

SEQUENCE LISTING

<110> CureVac GmbH
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<120> Complexation of nucleic acids with disulfide-linked cationic polymers for transfection and immunostimulation

<130> CU01P094WO

<160> 387

<170> PatentIn version 3.5

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Arg Cys

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Arg Arg Arg Cys
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Arg Arg Arg Arg Cys
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Phe Tyr
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Trp Phe Trp Phe

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Tyr Tyr Tyr Tyr

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Cys Trp Cys

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Gln Asn
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Asn Asn
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Gln Asn Gln
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Asn Gln Asn
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Gln Asn Gln Asn
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Asn Gln Asn Gln
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Leu
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Val Leu Val
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Cys Met Cys
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Cys Met Ala Cys

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Cys Ala Met Cys

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Cys Met Met Cys

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Cys Ala Ala Cys

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Cys Met Ala Met Cys

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Cys Met Met Met Met Cys
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Cys Ala Ala Ala Ala Cys
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Asp His
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His Asp
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Asp Asp
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<210> 233
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<210> 350	
<211> 15	
<212> RNA	
<213> Artificial	
<220>	
<223> nucleic acid sequence according to formula (II)	
<400> 350	
gguuuuuuuu uuugg	15
<210> 351	
<211> 16	
<212> RNA	
<213> Artificial	
<220>	
<223> nucleic acid sequence according to formula (II)	
<400> 351	
gguuuuuuuu uuugg	16

<210> 352
 <211> 17
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 352
 gguuuuuuuu uuuuuugg 17

<210> 353
 <211> 18
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 353
 gguuuuuuuu uuuuuugg 18

<210> 354
 <211> 19
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 354
 gguuuuuuuu uuuuuuugg 19

<210> 355
 <211> 9
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 355
 ggguuuggg 9

<210> 356
 <211> 10
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 356
 ggguuuuggg 10

<210> 357
 <211> 11
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)

<400> 357
ggguuuuugg g 11

<210> 358
<211> 12
<212> RNA
<213> Artificial

<220>
<223> nucleic acid sequence according to formula (II)

<400> 358
ggguuuuuug gg 12

<210> 359
<211> 13
<212> RNA
<213> Artificial

<220>
<223> nucleic acid sequence according to formula (II)

<400> 359
ggguuuuuuuu ggg 13

<210> 360
<211> 14
<212> RNA
<213> Artificial

<220>
<223> nucleic acid sequence according to formula (II)

<400> 360
ggguuuuuuuu ugagg 14

<210> 361
<211> 15
<212> RNA
<213> Artificial

<220>
<223> nucleic acid sequence according to formula (II)

<400> 361
ggguuuuuuuu uaggg 15

<210> 362
<211> 16
<212> RNA
<213> Artificial

<220>
<223> nucleic acid sequence according to formula (II)

<400> 362
ggguuuuuuuu uuaggg 16

<210> 363
<211> 17
<212> RNA
<213> Artificial

<220>
 <223> nucleic acid sequence according to formula (II)
 <400> 363
 ggguuuuuuu uuuuuggg 17

<210> 364
 <211> 18
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 364
 ggguuuuuuu uuuuuuggg 18

<210> 365
 <211> 19
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 365
 ggguuuuuuu uuuuuuggg 19

<210> 366
 <211> 57
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 366
 ggguuuuuuu uuuuuuuugg guuuuuuuuu uuuuuuugggu uuuuuuuuuu uuuuuggg 57

<210> 367
 <211> 42
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (II)
 <400> 367
 ggguuuuuuu uuuuuuuugg gggguuuuuu uuuuuuuuug gg 42

<210> 368
 <211> 51
 <212> RNA
 <213> Artificial
 <220>
 <223> nucleic acid sequence according to formula (III)
 <400> 368
 ggguuuugggu uuggguuuugg guuuggguuu ggguuuugggu uuggguuuugg g 51

<210> 369
 <211> 20

<212> RNA
 <213> Artificial Sequence

 <220>
 <223> nucleic acid sequence according to formula (II) - Short GU rich

 <400> 369
 gguuuuuuuu uuuuuuuggg 20

<210> 370
 <211> 57
 <212> RNA
 <213> Artificial

 <220>
 <223> nucleic acid sequence according to formula (III)

 <400> 370
 cccuuuuuuu uuuuuuuuucc cuuuuuuuuuu uuuuuuuccu uuuuuuuuuu uuuuuccc 57

<210> 371
 <211> 51
 <212> RNA
 <213> Artificial

 <220>
 <223> nucleic acid sequence according to formula (III)

 <400> 371
 cccuuuuccu uucccuuuucc cuuuuccuuu cccuuuuccu uucccuuuucc c 51

<210> 372
 <211> 42
 <212> RNA
 <213> Artificial

 <220>
 <223> nucleic acid sequence according to formula (III)

 <400> 372
 cccuuuuuuu uuuuuuuuucc cccuuuuuuu uuuuuuuuuu cc 42

<210> 373
 <211> 60
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> nucleic acid sequence according to formula (IV)

 <400> 373
 uagcgaagcu cuuggaccua gguuuuuuuu uuuuuuuggg ugcguuccua gaaguacacg 60

<210> 374
 <211> 120
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> nucleic acid sequence according to formula (IV)

 <400> 374
 uagcgaagcu cuuggaccua gguuuuuuuu uuuuuuuggg ugcguuccua gaaguacacg 60

aucgcuucga gaaccuggau ccaaaaaaaaa aaaaaaaccc acgcaaggau cuucaugugc 120

<210> 375
<211> 229
<212> RNA
<213> Artificial Sequence

<220>
<223> nucleic acid sequence according to formula (IV)

<400> 375
gggagaaaagc ucaagcuugg agcaaugccc gcacauugag gaaaccgagu ugcatauucuc 60
agaguauugg cccccgugua gguuuuuuuu gacagacagu ggagcuuauu cacucccagg 120
auccgagucg cauacuacgg uacuggugac agaccuaggu cgucaguuga ccaguccgcc 180
acuagacgug aguccgucaa agcaguuaga uguuacacuc uauuagauc 229

<210> 376
<211> 547
<212> RNA
<213> Artificial Sequence

<220>
<223> nucleic acid sequence according to formula (IV)

<400> 376
gggagaaaagc ucaagcuugg agcaaugccc gcacauugag gaaaccgagu ugcatauucuc 60
agaguauugg cccccgugua gguuuuuuuu gacagacagu ggagcuuauu cacucccagg 120
auccgagucg cauacuacgg uacuggugac agaccuaggu cgucaguuga ccaguccgcc 180
acuagacgug aguccgucaa agcaguuaga uguuacacuc uauuagaucu cggauuacag 240
cuggaaggag caggaguagu guucuugcuc uaaguaccga gugugcccaa uacccgauca 300
gcuuuuuuac gaacggcucc uccucuuaaga cugcagcgua agugcggaau cuggggauca 360
aauuacugac ugccuggauu acccucggac auauaaccuu guagcacgcu guugcuguau 420
aggugaccaa cgccacucg aguagaccag cucucuuaugu ccggacaauu auaggaggcg 480
cggucaaucu acuucuggcu aguuaagaau aggcugcacc gaccucuaua aguagcgugu 540
ccucuag 547

<210> 377
<211> 1083
<212> RNA
<213> Artificial Sequence

<220>
<223> nucleic acid sequence according to formula (IV)

<400> 377
gggagaaaagc ucaagcuugg agcaaugccc gcacauugag gaaaccgagu ugcatauucuc 60
agaguauugg cccccgugua gguuuuuuuu gacagacagu ggagcuuauu cacucccagg 120
auccgagucg cauacuacgg uacuggugac agaccuaggu cgucaguuga ccaguccgcc 180
acuagacgug aguccgucaa agcaguuaga uguuacacuc uauuagaucu cggauuacag 240
cuggaaggag caggaguagu guucuugcuc uaaguaccga gugugcccaa uacccgauca 300

gcuuauuac gaacggcucc uccucuuaa cugcagcgua agugcggaau cuggggauca	360
aauuacugac ugccuggauu acccucggac auauaaccuu guagcacgcu guugcuguau	420
aggugaccaa cgcccacucg aguagaccag cucucuuaa cgggacaau agaggaggcg	480
cggucaau cuacuucggcu aguuuagaau aggucgacc gaccucuua aguagcgugu	540
ccucuagagc uacgcagguu cgcauuuuuu gcguugauua gugugcauag aacagaccuc	600
uuauucggug aaacgccaga augcuuuuuu ccauuuacuc uucccaaac gcguacggcc	660
gaagacgcgc gcuuauuug uguacguucu cgcacauuga agaauacgcg ggcauggug	720
uagggcaaua ggggagcugg guagcagcga aaaagggccc cugcgcacgu agcuucgcu	780
uucgucugaa acaaccggc auccguugua gcgaucggcu uaucaguguu auucuuguc	840
gcacuaagau ucauggugua gucgacaaua acagcgucu ggagauucu ggucacguc	900
ccuaucccg ggcuugugc ucucaggugc acagcgauu uuuuagccu caagguacuc	960
gacguggua cggauucgug acacuucca agauuuuucc acuguguuag ccccgaccg	1020
ccgaccuuaa cugguccaau guauacgcau ucgcugagcg gaucgaaau aaaagcuuga	1080
auu	1083

<210> 378
 <211> 229
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> nucleic acid sequence according to formula (IV)

<400> 378	
gggagaaagc ucaagcuuau ccaaguaggc uggucaccug uacaacguag ccgguuuuuu	60
uuuuuuuuuuuuuuuuuuu cgcucucaag guccaaguua gucugccuau aaaggugcgg	120
auccacagcu gaugaaagac uugugcggua cgguuuauu cccuuuuuuu uuuuuuuuuu	180
uuuuuaguua augcgucuac ugaauccagc gaugaugcug gcccagauc	229

<210> 379
 <211> 546
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> nucleic acid sequence according to formula (IV)

<400> 379	
gggagaaagc ucaagcuuau ccaaguaggc uggucaccug uacaacguag ccgguuuuuu	60
uuuuuuuuuuuuuuuuuuu cgcucucaag guccaaguua gucugccuau aaaggugcgg	120
auccacagcu gaugaaagac uugugcggua cgguuuauu cccuuuuuuu uuuuuuuuuu	180
uuuuuaguua augcgucuac ugaauccagc gaugaugcug gcccagauc ucgaccacaa	240
gugcauauag uagucaucga gggucgccu uuuuuuuuuu uuuuuuuuuu uggccaguu	300
cugagacuuc gcuagagacu acaguuacag cugcaguagu aaccacugcg gcuauugcag	360

<210> 382
 <211> 120
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> nucleic acid sequence according to formula (V)

<400> 382
 uagcgaagcu cuuggaccua ccuuuuuuuu uuuuuuuucc ugcguuccua gaaguacacg 60
 aucgcuucga gaaccuggau ggaaaaaaa aaaaaaaggg acgcaaggau cuucaugugc 120

<210> 383
 <211> 15
 <212> RNA
 <213> Artificial

<220>
 <223> Description of sequence: generic stabilizing sequence of the formula (C/U)CCANxCCC(U/A)PyxUC(C/U)CC

<220>
 <221> variation
 <222> (1)..(1)
 <223> /replace="cytosine" /replace="uracile"

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> nucleic acid = cytosine or uracil

<220>
 <221> misc_feature
 <222> (5)..(5)
 <223> Nx = a, g, c or u or any other nucleic acid

<220>
 <221> variation
 <222> (5)..(5)
 <223> /replace="cytosine" /replace="uracile" /replace="guanosine" /replace="adenosine", or any other nucleic acid

<220>
 <221> repeat_unit
 <222> (5)..(5)
 <223> x = any number

<220>
 <221> misc_feature
 <222> (9)..(9)
 <223> nucleic acid = uracil or adenosine

<220>
 <221> variation
 <222> (9)..(9)
 <223> /replace="uracile" /replace="adonosine"

<220>
 <221> misc_feature
 <222> (10)..(10)
 <223> Py = pyrimidine

<220>
 <221> repeat_unit
 <222> (10)..(10)
 <223> x = any number

<220>
 <221> variation
 <222> (10)..(10)
 <223> /replace="pyrimidine"

<220>
 <221> misc_feature
 <222> (13)..(13)
 <223> nucleic acid = cytosine or uracil

<220>
 <221> variation
 <222> (13)..(13)
 <223> /replace="cytosine" /replace="uracile"

<400> 383
 nccanccnn ucnc

15

<210> 384
 <211> 1845
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> R1180 - exemplary nucleic acid cargo

<400> 384	
gggagaaagc uugaggauagg aggacgcaa gaacaucaag aaggggcccgg cgcccuucua	60
cccgcuggag gacgggaccg ccggcgagca gcuccacaag gccaugaagc gguacgcccu	120
ggugccgggc acgaucgccu ucaccgacgc ccacaucgag gucgacauca ccuacgcgga	180
guacuucgag augagcgugc gccuggccga ggccaugaag cgguacggcc ugaacaccaa	240
ccaccggau c guggugugcu cggagaacag ccugcaguuc uucaugccgg ugcugggcgc	300
ccucucauc ggcguggccg ucgccccggc gaacgacau uacaacgagc gggagcugcu	360
gaacagcaug gggauagacc agccgaccgu gguguucgug agcaagaagg gccugcagaa	420
gauccugaac gugcagaaga agcugcccau cauccagaag aucaucauca uggacagcaa	480
gaccgacuac cagggcuucc agucgaugua cacguucgug accagccacc ucccgccggg	540
cuucaacgag uacgacuucg ucccggagag cuucgaccgg gacaagacca ucgcccugau	600
caugaacagc agcggcagca ccggccugcc gaagggggug gccugccgc accggaccgc	660
cugcgugcgc uucucgcacg cccgggaccc caucuucggc aaccagauca ucccggacac	720
cgccauccug agcguuggug cguuccacca cggcuucggc auguucacga ccugggcua	780
ccucaucugc ggcuuccggg ugguccugau guaccgguuc gaggaggagc uguuccugcg	840
gagccugcag gacuacaaga uccagagcgc gcugcucgug ccgaccugug ucagcuucuu	900
cgccaagagc acccugaucg acaaguacga ccugucgaac cugcacgaga ucgccagcgg	960
gggcgccccg cugagcaagg agguuggcga ggccguggcc aagcggguucc accuccggg	1020
cauccgccag ggcuaaggcc ugaccgagac cacgagcgcg auccugauca ccccgaggg	1080
ggacgacaag ccgggcgccg ugggcaaggu ggucccgguuc uucgaggcca agguugguga	1140
ccuggacacc ggcaagaccc ugggcgugaa ccagcggggc gagcugugcg ugcggggggc	1200

gaugaucaug agcggcuacg ugaacaaccc ggaggccacc aacgcccua ucgacaagga	1260
cggcuggcug cacagcggcg acaucgccua cugggacgag gacgagcacu ucuucaucgu	1320
cgaccggcug aagucgcuga ucaaguacaa gggcuaccag guggcgccgg ccgagcugga	1380
gagcauccug cuccagcacc ccaacaucuu cgacgccggc guggccgggc ugccggacga	1440
cgacgccggc gagcugccgg ccgcgguugu ggugcuggag cacggcaaga ccaugacgga	1500
gaaggagauc gucgacuacg uggccagcca ggugaccacc gccaagaagc ugcggggcgg	1560
cgugguguuc guggacgagg ucccgaagg ccugaccggg aagcucgacg cccggaagau	1620
ccgcgagauc cugaucaagg ccaagaagg cggaagauc gccguguaag acuaguuaa	1680
agacugacua gcccgauggg ccucccaacg ggccuccuc ccuccuugc accgagauua	1740
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	1800
aaaaauuuu ccccccccc ccccccccc ccccccccc ucuag	1845

<210> 385
 <211> 547
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> R722 - exemplary nucleic acid cargo

<400> 385	
gggagaaagc ucaagcuuau ccaaguaggc uggucaccug uacaacguag ccgguauuuu	60
uuuuuuuuuu uuuuuuuuga ccgucuaag guccaaguua gucugccuau aaaggugcgg	120
auccacagcu gaugaaagac uugugcgguu cgguuaauuu cccuuuuuuu uuuuuuuuuu	180
uuuuuaguaa augcgucuac ugaauccagc gaugaugcug gcccagauc ucgaccacaa	240
gugcauuuag uagucaucga gggucgccuu uuuuuuuuuu uuuuuuuuuu uggcccaguu	300
cugagacuuc gcuagagacu acaguuacag cugcaguagu aaccacugcg gcuauugcag	360
gaaaucccg uacagguuuu uuuuuuuuuu uuuuuuuccgc ucacuaugau uaagaaccag	420
guggaguguc acugcucucg aggucucacg agagcgcucg auacaguuccu uggaagaau	480
uuuuuuuuuu uuuuuuuuuu uugugcgacg aucacagaga acuucuauc augcaggucu	540
gcucuag	547

<210> 386
 <211> 1857
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> R491 - exemplary nucleic acid cargo

<400> 386	
gggagaaagc uugaggauug aggacgcaa gaacaucaag aaggggcccgg cgcccuucua	60
cccgcuggag gacgggaccg ccggcgagca guccacaag gccaugaagc gguacgccu	120
ggugccgggc acgaucgccu ucaccgacgc ccacaucgag gucgacauca ccuacgcgga	180
guacuucgag augagcgugc gccuggccga ggccaugaag cgguacggcc ugaacaccaa	240

ccaccggauc	guggugugcu	cggagaacag	ccugcaguuc	uucaugccgg	ugcuggggcg	300
ccucuucauc	ggcguggccg	ucgccccggc	gaacgacauc	uacaacgagc	gggagcugcu	360
gaacagcaug	gggaucagcc	agccgaccgu	gguguucgug	agcaagaagg	gccugcagaa	420
gauccugaac	gugcagaaga	agcugcccau	cauccagaag	aucaucauca	uggacagcaa	480
gaccgacuac	cagggcuucc	agucgaugua	cacguucgug	accagccacc	ucccgccggg	540
cuucaacgag	uacgacuucg	ucccgaggag	cuucgaccgg	gacaagacca	ucgcccugau	600
caugaacagc	agcggcagca	ccggccugcc	gaagggggug	gcccugccgc	accggaccgc	660
cugcgugcg	uucucgcacg	cccgggaccc	caucuucggc	aaccagauca	ucccgacac	720
cgccauccug	agcguggugc	cguuccacca	cggcuucggc	auguucacga	cccugggcua	780
ccucaucugc	ggcuuccggg	ugguccugau	guaccgguuc	gaggaggagc	uguuccugcg	840
gagccugcag	gacuacaaga	uccagagcgc	gcugcucgug	ccgaccugug	ucagcuucuu	900
cgccaagagc	acccugaucg	acaaguacga	ccugucgaac	cugcacgaga	ucgccagcgg	960
ggcgccccg	cugagcaagg	agguggggcg	ggccguggcc	aagcgggucc	accuccggg	1020
cauccgccag	ggcuacggcc	ugaccgagac	cacgagcgcg	auccugauca	ccccgaggg	1080
ggacgacaag	ccgggcgccg	ugggcaaggu	ggucccgguuc	uucgaggcca	agguggugga	1140
ccuggacacc	ggcaagaccc	ugggcgugaa	ccagcggggc	gagcugugcg	ugcgggggccc	1200
gaugaucaug	agcggcuacg	ugaacaaccc	ggaggccacc	aacgcccuca	ucgacaagga	1260
cggcuggcug	cacagcggcg	acaucgccua	cugggacgag	gacgagcacu	ucuucaucgu	1320
cgaccggcug	aagucgcuga	ucaaguacaa	gggcuaccag	guggcgccgg	ccgagcugga	1380
gagcauccug	cuccagcacc	ccaacaucuu	cgacgccggc	guggccgggc	ugccggacga	1440
cgacgccggc	gagcugccgg	ccgcgguggu	ggugcuggag	cacggcaaga	ccaugacgga	1500
gaaggagauc	gucgacuacg	uggccagcca	ggugaccacc	gccaagaagc	ugcggggcg	1560
cgugguguuc	guggacgagg	ucccgaaagg	ccugaccggg	aagcucgacg	cccggaagau	1620
ccgcgagauc	cugaucaagg	ccaagaaggg	cggcaagauc	gccguguaag	acuaguuaua	1680
agacugacua	gcccgauggg	ccucccaacg	ggccuccuc	cccuccuugc	accgagauua	1740
auaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	1800
aaaaaaauuu	cccccccccc	cccccccccc	cccccccccc	ucuagacaau	uggaauu	1857

<210> 387
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> CpG 2216 - exemplary nucleic acid cargo

<400>	387	
gggggacgat	cgtcgggggg	20