acagccaacc uucccuaaca uucauuggg cauacacuaa ugacaggaag	1260
uuccuuuugc uuguaucaa gagauggcuc acacgaugga gaauuuauuc uugaagggcg	1320
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<211> 1366

<212> RNA

<213> Artificial Sequence

<220>

<223> Polio(i) IRUP

<400> 4

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auaaaauaaa aggaaacacg gacacccaaa guagucgguu ccgccacgga cuugcgcgau	180
acgacaggcc aaucacuggu uugugaccac cugcuccgag guugggauua gccgcuuca	240
ggggccggag gauucuuau uagcucaaua ggcucuucac accuuguuca caacuagcgu	300
cccauggcgu uagccauagg uaggccgcca acgcagccug gaccaccguc accggugagg	360
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guaugacaac	acauacuaua	auucuaguac	ucaggaugcu	gaaacaggag	gauugccuga	480
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agaacguccu	auaaacaaa	aaacaaaca	cccauaaaa	caaaaccaag	aucucuccac	600
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aaacuggugu	guauuauuc	uuauugcaug	agccuggaaa	gagggcacag	ccaccgagga	780
ugguacagca	uggauggaug	guacgcuaca	gagacucggg	agcccaacug	ugaguggcug	840
acuggcaugg	uagguucagg	gaagaauugg	ccugugaaga	aaauguucuu	gaaaagugaa	900
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gaauagcaca	gcagaggucu	guugaugcau	gcgagugcau	gaccugcuug	ccaauagacg	1020
aucaagaau	ggcaaagcau	caugggugau	gagugggaga	ggggaugaga	cauuccuuuc	1080
ucccugcuga	gacuuccauu	gaaccgauga	guucugaaua	gaagaugccc	ccccaccccc	1140
ccaccagugu	agaaucugaa	gggaggcaua	uauuaccua	uauuacucug	uguuggcggc	1200
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uuccuuuugc	uuguaugcaa	gagauggcuc	acacgaugga	gaauuuauuc	uugaagggcg	1320
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<211> 1630

<212> RNA

<213> Artificial Sequence

<220>

<223> EMCV(d) IRUP

<400> 5

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ccggugugcg	uuugucuaua	uguuuuuuuu	caccauauug	ccgucuuuuu	gcaaugugag	180
ggcccggaaa	ccuggcccug	ucuucuugac	gagcauuccu	aggggucuuu	ccccucucgc	240
caaaggaaug	caaggucugu	ugaaugucgu	gaaggaagca	guuccucugg	aagcuucuug	300

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aagacaaaca acgucuguag cgacccuuug caggcagcgg aacccccac cuggcgacag	360
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gugccacguu gugaguugga uaguugugga aagagucaaa uggcucuccu caagcguauu	480
caacaagggg cugaaggau gcccagaaggu accccauugu augggaucug aucuggggcc	540
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cacggggacg ugguuuuccu uugaaaaaca cgaugauaaa gucucuuaaa aaacaaacaa	660
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cccuccccau aaaggcagaa uaaaagaacg uccuauaaac aaauaaacaa acaaccacau	840
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uuuggagugc aggauauucg gcaggacaag cagagaggga gaccaucagu ucuuucuug	960
aucaagaaga cuauguuccu uagcaaacug guguguauua ucucuuaugc aaugagccug	1020
gaaagagggc acagccaccg aggaugguac agcauggaug gaugguacgc uacagagacu	1080
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ugggcuaaca cuaaugacag gaaguuccu uugcuuguau gcaagagaug gcucacacga	1560
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<210> 6

<211> 1630

<212> RNA

<213> Artificial Sequence

484-17\_sequence\_listing (1).txt

<220>

<223> EMCV(i) IRUP

<400> 6

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uuuuuuuacc ucgacuaaac acauguaaag caugugcacc gaggccccag aucagaucac	180
auacaauagg guaccuucug ggcauccuuc agcccccugu ugaauacgcu ugaggagagc	240
cauuugacuc uuuccacaac uauccaacuc acaacguggc acuggggguug ugccgccuuu	300
gcagguguau cuuauacacg uggcuuuuug ccgcagaggc accugucgcc agguuuuuuu	360
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aaaacaaaac caagaucucu ccacuuuuc uuugcuuuuu cagacuugu aauaaggccc	900
uuuggagugc aggauauucg gcaggacaag cagagaggga gaccaucagu ucuuucuuug	960
aucaagaaga cuauguuccu uagcaaacug guguguauua ucucuuaugc aaugagccug	1020
gaaagagggc acagccaccg aggaugguac agcauggaug gaugguacgc uacagagacu	1080
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ugggcgauaca cuaaugacag gaaguuccuu uugcuuguau gcaagagaug gcucacacga	1560
uggagaauuu aaucuugaag ggcgaauucc accacacugg acuaguggau ccgagcucgg	1620
uaccaagcuu	1630

<210> 7

<211> 1140

<212> RNA

<213> Artificial Sequence

<220>

<223> CrPV(d) IRUP

<400> 7

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guagugcuau uuuuguauuu agguuagcua uuuagcuuuu cguuccagga ugccuagugg	180
cagccccaca auauccagga agcccucucu gcgguuuuuc agauuaggua gucgaaaaac	240
cuaagaaauu uaccuagucu cuuaaaaaac aaacaaacga acgaacagca agggagcugg	300
guaugacaac acauacuaua auucuaguac ucaggaugcu gaaacaggag gauugccuga	360
cugggagaua uaaggagaau cuguugucac cccaccccu ccccauaaaag gcagaauaaa	420
agaacguccu auaaacaauu aaacaaacaa cccaauaaaa caaaaccaag aucucuccac	480
cuuuucuuug cuuuuucaga cuuuguaaua aggcccuug gagugcagga uauucggcag	540
gacaagcaga gagggagacc aucaguucuu ucuuugauca agaagacuau guuccuuagc	600
aaacuggugu guauuauuc uuaugcaaug agccuggaaa gagggcacag ccaccgagga	660
ugguacagca uggauuggaug guacgcuaca gagacucggg agcccaacug ugaguggcug	720
acuggcaugg uagguucagg gaagaauugg ccugugaaga aaauguucuu gaaaagugaa	780
caaggugcag gagguaggag uggguccugg gcaaagcagg gggugcaucc cagccucagg	840
gaauagcaca gcagaggucu guugaugcau gcgagugcau gaccugcuug ccaauagacg	900
aucaagaauug ggcaaagcau caugggugau gagugggaga ggggaugaga cauuccuuuc	960
ucccugcuga gacuuccauu gaaccgauga guucugaaua gaagaugccc cccaccccc	1020



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ccaccagugu agaaucugaa gggaggcaua uauuacccua uauuacucug uguuggcggc	1080
gagcuaucug acagccaacc uucccauaca uuucuuuggg cauacacuaa ugacaggaag	1140

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 <213> Artificial Sequence

<220>  
 <223> CrPV(i) IRUP

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cuggauauug uggggcgucc acuaggcauc cuggaacgua aagcuaaaia gcuuaccuaa	180
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ucacauuuuuu gcuuuagucu cuuaaaaaac aaacaaacga acgaacagca agggagcugg	300
guaugacaac acauacuaua auucuaguac ucaggauugu gaaacaggag gauugccuga	360
cugggagaua uaaggagaau cuguugucac cccaccccu ccccauaaag gcagaauaaa	420
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cuuuuucuuu cuuuuucaga cuuuguaaua agggccuuug gagugcagga uauucggcag	540
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aaacuggugu guuuuauuc uuaugcaaug agccuggaaa gagggcacag ccaccgagga	660
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caaggugcag gagguaggag uggguccugg gcaaagcagg gggugcaucc cagccucagg	840
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aucaagaauu ggcaaagcau caugggugau gagugggaga ggggaugaga cauuccuuuc	960
uuccugcuga gacuuccauu gaaccgauga guucugaaua gaagaugccc cccaccccc	1020
ccaccagugu agaaucugaa gggaggcaua uauuacccua uauuacucug uguuggcggc	1080
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# 484-17\_sequence\_listing (1).txt

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aaauccacca cacuggacua guggauccga gcucgguacc aagcuu 1246

<210> 9

<211> 1285

<212> RNA

<213> Artificial Sequence

<220>

<223> Apaf-1(d) IRUP

<400> 9

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uggcgagaca gagcccugca ccccuauuuc ccgguggaaa acuccuguug ccguuucccu 180

ccaccggccu ggagucucc agucuugucc cggcagugcc gccucccca cuaagaccua 240

ggcgcaaagg cuuggcucau gguugacagc ucagagagag aaagaucuga gggaagucuc 300

uuaaaaaaca aacaaacgaa cgaacagcaa gggagcuggg uaugacaaca cauacuauaa 360

uucuaguacu caggauugc aaacaggagg auugccugac ugggagauau aaggagaauuc 420

uguugucacc cccaccccuc cccaauaaagg cagaauaaaa gaacguccua uaaacaaaua 480

aacaaacaac ccaauaaaac aaaaccaaga ucucuccacc uuuucuuugc uuuuucagac 540

uuuguaauaa ggcccuuugg agugcaggau auucggcagg acaagcagag agggagacca 600

ucaguucuuu cuuugaucaa gaagacuaug uuccuuagca aacuggugug uauuauucuc 660

uaugcaauga gccuggaaa agggcacagc caccgaggau gguacagcau ggauggaugg 720

uacgcuacag agacucggga gcccaacugu gaguggcuga cuggcauggu agguucaggg 780

aagaauuggc cugugaagaa aauguucuug aaaagugaac aaggugcagg agguaggagu 840

ggguccuggg caaagcaggg ggugcaucc agccucaggg aaagcacag cagaggucug 900

uugaugcaug cgagugcaug accugcuugc caauagacga ucaagaugg gcaaagcauc 960

augggugaug agugggagag gggauagagc auuccuuucu ccugcugag acuuccauug 1020

aaccgaugag uucugaauag aagaugcccc cccaccccc caccagugua gaauaugaag 1080

ggaggcauau auuaccuau auuacucugu guuggcgcg agcuauauga cagccaaccu 1140

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uggauccgag cucgguacca agcuu	1285

<210> 10

<211> 1285

<212> RNA

<213> Artificial Sequence

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<223> Apaf-1(i) IRUP

<400> 10

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc	60
cuuucccuca gaucuuucuc ucucugagcu gucaaccaug agccaagccu uugcgccuag	120
gucuuagugg ggagggcggc acugccggga caagacuggg agacuccagg ccgguggagg	180
gaaacggcaa caggaguuuu ccaccgggaa uuaggggugc agggcucugu cucgccacau	240
acccuucgcc ccggggcagg uccgggccuc acaggcgccu cccuggauc ucugagucuc	300
uuaaaaaaca aacaaacgaa cgaacagcaa gggagcuggg uaugacaaca cauacuauaa	360
uucuaguacu caggauugc aaacaggagg auugccugac ugggagauau aaggagaau	420
uguugucacc cccaccccuc cccauaaagg cagaauaaaa gaacguccua uaaacaaa	480
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ucaguucuuu cuuugaucaa gaagacuaug uuccuuagca aacuggugug uauuauucu	660
uaugcaauga gccuggaaag agggcacagc caccagggau gguacagcau ggauggaugg	720
uacgcuacag agacucggga gcccaacugu gaguggcuga cuggcauggu agguucaggg	780
aagaauuggc cugugaagaa aauguucuug aaaagugaac aaggugcagg agguaggagu	840
ggguccuggg caaagcaggg ggugcauucc agccucaggg aaugcacag cagaggucug	900
uugaugcaug cgagugcaug accugcuugc caauagacga ucaagaauagg gcaaagcauc	960
augggugaug agugggagag gggauagagc auuccuuucu cccugcugag acuuccauug	1020
aaccgaugag uucugaauag aagaugcccc cccaccccc caccagugua gaucugaag	1080

# 484-17\_sequence\_listing (1).txt

ggaggc <u>auau</u>	uuuacccuau	uuuacucugu	guuggcggcg	agcuau <u>cuga</u>	cagccaaccu	1140
uccc <u>auacau</u>	uucauugggc	auacacuaau	gacaggaagu	uccuuuugcu	uguau <u>gcaag</u>	1200
agauggcuca	cacgauggag	aauuua <u>aucu</u>	ugaagggcga	auuccaccac	acugga <u>cuag</u>	1260
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<210> 11

<211> 1514

<212> RNA

<213> Artificial Sequence

<220>

<223> ELG-1(d) IRUP

<400> 11

ccauuuuuuau	guuauauguu	uacaagcccc	acaccaggcu	gaaaaucugc	agaauucgcc	60
cuuacuuuuug	gugggc <u>auuu</u>	aaaaaugugu	guguaugugu	auauauguau	guguaug <u>uau</u>	120
guguauauau	guauauguau	guauguaucg	cguguaugug	uguau <u>guaug</u>	cauguguaug	180
uauguauaug	cauguaugug	uauguguaua	uauguaugug	uguguaugua	uaugugugug	240
uauguguaug	ugugugugua	ugugugugug	uauguaugua	uguau <u>guaua</u>	uguauuuuac	300
acauauacac	auauugguuu	uuuu <u>aauc</u> au	uugagaguua	guugaagaua	aaaacccauc	360
accccuaaa <u>u</u>	guauuccaaa	gaauaagaac	auuguuuuau	acauagcaca	cuuaacaaaa	420
ucaagaa <u>uu</u>	uaacauuaau	acaguacugu	uaccuaaucc	guagucgauu	uucaaa <u>uuuu</u>	480
gucaguuguu	ccaauaaugu	ccuuuauaua	uuccccgccc	agcagucucu	uaaaaaa <u>caa</u>	540
acaaacgaac	gaacagcaag	ggagcugggu	augacaacac	auacuauaau	ucuaguacuc	600
aggaugcuga	aacaggagga	uugccugacu	gggagauaua	aggagaaucu	guugucaccc	660
ccaccccu <u>cc</u>	ccauaaaggc	agaauaaaag	aacguccuau	aaacaaauaa	acaaacaacc	720
caauaaaaca	aaaccaagau	cucuccaccu	uuucu <u>uugcu</u>	uuuucagacu	uuguauaag	780
gcccuuu <u>gga</u>	gugcaggaua	uucggcagga	caagcagaga	gggagacc <u>au</u>	caguucuuuc	840
uuugaucaag	aagacuau <u>gu</u>	uccuuagcaa	acuggugugu	auuau <u>cucu</u> u	augcaa <u>ugag</u>	900
ccuggaaaga	gggcacagcc	accgaggau <u>g</u>	guacagcaug	gauggauggu	acgcuacaga	960
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484-17\_sequence\_listing (1).txt

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aaagcagggg gugcauccca gccucaggga auagcacagc agaggucugu ugaugcaugc	1140
gagugcauga ccugcuugcc aauagacgau caagauggg caaagcauca ugggugauga	1200
gugggagagg ggaugagaca uuccuuucuc ccugcugaga cuuccauuga accgaugagu	1260
ucugaauaga agaugccccc ccacccccc accaguguag aaucugaagg gaggcauaua	1320
uuacccuaua uuacucugug uuggcggcga gcuaucugac agccaaccuu cccauacauu	1380
ucauugggca uacacuaaug acaggaagu ccuuuugcuu guaугcaaga gauggcucac	1440
acgauggaga auuuuauuu gaagggcgaa uuccaccaca cuggacuagu ggauccgagc	1500
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<210> 12

<211> 1514

<212> RNA

<213> Artificial Sequence

<220>

<223> ELG-1(i) IRUP

<400> 12

ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc	60
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gacuacggau uagguaacag uacuguauua auguuaauu ucuugauuuu guuaagugug	180
cuauguauaa aacaauguuc uuauucuuug gaauacauuu aggggugaug gguuuuuau	240
uucaacuaac ucucaaauga uuaaaaaaac caauaugugu auauguguau aaauacauaua	300
cauacauaca uacauacaca cacacauaca cacacacaua cacauacaca cacauauaca	360
uacacacaca uacauauaua cacauacaca uacaugcaua uacauacaua ccaugcaua	420
cauacacaca uacacgcgau acauacauac auauacauau auacacauac auacacauac	480
auauauacac auacacacac auuuuuuuuu gcccaccaa aguagucucu uaaaaaaca	540
acaaacgaac gaacagcaag ggagcugggu augacaacac auacuauauu ucuaguacuc	600
aggaugcuga aacaggagga uugccugacu gggagauaua aggagaaucu guugucaccc	660
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484-17\_sequence\_listing (1).txt

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gccccuuugga gugcaggaua uucggcagga caagcagaga gggagaccu caguucuuuc	840
uuugaucaag aagacuauu uccuuagcaa acuggugugu auuauucuu augcaaugag	900
ccuggaaaaga gggcacagcc accgaggau guacagcaug gauggauggu acgcuacaga	960
gacucgggag cccaacugug aguggcugac uggcauggua gguucaggga agaauuggcc	1020
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gugggagagg ggaugagaca uuccuuucuc ccugcugaga cuuccauuga accgaugagu	1260
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uuacccuaua uuacucugug uuggcggcga gcuauugac agccaaccuu cccauacauu	1380
ucauugggca uacacuaug acaggaaguu ccuuuugcuu guaugcaaga gauggcucac	1440
acgauggaga auuuauucuu gaagggcgaa uuccaccaca cuggacuagu ggauccgagc	1500
ucgguaccaa gcuu	1514

<210> 13

<211> 1449

<212> RNA

<213> Artificial Sequence

<220>

<223> cMYC full length(d) IRUP

<400> 13

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuuaauucca gcgagaggca gagggagcga gcgggcggcc ggcuagggug gaagagccgg	120
gcgagcagag cugcgcugcg ggcguccugg gaaggagau ccggagcgaa uagggggcuu	180
cgccucuggc ccagcccucc cguugaucc cccaggccag cgguccgcaa cccuugccgc	240
auccacgaaa cuuugcccau agcagcgggc gggcacuuug cacuggaacu uacaacaccc	300
gagcaaggac gcgacucucc cgacgcgggg aggcuaauuc gcccauugg ggacacuucc	360
ccgccgcugc caggacccgc uucucugaaa ggcucuccuu gcagcugcuu agacgcugga	420

484-17\_sequence\_listing (1).txt

uuuuuuucgg guaguggaaa accagcagcc ucccggaag ucucuuaaaa aacaaacaaa	480
cgaacgaaca gcaagggagc ugguuaugac aacacauacu auaauucuag uacucaggau	540
gcugaaacag gaggauugcc ugacugggag auauaaggag aaucuguugu cacccccacc	600
ccuccccaaua aaggcagaau aaaagaacgu ccuauaaaca aaauaacaac caaccaaua	660
aaacaaaacc aagaucucuc caccuuuuu uugcuuuuuc agacuuugua auaaggcccu	720
uuggagugca ggauauucgg caggacaagc agagagggag accaucagu cuuucuuuga	780
ucaagaagac uauguuccuu agcaaacugg uguguauuau cucuuaugca augagccugg	840
aaagagggca cagccaccga ggaugguaca gcauggaugg augguacgcu acagagacuc	900
gggagcccaa cugugagugg cugacuggca ugguagguuc agggaagaau uggccuguga	960
agaaaauguu cuugaaaagu gaacaaggug caggagguag gagugggucc ugggcaaagc	1020
agggggugca ucccagccuc agggauagc acagcagagg ucuguugaug caugcgagug	1080
caugaccugc uugccaauag acgaucaaga augggcaaag caucaugggu gaugaguggg	1140
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auagaagaug ccccccacc cccccaccag uguagaauu gaaggaggc auauuuuacc	1260
cuauuuuacu cuguguuggc ggcgagcuau cugacagcca accuucccau acauuucauu	1320
gggcuaacac uaaugacagg aaguuccuuu ugcuuguaug caagagaugg cucacacgau	1380
ggagaauuuu aucuugaagg gcgaauucca ccacacugga cuaguggauc cgagcucggg	1440
accaagcuu	1449

<210> 14

<211> 1449

<212> RNA

<213> Artificial Sequence

<220>

<223> cMYC full length(i) IRUP

<400> 14

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc	60
cuuucgcggg aggcugcugg uuuuccacua cccgaaaaaa auccagcguc uaagcagcug	120
caaggagagc cuuucagaga agcggguccu ggcagcggcg gggaaguguc cccaauggg	180

484-17\_sequence\_listing (1).txt

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gcaaagugcc cgccccgcugc uaugggcaaa guuucgugga ugcggcaagg guugcggacc	300
gcuggccugg gggaucaagc gggagggcug ggccagaggc gaagccccu auucgcuccg	360
gaucucccuu cccaggacgc ccgcagcgca gcucugcucg cccggcucu ccacccuagc	420
cggccgccccg cucgcuccu cugccucucg cuggaauuag ucucuuaaaa aacaaacaaa	480
cgaacgaaca gcaagggagc ugguaugac aacacauacu auaauucuag uacucaggau	540
gcugaaacag gaggauugcc ugacugggag auauaaggag aaucuguugu cccccacc	600
ccuccccaaua aaggcagaau aaaagaacgu ccuauaaaca aaauaaca aaacccaaua	660
aaacaaaacc aagaucucuc caccuuuucu uugcuuuuuc agacuuugua auaaggcccu	720
uuggagugca ggauauucgg caggacaagc agagagggag accaucagu cuuucuuga	780
ucaagaagac uauguuccu agcaaacugg uguguauuau cucuuaugca augagccugg	840
aaagagggca cagccaccga ggaugguaca gcauggaugg augguacgc acagagacuc	900
gggagcccaa cugugagugg cugacuggca ugguagguuc agggaagaau uggccuguga	960
agaaaauguu cuugaaaagu gaacaaggug caggagguag gagugggucc ugggcaaagc	1020
agggggugca ucccagccuc agggaauagc acagcagagg ucuguugaug caugcgagug	1080
caugaccugc uugccaauag acgaucaaga augggcaaag caucaugggu gaugaguggg	1140
agaggggaug agacauuccu uucucccugc ugagacuucc auugaaccga ugaguucuga	1200
auagaaug cccccccacc cccccaccag uguagaau cuuagaaccga auauuuuacc	1260
cuauuuuacu cuguguuggc ggcgagcuau cugacagcca accuuccau acauuuauu	1320
gggcacacac uaaugacagg aaguuccuu ugcuuguau caagagaugg cucacacgau	1380
ggagaauuuu aucuugaagg gcgaauucca ccacacugga cuaguggauc cgagcucggu	1440
accaagcuu	1449

<210> 15

<211> 1102

<212> RNA

<213> Artificial Sequence

<220>

<223> cMYC short variant(d) IRUP



484-17\_sequence\_listing (1).txt

<400> 15

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aaaaacaaac aaacgaacga acagcaaggg agcuggguau gacaacacau acuauaaauuc	180
uaguacucag gaugcugaaa caggaggauu gccugacugg gagauuaag gagaaucugu	240
ugucaccccc accccucuccc auaaaaggcag aaauaaagaa cguccuauaa acaauaaac	300
aaacaaccca auaaaacaaa accaagaucu cuccaccuuu ucuuugcuuu uucagacuuu	360
guaauaaggc ccuuuggagu gcaggauuu cggcaggaca agcagagagg gagaccauca	420
guucuuucuu ugaucaagaa gacuauguuc cuuagcaaac ugguguguau uaucucuau	480
gcaaugagcc uggaaagagg gcacagccac cgaggauugu acagcaugga uggaugguac	540
gcuacagaga cucgggagcc caacugugag uggcugacug gcaugguagg uucagggaag	600
aaugggccug ugaagaaaau guucuugaaa agugaacaag gugcaggagg uaggaguggg	660
uccugggcaa agcaggggggu gcaucccagc cucagggaau agcacagcag aggucuguug	720
augcaugcga gugcaugacc ugcugccaa uagacgauca agaaugggca aagcaucaug	780
ggugaugagu gggagagggg augagacauu ccuuucuccc ugcugagacu uccauugaac	840
cgaugaguuc ugaauagaag augccccccc accccccac caguguagaa ucugaaggga	900
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cauacauuuc auugggcaua cacuaaugac aggaaguucc uuuugcuugu augcaagaga	1020
uggcucacac gauggagaau uuaaucuuga agggcgaaau ccaccacacu ggacuagugg	1080
auccgagcuc gguaccaagc uu	1102

<210> 16

<211> 1102

<212> RNA

<213> Artificial Sequence

<220>

<223> cMYC short variant(i) IRUP

<400> 16

ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc	60
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484-17\_sequence\_listing (1).txt

cuuagagucg cguccuugcu cggguguugu aaguuccagu gcaaagugcc cagucucuua	120
aaaaacaaac aaacgaacga acagcaaggg agcuggguau gacaacacau acuauaaauuc	180
uaguacucag gaugcugaaa caggaggauu gccugacugg gagauuaag gagaaucugu	240
ugucaccccc accccucucc auaaaaggcag aaauaaaagaa cguccuauaa acaaaauaac	300
aaacaaccca auaaaacaaa accaagaucu cuccaccuuu ucuuugcuuu uucagacuuu	360
guaauaaggc ccuuuggagu gcaggauuu cggcaggaca agcagagagg gagaccauca	420
guucuuucuu ugaucaagaa gacuauguuc cuuagcaaac ugguguguau uaucucuuau	480
gcaaugagcc uggaaagagg gcacagccac cgaggauugu acagcaugga uggaugguac	540
gcuacagaga cucgggagcc caacugugag uggcugacug gcaugguagg uucagggaag	600
aaugggccug ugaagaaaau guucuugaaa agugaacaag gugcaggagg uaggaguggg	660
uccugggcaa agcagggggg gcaucccagc cucagggaau agcacagcag aggucuguug	720
augcaugcga gugcaugacc ugcuugccaa uagacgauca agaauaggga aagcaucaug	780
ggugaugagu gggagagggg augagacauu ccuuucuccc ugcugagacu uccauugaac	840
cgaugaguuc ugaauagaag augccccccc accccccac caguguagaa ucugaaggga	900
ggcauuuuu acccuauuu acucuguguu ggcggcgagc uaucugacag ccaaccuucc	960
cauacauuuc auugggcaua cacuaaugac aggaaguucc uuuugcuugu augcaagaga	1020
uggcucacac gauggagaau uuaaucuuga agggcgaaau ccaccacacu ggacuagugg	1080
auccgagcuc gguaccaagc uu	1102

<210> 17

<211> 1125

<212> RNA

<213> Artificial Sequence

<220>

<223> DMD(d) IRUP

<400> 17

ccauuuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucgc agaauucgcc	60
cuuguacuga caucguagau ggaaaucaua aacugacucu ugguuugauu uggaauauaa	120
uccuccacug gcagagucuc uuaaaaaaca aacaaacgaa cgaacagcaa gggagcuggg	180

# 484-17\_sequence\_listing (1).txt

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gaacguccua	uaaacaaua	aacaaacaac	ccaauaaaac	aaaaccaaga	ucucuccacc	360
uuuucuuugc	uuuuucagac	uuuguaauaa	ggcccuuugg	agugcaggau	auucggcagg	420
acaagcagag	aggagacca	ucaguucuuu	cuuugaucaa	gaagacuau	uuccuuagca	480
aacuggugug	uauuauucuc	uauugcauga	gccuggaaag	agggcacagc	caccgaggau	540
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cuggcauggu	agguucagg	aagaauuggc	cugugaagaa	aauguucuug	aaaagugaac	660
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aaugcacag	cagaggucug	uugaugcaug	cgagugcaug	accugcuugc	caauagacga	780
ucaagaauug	gcaaagcauc	auugggugaug	agugggagag	gggaugagac	auuccuuucu	840
cccugcugag	acuuccauug	aaccgaugag	uucugaauag	aagaugcccc	cccaccccc	900
caccagugua	gaucugaag	ggaggcauau	auuacccuau	auuacucugu	guuggcggcg	960
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uccuuuugcu	uguaugcaag	agauggcuca	cacgauggag	aauuuauc	ugaagggcga	1080
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<210> 18

<211> 1125

<212> RNA

<213> Artificial Sequence

<220>

<223> DMD(i) IRUP

<400> 18

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cuucugccag	uggaggauua	uauuccaaau	caaaccaaga	gucaguuuau	gauuuccauc	120
uacgauguca	guacagucuc	uuaaaaaaca	aacaaacgaa	cgaacagcaa	gggagcuggg	180
uugacaaca	cauacuauaa	uucuaguacu	caggaugcug	aaacaggagg	auugccugac	240
ugggagauau	aaggagaau	uguugucacc	cccaccccuc	cccuaaaagg	cagaauaaaa	300

484-17\_sequence\_listing (1).txt

gaacguccua uaaacaaaua aacaaacaac ccauaaaaac aaaaccaaga ucucuccacc	360
uuuucuuugc uuuuucagac uuuguauuaa ggcccuuugg agugcaggau auucggcagg	420
acaagcagag agggagacca ucaguucuuu cuuugaucaa gaagacuaug uuccuuagca	480
aacuggugug uauuauucuc uaugcaauga gccuggaaag agggcacagc caccgaggau	540
gguacagcau ggauggaugg uacgcuacag agacucggga gcccaacugu gaguggcuga	600
cuggcauggu agguucaggg aagaauuggc cugugaagaa aauguucuug aaaagugaac	660
aaggugcagg agguaggagu ggguccuggg caaagcaggg ggugcauccc agccucaggg	720
aaauagcacag cagaggucug uugaugcaug cgagugcaug accugcuugc caauagacga	780
ucaagaauagg gcaaagcauc augggugaug agugggagag gggaugagac auuccuuucu	840
cccugcugag acuuccauug aaccgaugag uucugaauag aagaugcccc cccaccccc	900
caccagugua gaaucugaag ggaggcauau auuaccuau auuacucugu guuggcggcg	960
agcuauauga cagccaaccu ucccuaacau uucauugggc auacacuaau gacaggaagu	1020
uccuuuugcu uguaugcaag agauggcuca cacgauggag aauiuaauu ugaagggcga	1080
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<210> 19

<211> 1357

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV delta II(d) IRUP

<400> 19

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ccauaguggu cugcgggaacc ggugaguaca ccggaauugc caggacgacc ggguccuuuc	180
uuggauaaaac ccgcucaaug ccuggagauu ugggcgugcc cccgcaagac ugcuaagccga	240
guaguguugg gucgcgaaag gccuuguggu acugccugau agggugcuug cgagugcccc	300
gggaggucuc guagaccgug caccaugagc acgaauccua aaccucaaag aaaaacaaa	360
cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc aaggagcug gguaugacaa	420

484-17\_sequence\_listing (1).txt

cacauacuau aauucuagua cucaggaugc ugaaacagga ggauugccug acugggagau	480
auaaggagaa ucuguuguca cccccacccc ucccacauaa ggcagaauaa aagaacgucc	540
uauaaacaaa uaaacaaaca acccaauaaa acaaaaccaa gaucucucca ccuuuucuuu	600
gcuuuuucag acuuuguaau aaggcccuuu ggagugcagg auauucggca ggacaagcag	660
agagggagac caucaguucu uucuuugauc aagaagacua uguuccuuag caaacuggug	720
uguauuau cuuauugcau gagccuggaa agagggcaca gccaccgagg augguacagc	780
auggauggau gguacgcuac agagacucgg gagcccaacu gugaguggcu gacuggcaug	840
guagguucag ggaagaauug gccugugaag aaaauguucu ugaaaaguga acaaggugca	900
ggagguagga guggguccug ggcaaagcag ggggugcauc ccagccucag ggaauagcac	960
agcagagguc uguugaugca ugcgagugca ugaccugcuu gccaaugac gaucaagaau	1020
gggcaaagca ucauggguga ugagugggag aggggaugag acauuccuuu cucccugcug	1080
agacuuccau ugaaccgaug aguucugaau agaagaugcc cccccacccc cccaccagug	1140
uagaaucuga agggaggcau auauuacccu auauuacucu guguuggcgg cgagcuau cu	1200
gacagccaac cuucccauac auuucuuugg gcauacacua augacaggaa guuccuuuug	1260
cuuguaugca agagauggcu cacacgaugg agaauuuau cuugaagggc gaauuccacc	1320
acacuggacu aguggauccg agcucgguac caagcuu	1357

<210> 20

<211> 1421

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV delta IIIa(d) IRUP

<400> 20

ccauuuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuugccagcc ccuugauggg ggcgacacuc caccaugaau cacucccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaaua uggccaggac gaccgggucc	240
uuucuuuggau aaacccgcuc aaugccugga gauuugggcg ugccccgca agacugcuag	300

484-17\_sequence\_listing (1).txt

ccgaguagug uugggucgcg aaaggccuug ugguacugcc ugauaggug cuugcgagug	360
ccccgggagg ucucguagac cgugcaccau gagcacgaau ccuaaaccuc aaagaaaaac	420
caaacguaac agucucuuaa aaaacaaaca aacgaacgaa cagcaaggga gcuggguaug	480
acaacacaua cuauaaauuc aguacucagg augcugaaac aggaggauug ccugacuggg	540
agauauaagg agaaucuguu gucaccccca cccucuccca uaaaggcaga auaaaagaac	600
guccuauaaa caauuaaaca aacaacccaa uaaaacaaaa ccaagaucuc uccaccuuuu	660
cuuugcuuuu ucagacuug uauaaaggcc cuuuggagug caggauauuc ggcaggacaa	720
gcagagaggg agaccaucag uucuuucuuu gaucaagaag acuauguucc uuagcaaacu	780
gguguguauu aucucuuaug caaugagccu ggaaagaggg cacagccacc gaggauggua	840
cagcauggau ggaugguacg cuacagagac ucgggagccc aacugugagu ggcugacugg	900
caugguaggu ucagggaaga auuggccugu gaagaaaug uucuugaaaa gugaacaagg	960
ugcaggaggu aggagugggu ccugggcaaa gcagggggug cauccagcc ucagggaaua	1020
gcacagcaga ggucuguuga ugcaugcgag ugcaugaccu gcuugccaau agacgaucaa	1080
gauggggcaa agcaucaugg gugaugagug ggagagggga ugagacauuc cuuucuccu	1140
gcugagacuu ccuugaacc gaugaguucu gaauagaaga ugcccccca cccccccacc	1200
aguguagaau cugaaggag gcauauaua cccuauaua cucuguguug gcggcgagcu	1260
aucugacagc caaccuucc auacauuua uugggcauac acuaaugaca ggaaguuccu	1320
uuugcuugua ugcaagagau ggcucacacg auggagaauu uaaucuugaa gggcgauuc	1380
caccacacug gacuagugga uccgagcucg guaccaagcu u	1421

<210> 21

<211> 1410

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV delta IIIId(d) IRUP

<400> 21

ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauugc agaauucgcc	60
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cuugccagcc ccugauggg ggcgacacuc caccaugaau cacucccug ugaggaacua	120
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484-17\_sequence\_listing (1).txt

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caggacgacc ggguccuuuc uuggauaaac ccgcucaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuaauugu gguacugccu gauagggugc uugcgagugc cccgggaggu	360
cucguagacc gugcaccaug agcacgauc cuaaaccuca aagaaaaacc aaacguaaca	420
gucucuuaaa aaacaaacaa acgaacgaac agcaagggag cuggguauga caacacauac	480
uauaaauucia guacucagga ugcugaaaca ggaggauugc cugacuggga gauauaagga	540
gaucuguuug ucacccccac cccuccccau aaaggcagaa uaaaagaacg uccuauaaac	600
aaauaaacaa acaaccuau aaaacaaaac caagaucucu ccaccuuuuc uuugcuuuuu	660
cagacuugu aauaaggccc uuuggagugc aggauauucg gcaggacaag cagagaggga	720
gaccaucagu ucuuuuuug aucaagaaga cuauguuccu uagcaaacug guguguauua	780
ucucuuaugc aaugagccug gaaagagggc acagccaccg aggaugguac agcauggaug	840
gaugguacgc uacagagacu cgggagccca acugugagug gcugacuggc augguagguu	900
cagggaagaa ugggccugug aagaaaugu ucuugaaaag ugaacaaggu gcaggaggua	960
ggaguggguc cugggcaaag cagggggugc aucccagccu cagggaauag cacagcagag	1020
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gcaucauggg ugaugagugg gagaggggau gagacauucc uuucuccug cugagacuuc	1140
cauugaaccg augaguucug aauagaagau gccccccac cccccacca guguagaau	1200
ugaagggagg cauauuuac ccuauuuac ucuguguugg cggcgagcua ucugacagcc	1260
aaccuuccca uacauuucau ugggcuaaca cuaaugacag gaaguuccuu uugcuuguau	1320
gcaagagaug gcucacacga uggagaauuu aaucuugaag ggcgaauucc accacacugg	1380
acuaguggau ccgagcucgg uaccaagcuu	1410

<210> 22

<211> 1384

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV delta IV(d) IRUP

484-17\_sequence\_listing (1).txt

<400> 22

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cuugccagcc cccugauggg ggcgacacuc caccaugaau cacuccccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuuc uuggauaaac ccgcucaaug ccuggagauu ugaggcugcc	300
cccgcaagac ugcuaagccga guaguguugg gucgcgaaag gccuuguggu acugccugau	360
aggguuguug cgagugcccc gggaggucuc guaagucucu uaaaaaaca acaaacgaac	420
gaacagcaag ggagcugggu augacaacac auacuauau ucuaguacuc aggaugcuga	480
aacaggagga uugccugacu gggagauaua aggagaau cuugucaccc ccacccucc	540
ccaauaaaggc agaauaaaag aacguccuau aaacaaaua acaaaacaacc caauaaaaca	600
aaaccaagau cucuccaccu uuucuuugcu uuucagacu uuguauaag gcccuugga	660
gugcaggaua uucggcagga caagcagaga gggagaccu caguucuuuc uuugaucaag	720
aagacuauu uccuagcaa acuggugugu auuauucuu augcaaugag ccuggaaaga	780
gggcacagcc accgaggau guacagcaug gauggauggu acgcuacaga gacucgggag	840
cccaacugug aguggcugac uggcauggua gguucaggga agaauuggcc ugugaagaaa	900
auguucuuga aaagugaaca aggugcagga gguaggagug gguccugggc aaagcagggg	960
gugcauccca gccucaggga auagcacagc agaggucugu ugaugcaugc gagugcauga	1020
ccugcuugcc aaauagcgau caagaauagg caaagcauca ugguugauga gugggagagg	1080
ggaugagaca uuccuuucuc ccugcugaga cuuccauuga accgaugagu ucugaauaga	1140
agaugcccc ccaccccc accaguguag aaucugaagg gaggcauaua uuacccuaua	1200
uuacucugug uuggcggcga gcuauugac agccaaccuu ccuauacau ucauugggca	1260
uacacuaaug acaggaaguu ccuuuugcu guaugcaaga gauggcucac acgauggaga	1320
auuuuauuu gaagggcgaa uuccaccaca cuggacuagu ggauccgagc ucgguaccaa	1380
gcuu	1384

<210> 23



484-17\_sequence\_listing (1).txt

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV G266->C(d) IRUP

<400> 23

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuugccagcc cccugauggg ggcgacacuc caccaugaau cacuccccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuuc uuggauaaac ccgcuaaug ccuggagauu ugggugugcc	300
cccgcaagac ugcuaagcca guaguguucg gucgcgaaag gccuuguggu acugccugau	360
agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugaaa cacauacuau aaaucuagua cucaggagc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc uccccauaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauauaa acaaaaccaa	660
gaucucucca ccuuuuuuu gcuuuuucag acuuuguauu aaggccuuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuauu cuuaugcau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cuccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaauauga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuauu gacagccaac cuucccauac auuucuuug gcuaacacua	1320

484-17\_sequence\_listing (1).txt

augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuuau 1380

cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu 1437

<210> 24

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV U228->C(d) IRUP

<400> 24

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc 60

cuugccagcc ccugaugggg ggcgacacuc caccaugaau cacuccccug ugaggaacua 120

cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag 180

gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc 240

caggacgacc ggguccuuuc uuggauaaac ccgcuaaug ccuggagauu cgggcgugcc 300

cccgcaagac ugcuaagccga guaguguugg gucgcgaaag gccuuguggu acugccugau 360

agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua 420

aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc 480

aaggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga 540

ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc ucccacuaaa 600

ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauuaaa acaaaaccaa 660

gaucucucca ccuuuuuuu gcuuuuucag acuuuguuau aaggccuuu ggagugcagg 720

auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua 780

uguuccuuag caaacuggug uguauuaucu cuuaugcaau gagccuggaa agagggcaca 840

gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu 900

gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu 960

ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc 1020

ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu 1080

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484-17\_sequence\_listing (1).txt

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ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuau cuuagccaac cuucccauac auuucuuagg gcauacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 25

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV G267->C(d) IRUP

<400> 25

ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucgc agaauucgcc	60
cuugccagcc ccugauggg ggcgacacuc caccaugaau cacucccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuu uuggauaaac ccgcuaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuaagcca guaguguugc gucgcgaaag gccuuguggu acugccugau	360
aggguugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaacaaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugaaa cacauacuau aaaucuagua cucaggauugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc uccccauaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauauaa aaaaaacaa	660
gaucucucca cccuuuuuuu gcuuuuucag acuuuguaau aaggccuuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuau cuuauugcau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauuguu	960

# 484-17\_sequence\_listing (1).txt

ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cucccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuauu gacagccaac cuucccauac auuucuuugg gcuaacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 26

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV G268->C(d) IRUP

<400> 26

ccaauuuuuu guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuugccagcc ccugauggg ggcgacacuc caccaugaau cacuccccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuu uuggauaaac ccgcuaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuaagccga guaguguugg cucgcgaaag gccuuguggu acugccugau	360
aggguugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc uccccauaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauuaaa acaaaaccaa	660
gaucucucca cccuuuuuuu gcuuuuucag acuuuguaau aaggccuuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua	780

484-17\_sequence\_listing (1).txt

uguuccuuag caaacuggug uguauuauucu cuuaugcaau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cucccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaaucuga agggaggcau auuuuacccu auuuuacucu	1260
guguuggcgg cgagcuauucu gacagccaac cuucccauac auuucuuugg gcuaacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 27

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV G266G267G268-> C266C267C268(d) IRUP

<400> 27

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuugccagcc ccugauggg ggcgacacuc caccaugaau cacucuccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuuc uuggauaaac ccgcucaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuaagccga guaguguucc cucgcgaaag gccuuguggu acugccugau	360
agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc ucccacuaaa	600

484-17\_sequence\_listing (1).txt

ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccaauaaa acaaaaccaa	660
gaucucucca ccuuuuuuu gcuuuuucag acuuuguaau aaggcccuu ggagugcagg	720
auauucggca ggacaagcag agagggagac caucaguucu uucuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuau cuuaugcaau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaanguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cuccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuau cuagaccaac cuucccauac auuucuuugg gcuaacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 28

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV G266->A/G268->T(d) IRUP

<400> 28

ccaauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucugc agaauucgcc	60
cuugccagcc ccugauggg ggcgacacuc caccaugaau cacucccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuu uuggauaaac ccgcucaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuaagccga guaguguuag uucgcgaaag gccuuguggu acugccugau	360
aggguugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420

484-17\_sequence\_listing (1).txt

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ggauugccug	acugggagau	auaaggagaa	ucuguuguca	ccccacccc	uccccaauaaa	600
ggcagaauaa	aagaacgucc	uauaaaacaaa	uaaacaacaa	acccaauaaa	acaaaaccaa	660
gaucucucca	ccuuuuuuuu	gcuuuuuucag	acuuuguaau	aaggcccuuu	ggagugcagg	720
auauucggca	ggacaagcag	agagggagac	caucaguucu	uucuuugauc	aagaagacua	780
uguuccuuag	caaacuggug	uguauuaucu	cuuaugcaau	gagccuggaa	agagggcaca	840
gccaccgagg	augguacagc	auggauggau	gguacgcuac	agagacucgg	gagcccaacu	900
gugaguggcu	gacuggcaug	guagguucag	ggaagaauug	gccugugaag	aaaauuguucu	960
ugaaaaguga	acaaggugca	ggagguagga	guggguccug	ggcaaagcag	ggggugcauc	1020
ccagccucag	ggaauagcac	agcagagguc	uguugaugca	ugcgagugca	ugaccugcuu	1080
gccaauagac	gaucaagaau	gggcaaagca	ucauggguga	ugagugggag	aggggaugag	1140
acauuccuuu	cucccugcug	agacuuccau	ugaaccgaug	aguucugaau	agaagaugcc	1200
ccccacccc	cccaccagug	uagaaucuga	agggaggcau	auauuacccu	auauuacucu	1260
guguuggcgg	cgagcuaucu	gacagccaac	cuucccauac	auuucuuugg	gcuaacacua	1320
augacaggaa	guuccuuuug	cuuguaugca	agagauggcu	cacacgaugg	agaauuuuau	1380
cuugaagggc	gaauuccacc	acacuggacu	aguggauccg	agcucgguac	caagcuu	1437

<210> 29

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV IIIa->IIIa-comp; AGTA->TCAT(d) IRUP

<400> 29

ccaauuuuuau	guuauauguu	uacaagcccc	acaccaggcu	gaaaauucugc	agaauucgcc	60
cuugccagcc	cccugauggg	ggcgacacuc	caccaugaau	cacuccccug	ugaggaacua	120
cugucuucac	gcagaaagcg	ucuagccaug	gcguuaguau	gagugucgug	cagccuccag	180
gacccccccu	cccgggagag	ccauaguggu	cugcggaacc	ggugucauca	ccggaauugc	240

484-17\_sequence\_listing (1).txt

caggacgacc ggguccuuuc uuggauaaac ccgcucaaug ccuggagauu ugggcgugcc	300
cccgcaagac ugcuagccga guaguguugg gucgcgaaag gccuuguggu acugccugau	360
agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aagggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc uccccauaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauuaaa acaaaaccaa	660
gaucucucca ccuuuuuuu gcuuuuucag acuuuguaau aaggccuuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuugauc aagaagacua	780
uguuccuag caaacuggug uguauuau cuuaugcau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cuccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuau cuuagccaac cuucccauac auuucuuug gcuaacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaug agaauuuau	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 30

<211> 1437

<212> RNA

<213> Artificial Sequence

<220>

<223> HCV IIIe->IIIe-comp; TGATAG->ACTATC(d) IRUP

<400> 30

ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaauucgc agaauucgcc	60
---	----



484-17\_sequence\_listing (1).txt

cuugccagcc cccugauggg ggcgacacuc caccaugaau cacuccccug ugaggaacua	120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag	180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc	240
caggacgacc ggguccuuuc uuggauaaac ccgcuaaug ccuggagauu ugggugugcc	300
cccgcaagac ugcuaagccga guaguguugg gucgcgaaag gccuuguggu acugccacua	360
ucggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua	420
aaccucaaag aaaaaccaa cguaacaguc ucuuaaaaaa caaacaacg aacgaacagc	480
aaggagcug gguaugacaa cacauacuau aaaucuagua cucaggaugc ugaaacagga	540
ggauugccug acugggagau auaaggagaa ucuguuguca cccccacccc uccccauaaa	600
ggcagaauaa aagaacgucc uauaaacaaa uaaacaaaca acccauuaa acaaaaccaa	660
gaucucucca cccuuuucuuu gcuuuuucag acuuuguaau aaggcccuu ggagugcagg	720
auauucggca ggacaagcag agaggagac caucaguucu uucuuugauc aagaagacua	780
uguuccuuag caaacuggug uguauuaucu cuuaugcaau gagccuggaa agagggcaca	840
gccaccgagg augguacagc auggauggau gguacgcuac agagacucgg gagcccaacu	900
gugaguggcu gacuggcaug guagguucag ggaagaauug gccugugaag aaaauguucu	960
ugaaaaguga acaaggugca ggagguagga guggguccug ggcaaagcag ggggugcauc	1020
ccagccucag ggaauagcac agcagagguc uguugaugca ugcgagugca ugaccugcuu	1080
gccaauagac gaucaagaau gggcaaagca ucauggguga ugagugggag aggggaugag	1140
acauuccuuu cucccugcug agacuuccau ugaaccgaug aguucugaau agaagaugcc	1200
ccccacccc cccaccagug uagaaucuga agggaggcau auauuacccu auauuacucu	1260
guguuggcgg cgagcuauu gacagccaac cuucccauac auuucuuugg gcuaacacua	1320
augacaggaa guuccuuuug cuuguaugca agagauggcu cacacgaugg agaauuuauu	1380
cuugaagggc gaauuccacc acacuggacu aguggauccg agcucgguac caagcuu	1437

<210> 31

<211> 446

<212> RNA

<213> Artificial Sequence

# 484-17\_sequence\_listing (1).txt

<220>

<223> HCV(d) miniIRUP

<400> 31

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ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc      60
cuugccagcc cccugauggg ggcgacacuc caccaugaau cacuccccug ugaggaacua      120
cugucuucac gcagaaagcg ucuagccaug gcguuaguau gagugucgug cagccuccag      180
gacccccccu cccgggagag ccuaguggu cugcggaacc ggugaguaca ccggaauugc      240
caggacgacc ggguccuuuc uuggauaaac ccgcuaaug ccuggagauu ugggcgugcc      300
cccgcaagac ugcuaagccga guaguguugg gucgcgaaag gccuuguggu acugccugau      360
agggugcuug cgagugcccc gggaggucuc guagaccgug caccaugagc acgaauccua      420
aaccucaaag aaaaacaaa cguaac      446
```

<210> 32

<211> 375

<212> RNA

<213> Artificial Sequence

<220>

<223> Polio(d) miniIRUP

<400> 32

```
ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc      60
cuuaugaguc uggacauccc ucaccgguga cgguggucca ggcugcguug gcggccuacc      120
uauggcuaac gccaugggac gcuaguugug aacaaggugu gaagagccua uugagcuaca      180
uaagaauccu ccggccccug aaugcggcua aucccaaccu cggagcaggu ggucacaaac      240
cagugauugg ccugucguua cgcgcaaguc cguggcggaa ccgacuacuu uggguguccg      300
uguuuccuuu uauuuuauug uggcugcuua uggugacaau cacagauugu uaucauaaag      360
cgaauuggau uggcc      375
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<210> 33

<211> 375

<212> RNA

<213> Artificial Sequence

<220>

<223> Polio(i) miniIRUP

484-17\_sequence\_listing (1).txt

<400> 33  
 ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc 60  
 cuuggccaau ccaauucgcu uuaugauaac aaucugugau ugucaccaua agcagccaca 120  
 auaaaauaaa aggaaacacg gacacccaaa guagucgguu ccgccacgga cuugcgcgau 180  
 acgacaggcc aaucacuggu uugugaccac cugcuccgag guugggauua gccgcgauca 240  
 ggggccggag gauucuuau uagcucaaua ggcucuucac accuuguuca caacuagcgu 300  
 cccauggcgu uagccauagg uaggccgcca acgcagccug gaccaccguc accggugagg 360  
 gauguccaga cucau 375

<210> 34  
 <211> 111  
 <212> RNA  
 <213> Artificial Sequence

<220>  
 <223> cMYC short variant(d) miniIRUP

<400> 34  
 ccauuuuuau guuauauguu uacaagcccc acaccaggcu gaaaaucugc agaauucgcc 60  
 cuugggcacu uugcacugga acuuacaaca cccgagcaag gacgcgacuc u 111

<210> 35  
 <211> 488  
 <212> RNA  
 <213> Artificial Sequence

<220>  
 <223> HCV(d) miniIRUP

<400> 35  
 ccagugaaca gcuccucgcc cuugcucacc augguggcga ccgguagcgc uagcggaucu 60  
 gacgguucac uagaugcggc cgccacugug cuggaauucg cccuugccag ccccugaug 120  
 ggggcgacac uccaccauga aucacucucc ugugaggaac uacugucuuc acgcagaaag 180  
 cgucuagcca uggcguuagu augagugucg ugcagccucc aggaccccc cucccgggag 240  
 agccauagug gucugcggaa ccggugagua caccggaau gccaggacga ccggguccuu 300  
 ucuuggauaa acccgcucaa ugccuggaga uuugggcgug ccccgcaag acugcuagcc 360

484-17\_sequence\_listing (1).txt

gaguaguguu gggucgcgaa aggccuugug guacugccug auaggugcu ugcgagugcc	420
ccgggagguc ucguagaccg ugcaccauga gcacgaaucc uaaaccucaa agaaaaacca	480
aacguaac	488

<210> 36  
 <211> 383  
 <212> RNA  
 <213> Hepatitis C virus

<220>  
 <223> HCV(d) IRES

<400> 36 gccagcccc ugaugggggc gacacuccac caugaauccac uccccuguga ggaacuacug	60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac	120
ccccccucc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag	180
gacgaccggg uccuuucuug gauaaaaccg cucaaugccu ggagauuugg gcgugcccc	240
gcaagacugc uagccgagua guguuggguc gcgaaaggcc uugugguacu gccugauagg	300
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac	360
cucaaagaaa aaccaaacgu aac	383

<210> 37  
 <211> 383  
 <212> RNA  
 <213> Hepatitis C virus

<220>  
 <223> HCV(i) IRES

<400> 37 guuacguuug guuuuuuuu gagguuuagg auucgugcuc auggugcacg gucuacgaga	60
ccuccggggg cacucgcaag caccuauca ggcaguacca caaggccuuu cgcgacccaa	120
cacuacucgg cuagcagucu ugcgggggca cgcccaaaucc uccaggcauu gagcggguuu	180
auccaagaaa ggacccgguc guccuggcaa uuccggugua cucaccgguu ccgcagacca	240
cuauggcucu cccgggaggg gggguccugg aggcugcacg acacucauac uaacgccaug	300
gcuagacgcu uucugcguga agacaguagu uccucacagg ggagugauuc augguggagu	360

gucgccccca ucagggggcu ggc 383

<210> 38  
 <211> 312  
 <212> RNA  
 <213> Human poliovirus

<220>  
 <223> Polio(d) IRES

<400> 38  
 augagucugg acaucccuca ccggugacgg ugguccaggc ugcguuggcg gccuaccuau 60  
 ggcuaacgcc augggacgcu aguugugaac aaggugugaa gagccuauug agcuacauaa 120  
 gaauccuccg gcccugaau gcggcuaauc ccaaccucgg agcagguggu cacaaaccag 180  
 ugauuggccu gucguaacgc gcaaguccgu ggcggaaccg acuacuuugg guguccgugu 240  
 uuccuuuuau uuuauugugg cugcuuaugg ugacaauac agauuguuau cauaaagcga 300  
 auuggauugg cc 312

<210> 39  
 <211> 312  
 <212> RNA  
 <213> Human poliovirus

<220>  
 <223> Polio(i) IRES

<400> 39  
 ggccaaucca auucgcuua ugauaacaau cugugauugu caccauaagc agccacaaua 60  
 aaauaaaagg aaacacggac acccaaagua gucggauccg ccacggacuu gcgcguuacg 120  
 acaggccaau cacugguuug ugaccaccug cuccgagguu gggauuagcc gcauucaggg 180  
 gccggaggau ucuuauguag cucaauaggc ucuucacacc uuguucacaa cuagcgucgg 240  
 auggcguuag ccuagguag gccgccaacg cagccuggac caccgucacc ggugagggau 300  
 guccagacuc au 312

<210> 40  
 <211> 576  
 <212> RNA  
 <213> Encephalomyocarditis virus

484-17\_sequence\_listing (1).txt

<220>

<223> EMCV(d) IRES

<400> 40

cccccccucu cccucccccc ccccuaacgu uacuggccga agccgcuugg aauaaggccg	60
gugugcguuu gucuauaugu uauuuuccac cauauugccg ucuuuuggca augugagggc	120
ccggaaaccu ggcccugucu ucuugacgag cauuccuagg ggucuuuccc cucucgcaa	180
aggaaugcaa ggucuguuga augucgugaa ggaagcaguu ccucuggaag cuucuugaag	240
acaaacaacg ucuguagcga cccuuugcag gcagcggaa ccccccaccug gcgacaggug	300
ccucugcggc caaaagccac guguaaaga uacaccugca aaggcggcac aaccccagug	360
ccacguugug aguuggauag uuguggaaag agucaaaugg cucuccucaa gcguauucaa	420
caaggggcug aaggauagccc agaagguacc ccuuguaug ggaucugauc uggggcccucg	480
gugcacauugc uuuaacaugu uuuaugucgag guuaaaaaac gucuaggccc cccgaaccac	540
ggggacgugg uuuuuccuuug aaaaacacga ugauaa	576

<210> 41

<211> 576

<212> RNA

<213> Encephalomyocarditis virus

<220>

<223> ECMV(i) IRES

<400> 41

uuaucaucgu guuuuucaaa ggaaaaccac gucccccugg uucggggggc cuagacguuu	60
uuuaaccucg acuaaacaca uguaaaagcau gugcaccgag gccccagauc agaucccuaa	120
caauggggua ccuucugggc auccuucagc cccuuguuga auacgcuuga ggagagccau	180
uugacucuuu ccacaacuau ccaacucaca acguggcacu gggguugugc cgccuuugca	240
gguguaucuu auacacgugg cuuuuggccg cagaggcacc ugucgccagg ugggggguuc	300
cgucgccugc aaaggguccg uacagacguu guuugucuuc aagaagcuuc cagaggaacu	360
gcuuccuua cgacauucaa cagaccuugc auuccuuugg cgagagggga aagacccua	420
ggaaugcucg ucaagaagac agggccaggu uuccgggccc ucacauugcc aaaagacggc	480
aaauugggug aaaaauacau auagacaaac gcacaccggc cuuauuccaa gcggcuucgg	540

ccaguaacgu uagggggggg ggaggagag gggggg 576

<210> 42  
 <211> 192  
 <212> RNA  
 <213> Cricket paralysis virus

<220>  
 <223> CrPV(d) IRES

<400> 42  
 aaagcaaaaa ugugaucug cuuguaaaua cauuuugag agguuaaua auuacaagua 60  
 gugcuauuuu uguauuuagg uuagcuauuu agcuuuacgu uccaggaugc cuaguggcag 120  
 ccccacaaua uccaggaagc ccucucugcg guuuuucaga uuagguaguc gaaaaaccua 180  
 agaaauuuac cu 192

<210> 43  
 <211> 192  
 <212> RNA  
 <213> Cricket paralysis virus

<220>  
 <223> CrPV(i) IRES

<400> 43  
 agguaaaauuu cuuagguuuu ucgacuaccu aaucugaaaa accgcagaga gggcuuccug 60  
 gauauugugg ggcugccacu aggcauccug gaacguaaag cuaaaauagcu aaccuaaaaua 120  
 caaaaauagc acuacuugua auuuauaac cucucaaau uguauuuaca agcaagauga 180  
 cauuuuugcu uu 192

<210> 44  
 <211> 231  
 <212> RNA  
 <213> Homo sapiens

<220>  
 <223> Apaf-1(d) IRES

<400> 44  
 cagagaucca ggggaggcgc cugugaggcc cggaccugcc ccggggcgaa ggguaugugg 60  
 cgagacagag ccugcaccc cuaauucccg guggaaaacu ccuguugccg uuucccucca 120

484-17\_sequence\_listing (1).txt

ccggccugga gucucccagu cuugucccg cagugccgcc cucccccacua agaccuaggc 180

gcaaaggcuu ggcucauggu ugacagcuca gagagagaaa gaucugaggg a 231

<210> 45

<211> 231

<212> RNA

<213> Homo sapiens

<220>

<223> Apaf-1(i) IRES

<400> 45

ucccucagau cuuucucucu cugagcuguc aaccaugagc caagccuuug cgccuagguc 60

uuagugggga gggcggcacu gccgggacaa gacugggaga cuccaggccg guggagggaa 120

acggcaacag gaguuuucca ccgggaauua ggggugcagg gcucugucuc gccacauacc 180

cuucgccccg gggcaggucc gggccucaca ggcgccuccc cuggaucucu g 231

<210> 46

<211> 460

<212> RNA

<213> Homo sapiens

<220>

<223> ELG-1(d) IRES

<400> 46

acuuuuggug ggcauuuaaa aaugugugug uauguguaua uauguaugug uauguaugug 60

uauauaugua uauguaugua uguaucgcu guaugugugu auguaugcau guguauguau 120

guauaugcau guauguguau guguaauau guaugugugu guauguauau guguguguau 180

guguaugugu guguguau guuguguguau guauguau guauauaugu auuauacaca 240

uauacacaua uugguuuuuu uaucauuug agaguauagu gaagauaaaa acccauacc 300

ccuaaaugua uuccaaagaa uaagaacau guuuuauaca uagcacacuu aacaaaauca 360

agaaauuuaa cauuauaca guacuguuac cuaauccgua gucgauuuuc aaauuuuguc 420

aguuguucca auauuguccu uuauauauuc cccgcccagc 460

<210> 47

<211> 460

<212> RNA



484-17\_sequence\_listing (1).txt

<213> Homo sapiens

<220>

<223> ELG-1(i) IRES

<400> 47

gcugggcggg gaauauauaa aggacauuau uggaacaacu gacaaaauuu gaaaaucgac	60
uacggauuag guaacaguac uguauuaaug uuaaaauucu ugauuuuguu aagugugcua	120
uguauaaaac aauguucuua uucuuuggaa uacauuuagg ggugaugggu uuuuaucuuc	180
aacuaacucu caaaugauua aaaaaaccaa uauguguaua uguguauaau acauauacau	240
acauacauac auacacacac acauacacac acacauacac auacacacac auauacauac	300
acacacauac auauauacac auacacauac augcauauac auacauacac augcauacau	360
acacacauac acgcgauaca uacauacaua uacauauaua cacauacaua cacauacaua	420
uauacacaua cacacacauu uuuaaaugcc caccaaaagu	460

<210> 48

<211> 395

<212> RNA

<213> Homo sapiens

<220>

<223> cMYC full length(d) IRES

<400> 48

aaauccagcg agaggcagag ggagcgagcg ggcggccggc uaggguaggaa gagccgggcg	60
agcagagcug cgcugcgggc guccugggaa gggagaucg gagcgaauag ggggcuucgc	120
cucuggccca gcccucccgc uugauccccc aggccagcgg uccgcaaccc uugccgcauc	180
cacgaaacuu ugcccacagc agcgggcggg cacuuugcac uggaacuuac aacacccgag	240
caaggacgcg acucuccga cgcggggagg cuauucugcc cauuggggga cacuuccccg	300
ccgcugccag gacccgcuuc ucugaaaggc ucuccuugca gcugcuuaga cgcuggauuu	360
uuuucgggua guggaaaacc agcagccucc cgcga	395

<210> 49

<211> 395

<212> RNA

<213> Homo sapiens

484-17\_sequence\_listing (1).txt

<220>

<223> cMYC full length(i) IRES

<400> 49

ucgcgggagg cugcugguuu uccacuaccc gaaaaaauc cagcgucuaa gcagcugcaa 60

ggagagccuu ucagagaagc ggguccuggc agcggcgggg aagugucucc aaauaggcag 120

aaauagccucc ccgcgucggg agagucgcgu ccuugcucgg guguuguaag uuccagugca 180

aagugcccg cgcgucgcuau gggcaaaguu ucguggaugc ggcaaggguu gcggaccgcu 240

ggccuggggg aucaagcggg agggcugggc cagaggcgaa gccccuauu cgcuccggau 300

cucccuuccc aggacgccc cagcgcagcu cugcucgccc ggcucuucca ccuagccgg 360

ccgcccgcuc gcucccucug ccucucgcug gaauu 395

<210> 50

<211> 48

<212> RNA

<213> Homo sapiens

<220>

<223> cMYC short variant(d) IRES

<400> 50

gggcacuuug cacuggaacu uacaacaccc gagcaaggac gcgacucu 48

<210> 51

<211> 48

<212> RNA

<213> Homo sapiens

<220>

<223> cMYC short variant(i) IRES

<400> 51

agagucgcgu ccuugcucgg guguuguaag uuccagugca aagugccc 48

<210> 52

<211> 71

<212> RNA

<213> Homo sapiens

<220>

<223> DMD(d) IRES

<400> 52

484-17\_sequence\_listing (1).txt

guacugacau cguagaugga aaucauaaac ugacucuugg uuugauuugg aaauaaaucc	60
uccacuggca g	71
<210> 53	
<211> 71	
<212> RNA	
<213> Homo sapiens	
<220>	
<223> DMD(i) IRES	
<400> 53	
cugccagugg aggaauauau uccaaaauca accaagaguc aguuuugau uucaaucuac	60
gaugucagua c	71
<210> 54	
<211> 303	
<212> RNA	
<213> Hepatitis C virus	
<220>	
<223> HCV delta II(d) IRES	
<400> 54	
gccagcccc ugaugggggc gacacuccac caugaauac ccccccuccc gggagagcca	60
uaguggucug cggaaccggu gaguacaccg gaauugccag gacgaccggg uccuuucug	120
gauaaaaccg cucaaugccu ggagauuugg gcgugcccc gcaagacugc uagccgagua	180
guguuggguc gcgaaaggcc uugugguacu gccugauagg gugcuugcga gugccccggg	240
aggucucgua gaccgugcac caugagcacg aauccuaaac cucaaagaaa aaccaaacgu	300
aac	303
<210> 55	
<211> 367	
<212> RNA	
<213> Hepatitis C virus	
<220>	
<223> HCV delta IIIa(d) IRES	
<400> 55	
gccagcccc ugaugggggc gacacuccac caugaauac ucccuguga ggaacuacug	60

484-17\_sequence\_listing (1).txt

ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac	120
ccccccuccc gggagagcca uaguggucug cggaauuug ccaggacgac cggguccuuu	180
cuuggauaaa ccgcucaau gccuggagau uggggcgugc ccccgcaaga cugcuagccg	240
aguaguguug ggucgcgaaa ggccuugugg uacugccuga uaggugcuu gcgagugccc	300
cgggaggucu cguagaccgu gcaccaugag cacgaauccu aaaccucaa gaaaaaccaa	360
acguaac	367

<210> 56

<211> 356

<212> RNA

<213> Hepatitis C virus

<220>

<223> HCV delta IIIId(d) IRES

<400> 56

gccagcccc ugaugggggc gacacuccac caugaucac ucccuguga ggaacuacug	60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac	120
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag	180
gacgaccggg uccuuucuug gauaaacccg cucaaugccu ggagauuugg gcgugcccc	240
gcaagacugc uacuuguggu acugccugau agggugcuug cgagugcccc gggaggucuc	300
guagaccgug caccaugagc acgaauccua aaccucaaag aaaaaccaa cguaac	356

<210> 57

<211> 330

<212> RNA

<213> Hepatitis C virus

<220>

<223> HCV delta IV(d) IRES

<400> 57

gccagcccc ugaugggggc gacacuccac caugaucac ucccuguga ggaacuacug	60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac	120
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag	180
gacgaccggg uccuuucuug gauaaacccg cucaaugccu ggagauuugg gcgugcccc	240

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gcaagacugc uagccgagua guguuggguc gcgaaaggcc uugugguacu gccugauagg 300  
gugcuugcga gugccccggg aggucucgua 330

<210> 58  
<211> 383  
<212> RNA  
<213> Hepatitis C virus

<220>  
<223> HCV G266->C(d) IRES

<400> 58  
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ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac 120  
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag 180  
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauuugg gcgugcccc 240  
gcaagacugc uagccgagua guguucgguc gcgaaaggcc uugugguacu gccugauagg 300  
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac 360  
cucaaagaaa aaccaaacgu aac 383

<210> 59  
<211> 383  
<212> RNA  
<213> Hepatitis C virus

<220>  
<223> HCV U228->C(d) IRES

<400> 59  
gccagcccc ugaugggggc gacacuccac caugaaucac uccccuguga ggaacuacug 60  
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac 120  
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag 180  
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauucgg gcgugcccc 240  
gcaagacugc uagccgagua guguuggguc gcgaaaggcc uugugguacu gccugauagg 300  
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac 360  
cucaaagaaa aaccaaacgu aac 383

484-17\_sequence\_listing (1).txt

<210> 60  
<211> 383  
<212> RNA  
<213> Hepatitis C virus

<220>  
<223> HCV G267->C(d) IRES

<400> 60  
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ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac 120  
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag 180  
gacgaccggg uccuuucuug gauaaacccg cucaaugccu ggagauuugg gcgugccccc 240  
gcaagacugc uagccgagua guguugcguc gcgaaaggcc uugugguacu gccugauagg 300  
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac 360  
cucaaagaaa aaccaaacgu aac 383

<210> 61  
<211> 383  
<212> RNA  
<213> Hepatitis C virus

<220>  
<223> HCV G268->C(d) IRES

<400> 61  
gccagccccc ugaugggggc gacacuccac caugaaucac uccccuguga ggaacuacug 60  
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac 120  
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag 180  
gacgaccggg uccuuucuug gauaaacccg cucaaugccu ggagauuugg gcgugccccc 240  
gcaagacugc uagccgagua guguuggcuc gcgaaaggcc uugugguacu gccugauagg 300  
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac 360  
cucaaagaaa aaccaaacgu aac 383

<210> 62  
<211> 383  
<212> RNA

484-17\_sequence\_listing (1).txt

<213> Hepatitis C virus

<220>

<223> HCV G266G267G268->C266C267C268(d) IRES

<400> 62

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gccagcccc ugaugggggc gacacuccac caugaaucac ucccuguga ggaacuacug      60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac      120
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag      180
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauuugg gcgugcccc      240
gcaagacugc uagccgagua guguuccuc gcgaaaggcc uugugguacu gccugauagg      300
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac      360
cucaaagaaa aaccaaacgu aac                                             383
```

<210> 63

<211> 383

<212> RNA

<213> Hepatitis C virus

<220>

<223> HCV G266->A/G268->T(d) IRES

<400> 63

```
gccagcccc ugaugggggc gacacuccac caugaaucac ucccuguga ggaacuacug      60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac      120
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag      180
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauuugg gcgugcccc      240
gcaagacugc uagccgagua guguuaguuc gcgaaaggcc uugugguacu gccugauagg      300
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac      360
cucaaagaaa aaccaaacgu aac                                             383
```

<210> 64

<211> 383

<212> RNA

<213> Hepatitis C virus

<220>

<223> HVC IIIa->IIIa-comp; AGTA->TCAT(d) IRES

484-17\_sequence\_listing (1).txt

```
<400> 64
gccagccccc ugaugggggc gacacuccac caugaaucac ucccuguga ggaacuacug      60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac      120
ccccccuccc gggagagcca uaguggucug cggaaccggu gucauaccg gaauugccag      180
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauuugg gcgugccccc      240
gcaagacugc uagccgagua guguuggguc gcgaaaggcc uugugguacu gccugauagg      300
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac      360
cucaaagaaa aaccaaacgu aac                                             383
```

```
<210> 65
<211> 383
<212> RNA
<213> Hepatitis C virus
```

```
<220>
<223> HCV IIIe-IIIe-comp; TGATAG->ACTATC(d) IRES
```

```
<400> 65
gccagccccc ugaugggggc gacacuccac caugaaucac ucccuguga ggaacuacug      60
ucuucacgca gaaagcgucu agccauggcg uuaguaugag ugucgugcag ccuccaggac      120
ccccccuccc gggagagcca uaguggucug cggaaccggu gaguacaccg gaauugccag      180
gacgaccggg uccuuucuug gauaaacccg cucaauggcu ggagauuugg gcgugccccc      240
gcaagacugc uagccgagua guguuggguc gcgaaaggcc uugugguacu gccacuauag      300
gugcuugcga gugccccggg aggucucgua gaccgugcac caugagcacg aauccuaaac      360
cucaaagaaa aaccaaacgu aac                                             383
```