

2008012169  
SEQUENCE LISTING

<110> CureVac GmbH  
 <120> NSCLC - Cocktail  
 <130> CU01P068W01  
 <150> PCT/EP2007/008770  
 <151> 2007-10-09  
 <160> 28  
 <170> PatentIn version 3.3  
 <210> 1  
 <211> 1668  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Description of sequence (see Figure 1): RNA sequence (starting sequence based on the wildtype) encoding MUC1 (HSMUC1 - 5xVNTR)  
 <400> 1  
 atgacaccgg gcacccagtc tcctttcttc ctgctgctgc tcctcacagt gcttacagtt 60  
 gttacagggt ctggtcatgc aagctctacc ccagggtggag aaaaggagac ttcggctacc 120  
 cagagaagtt cagtgtcccag ctctactgag aagaatgctg tgagtatgac cagcagcgta 180  
 ctctccagcc acagccccgg ttcaggctcc tccaccactc agggacagga tgtcactctg 240  
 gccccggcca cggaaccagc ttcaggttca gctgccacct ggggacagga tgtcacctcg 300  
 gtcccagtc ccaggccagc cctgggctcc accacccccg cagcccacga tgtcacctca 360  
 gccccggaca acaagccagc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 420  
 gccccggaca ccaggccggc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 480  
 gccccggaca ccaggccggc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 540  
 gccccggaca ccaggccggc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 600  
 gccccggaca ccaggccggc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 660  
 gccccggaca ccaggccggc cccgggctcc accgcccccc cagcccacgg tgtcacctcg 720  
 gccccggaca acaggccccg cttgggctcc accgccccct cagtccacaa tgtcacctcg 780  
 gcctcagggt ctgcatcagg ctccagcttct actctgggtg acaacggcac ctctgccagg 840  
 gctaccacaa cccagccag caagagcact ccattctcaa ttcccagcca ccactctgat 900  
 actcctacca cccttgccag ccatagcacc aagactgatg ccagtagcac tcaccatagc 960  
 tcggtacctc ctctcacctc ctccaatcac agcacttctc cccagttgtc tactggggtc 1020  
 tctttctttt tcctgtcttt tcacatttca aacctccagt ttaattcctc tctggaagat 1080  
 cccagcaccg actactacca agagctgcag agagacattt ctgaaatgtt tttgcagatt 1140  
 tataaacaag ggggttttct gggcctctcc aatattaagt tcaggccagg atctgtgggtg 1200  
 gtacaattga ctctggcctt ccgagaagggt accatcaatg tccacgacgt ggagacacag 1260  
 ttcaatcagt ataaaacgga agcagcctct cgatataacc tgacgatctc agacgtcagc 1320

2008012169

gtgagtgatg	tgccatttcc	tttctctgcc	cagtctgggg	ctggggtgcc	aggctggggc	1380
atcgcgctgc	tggtgctggt	ctgtgttctg	gttgcgctgg	ccattgtcta	tctcattgcc	1440
ttggctgtct	gtcagtgccg	ccgaaagaac	tacgggcagc	tggacatctt	tccagcccgg	1500
gatacctacc	atcctatgag	cgagtacccc	acctaccaca	cccatggggc	ctatgtgccc	1560
cctagcagta	ccgatcgtag	cccctatgag	aaggtttctg	caggtaacgg	tggcagcagc	1620
ctctcttaca	caaaccagc	agtggcagcc	gcttctgcc	acttgtag		1668

<210> 2  
 <211> 1668  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 2): (GC) stabilized RNA sequence encoding MUC1 (HsMUC1 GC - 5xVNTR)

<400> 2	
atgacccccg	gcacccagag cccgttcttc ctgctcctgc tgctcacggt gctgaccgtc 60
gtgaccgggt	ccggccacgc cagctccacc cccggggggc agaaggagac gagcgccacc 120
cagcgggtcca	gcgtgccctc cagcaccgag aagaacgcgg tctccatgac cagctccgtg 180
ctgagctccc	acagccccgg gtccggcagc tccacgaccc agggccagga cgtgaccctc 240
gccccggcca	ccgagccccg cagcgggtcc gccgcgacgt ggggcccagga cgtcaccagc 300
gtgcccgtga	cccgccccgc cctggggagc accacgcccgc ccgcccacga cgtcacctcc 360
gcccccgaca	acaagccccg gccgggcagc accgcccccc ccgcccacgg ggtgacctcc 420
gcccccgaca	cgcggccggc ccccggcagc accgcgcccc ccgcccacgg cgtgacctcc 480
gccccggaca	cccgccccgc ccccgggagc acggccccgc cggcgcacgg cgtcacctcc 540
gcccccgaca	cccggccccg ccccgggagc accgccccgc ccgcccacgg cgtgacgtcc 600
gcgccccgaca	cccggccccg ccccggcagc accgcccccc ccgcccacgg ggtgacctcc 660
gccccggaca	cgcggcccgc gcccggcagc accgccccgc cggcccacgg ggtcacctcc 720
gcccccgaca	accgccccgc gctgggcagc accgcccccc cgggtgcacaa cgtgacgtcc 780
gccagcgggt	ccgccagcgg ctccgccagc accctcgtcc acaacggcac cagcgcgcgg 840
gccaccacca	cgcccgctc caagagcacc ccttctcca tccccagcca cactccgac 900
accccgacca	cgctggccag cactccacc aagaccgacg ccagctccac ccaccacagc 960
tccgtgccgc	cgctgacgag ctccaaccac agcacctccc cccagctcag caccgggggtg 1020
tccttcttct	tcctgagctt ccacatcagc aacctgcagt tcaactccag cctcgaggac 1080
ccgtccaccg	actactacca ggagctgcag cgcgacatca gcgagatgtt cctgcagatc 1140
tacaagcagg	gcgggttcct cggcctgtcc aacatcaagt tccggcccgg gagcgtcgtg 1200
gtgcagctga	cgctcgcgtt ccgcgagggc accatcaacg tccacgacgt ggagacccag 1260
ttcaaccagt	acaagaccga ggccgcctcc cgggtacaacc tgacgatcag cgacgtctcc 1320

2008012169

gtgagcgacg	tgcccttccc	cttctccgcc	cagagcggcg	ccgggggtccc	gggctggggg	1380
atcgcgctgc	tcgtgctggg	gtgcgctctg	gtggccctcg	ccatcgtgta	cctgatcgcc	1440
ctggcgggtct	gccagtgccg	ccggaagaac	tacggccagc	tcgacatctt	ccccgcccgc	1500
gacacctacc	accccatgtc	cgagtaccgc	acctaccaca	cccacggggc	gtacgtgccc	1560
cccagctcca	cggaccgcag	cccctacgag	aagggtgtccg	ccggcaacgg	cgggagctcc	1620
ctgagctaca	ccaacccggc	cgtcgccgcg	gccagcgcca	acctgtga		1668

<210> 3  
 <211> 1263  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 3): RNA sequence (starting sequence based on the wildtype) encoding 5T4 (Hs5T4 (trophoblast glycoprotein TPBG))

<400> 3	
atgcctgggg	gggccccgcc gccggggacg ggcgtctgcg gctggcgcgga 60
ctagcgctgg	tactcctggg ctgggtctcc tcgtcttctc ccacctctc ggcatcctcc 120
ttctcctcct	cggcgccgtt cctggcttcc gccgtgtccg cccagcccc gctgccggac 180
cagtgcctcg	cgctgtgcga gtgctccgag gcagcgcgca cagtcaagtg cgtaaccgc 240
aatctgaccg	aggtgcccac ggacctgccc gcctacgtgc gcaacctctt ccttaccggc 300
aaccagctgg	ccgtgctccc tgccggcgcc ttcgcccgcc ggccgccgct ggccggagctg 360
gccgcgctca	acctcagcgg cagccgcctg gacgaggtgc gcgcgggcgc cttcgagcat 420
ctgcccagcc	tgccgccagc cgacctcagc cacaaccac tgcccgacct cagtcccttc 480
gctttctcgg	gcagcaatgc cagcgtctcg gccccagtc cccttggtgga actgatcctg 540
aaccacatcg	tgccccctga agatgagcgg cagaaccgga gcttcgaggg catggtggtg 600
gcggccctgc	tgccggggccg tgcaactgcag gggctccgcc gcttgagact ggccagcaac 660
cacttccttt	acctgccgcg ggatgtgctg gcccaactgc ccagcctcag gcacctggac 720
ttaagtaata	attcgttggg gagcctgacc tacgtgtcct tccgcaacct gacacatcta 780
gaaagcctcc	acctggagga caatgccctc aagggtccttc acaatggcac cctggctgag 840
ttgcaaggtc	taccccatat taggggtttc ctggacaaca atccctgggt ctgcgactgc 900
cacatggcag	acatggtgac ctggctcaag gaaacagagg tagtgcaggg caaagaccgg 960
ctcacctgtg	catatccgga aaaaatgagg aatcggggtcc tcttggaact caacagtgc 1020
gacctggact	gtgacctgat tcttccccca tccctgcaaa cctcttatgt cttcctgggt 1080
attgttttag	ccctgatagg cgctattttc ctcctgggtt tgtatttgaa ccgcaagggg 1140
ataaaaaagt	ggatgcataa catcagagat gcctgcaggg atcacatgga agggatcat 1200
tacagatatg	aatcaatgc ggaccccaga ttaacgaacc tcagttctaa ctcggatgtc 1260
tga	1263

<210> 4  
 <211> 1263  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 4): (GC) stabilized RNA sequence encoding 5T4 (Hs5T4 GC)

<400> 4  
 atgcccggcg ggtgcagccg gggcccggcc gccggggacg gccgcctgcg gctcgcgcgc 60  
 ctggcccttg tgctcctggg gtgggtctcc agctccagcc ccacctccag cgctccagc 120  
 ttctccagct ccgccccctt cctggccagc gcggtgtccg cccagcccc gctccccgac 180  
 cagtgccccg ccctgtgcga gtgcagcgag gccgcgcgga ccgtgaagtg cgtcaaccgc 240  
 aacctgacgg aggtgcccac cgacctcccg gcctacgtgc ggaacctgtt cctgaccggc 300  
 aaccagctcg ccgtcctgcc cgccggcgcc ttcgcgcgcc ggccgcccct ggccgagctc 360  
 gccgcctga acctgtccgg gagccgcctc gacgaggtgc gggccggcgc gttcgagcac 420  
 ctgccgtccc tgcgccagct cgacctgagc cacaaccccc tggccgacct ctcccccttc 480  
 gccttcagcg ggagcaacgc ctccgtgagc gccccctccc cgctggtcga gctgacctc 540  
 aaccacatcg tgccccccga ggacgagcgg cagaaccgca gcttcgaggg catggtggtc 600  
 gcggccctgc tggccgggcg ggccctccag ggcctgcgcc ggctggagct cgctccaac 660  
 cacttcctgt acctgccccg cgacgtgctc gcgcagctgc cgagcctgcg gcacctcgac 720  
 ctgtccaaca acagcctggg gtccctcacc tacgtcagct tccgcaacct gacgcacctg 780  
 gagtccctcc acctggagga caacgccctg aaggtgctgc acaacggcac cctcgccgag 840  
 ctgcaggggc tgccccacat ccgggtgttc ctgcacaaca acccctgggt ctgcgactgc 900  
 cacatggccg acatggtgac ctggctgaag gagaccgagg tgggccaggg caaggaccgc 960  
 ctgacgtgcg cgtaccccga gaagatgcgg aaccgggtgc tcctggagct gaacagcgcc 1020  
 gacctcgact gcgacccgat cctgcccccc tccctgcaga ccagctacgt gttcctcggg 1080  
 atcgtcctgg ccctgatcgg cgccatcttc ctcttggtgc tgtacctcaa ccgcaagggc 1140  
 atcaagaagt ggatgcacaa catccgggac gcctgccgcg accacatgga ggggtaccac 1200  
 taccggtacg agatcaacgc ggacccccgc ctgaccaacc tgtccagcaa ctccgacgtc 1260  
 tga 1263

<210> 5  
 <211> 3768  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 5): RNA sequence (starting sequence based on the wildtype) encoding Her-2/neu (HsHer2/neu (v-erb-b2 erythroblastic leukemia viral oncogene homolog 2));

<400> 5  
 atggagctgg cggccttggt ccgctggggg ctctcctcgc ccctcttgcc ccccgagacc 60

2008012169

gcgagcacc	aaagtgtgcac	cggcacagac	atgaagctgc	ggctcccctgc	cagtccccgag	120
accacactgg	acatgctccg	ccacctctac	cagggctgcc	aggtggtgca	gggaaacctg	180
gaactcacct	acctgcccac	caatgccagc	ctgtccttcc	tgcaggatat	ccaggagggtg	240
cagggctacg	tgctcatcgc	tcacaaccaa	gtgaggcagg	tcccactgca	gaggctgcgg	300
attgtgctgag	gcacccagct	ctttgaggac	aactatgccc	tggccgtgct	agacaatgga	360
gacccgctga	acaataccac	ccctgtcaca	ggggcctccc	caggaggcct	gcgggagctg	420
cagcttcgaa	gcctcacaga	gatcttgaaa	ggaggggtct	tgatccagcg	gaacccccag	480
ctctgctacc	aggacacgat	tttgtggaag	gacatcttcc	acaagaacaa	ccagctggct	540
ctcacactga	tagacaccaa	ccgctctcgg	gcctgccacc	cctgttctcc	gatgtgtaag	600
ggctcccgt	gctggggaga	gagttctgag	gattgtcaga	gcctgacgcg	cactgtctgt	660
gccggtggct	gtgcccgtg	caaggggcca	ctgcccactg	actgctgcca	tgagcagtgt	720
gctgccggct	gcacggggcc	caagcactct	gactgcctgg	cctgcctcca	cttcaaccac	780
agtggcatct	gtgagctgca	ctgcccagcc	ctggtcacct	acaacacaga	cacgtttgag	840
tccatgcccc	atcccagagg	ccggtataca	ttcggcgcca	gctgtgtgac	tgctgtccc	900
tacaactacc	tttctacgga	cgtgggatcc	tgaccctcg	tctgccccct	gcacaaccaa	960
gaggtgacag	cagaggatgg	aacacagcgg	tgtgagaagt	gcagcaagcc	ctgtgcccga	1020
gtgtgctatg	gtctgggcat	ggagcacttg	cgagagggtga	gggcagttac	cagtgccaat	1080
atccaggagt	ttgttggtg	caagaagatc	tttgggagcc	tggcatttct	gccggagagc	1140
tttgatgggg	accagcctc	caacactgcc	ccgctccagc	cagagcagct	ccaagtgttt	1200
gagactctgg	aagagatcac	aggttacct	tacatctcag	catggccgga	cagcctgcct	1260
gacctcagcg	tcttcagaa	cctgcaagta	atccggggac	gaattctgca	caatggcgcc	1320
tactcgtga	ccctgcaagg	gctgggcata	agctggctgg	ggctgcgctc	actgagggaa	1380
ctgggcagtg	gactggccct	catccaccat	aacaccacc	tctgcttcgt	gcacacgggtg	1440
ccctgggacc	agctctttcg	gaacccgcac	caagctctgc	tccacactgc	caaccggcca	1500
gaggacgagt	gtgtgggcga	gggcctggcc	tgccaccagc	tgtgcgcccg	agggcactgc	1560
tggggttccag	ggccaccca	gtgtgtcaac	tgagccagct	tccttcgggg	ccaggagtgc	1620
gtggaggaat	gccgagtact	gcaggggctc	cccagggagt	atgtgaatgc	caggcactgt	1680
ttgccgtgcc	accctgagtg	tcagccccag	aatggctcag	tgacctgttt	tggaccggag	1740
gctgaccagt	gtgtggcctg	tgcccactat	aaggaccctc	ccttctgcgt	ggcccgctgc	1800
cccagcgggtg	tgaaacctga	cctctcctac	atgcccatct	ggaagtittcc	agatgaggag	1860
ggcgcatgcc	agccttgccc	catcaactgc	accactcct	gtgtggacct	ggatgacaag	1920
ggctgccccg	ccgagcagag	agccagccct	ctgacgtcca	tcatctctgc	ggtggttggc	1980
attctgctgg	tcgtggtctt	gggggtggtc	tttgggatcc	tcatcaagcg	acggcagcag	2040
aagatccgga	agtacacgat	gcgggagactg	ctgcaggaaa	cggagctggt	ggagccgctg	2100

2008012169

acacctagcg	gagcgatgcc	caaccaggcg	cagatgcgga	tcctgaaaga	gacggagctg	2160
aggaaggtga	aggtgcttgg	atctggcgct	tttggcacag	tctacaagg	catctggatc	2220
cctgatgggg	agaatgtgaa	aattccagtg	gccatcaaag	tggtgaggga	aaacacatcc	2280
cccaaagcca	acaaagaaat	cttagacgaa	gcatacgtga	tggctggtgt	gggctcccca	2340
tatgtctccc	gccttctggg	catctgcctg	acatccacgg	tgcagctggt	gacacagctt	2400
atgccctatg	gctgcctctt	agaccatgtc	cgggaaaacc	gcggacgcct	gggctcccag	2460
gacctgctga	actggtgtat	gcagattgcc	aaggggatga	gctacctgga	ggatgtgcgg	2520
ctcgtacaca	gggacttggc	cgctcggaac	gtgctggtca	agagtcccaa	ccatgtcaaa	2580
attacagact	tcgggctggc	tcggctgctg	gacattgacg	agacagagta	ccatgcagat	2640
gggggcaagg	tgcccatcaa	gtggatggcg	ctggagtcca	ttctccgccg	gcggttcacc	2700
caccagagtg	atgtgtggag	ttatggtgtg	actgtgtggg	agctgatgac	ttttggggcc	2760
aaaccttacg	atgggatccc	agcccgggag	atccctgacc	tgctggaaaa	gggggagcgg	2820
ctgccccagc	cccccatctg	caccattgat	gtctacatga	tcatggtcaa	atgttggatg	2880
attgactctg	aatgtcggcc	aagattccgg	gagttggtgt	ctgaattctc	ccgcatggcc	2940
agggaccccc	agcgctttgt	ggtcatccag	aatgaggact	tggggcccagc	cagtcccttg	3000
gacagcacct	tctaccgctc	actgctggag	gacgatgaca	tgggggacct	ggtggatgct	3060
gaggagtatc	tggtacccca	gcagggcttc	ttctgtccag	accctgcccc	gggcgctggg	3120
ggcatggtcc	accacaggca	ccgcagctca	tctaccagga	gtggcggtgg	ggacctgaca	3180
ctagggctgg	agccctctga	agaggaggcc	cccaggcttc	cactggcacc	ctccgaagg	3240
gctggctccg	atgtatttga	tggtgacctg	ggaatggggg	cagccaagg	gctgcaaagc	3300
ctccccacac	atgaccccag	ccctctacag	cggtagctg	aggaccccac	agtacccctg	3360
ccctctgaga	ctgatggcta	cgttgcccc	ctgacctgca	gccccagcc	tgaatatgtg	3420
aaccagccag	atgttcggcc	ccagccccct	tcgccccgag	agggccctct	gcctgctgcc	3480
cgacctgctg	gtgccactct	ggaaaggccc	aagactctct	ccccaggga	gaatggggtc	3540
gtcaaagacg	tttttgctt	tgggggtgcc	gtggagaacc	ccgagtactt	gacaccccag	3600
ggaggagctg	cccctcagcc	ccaccctcct	cctgccttca	gcccagcctt	cgacaacctc	3660
tattactggg	accaggaccc	accagagcgg	ggggctccac	ccagcacctt	caaagggaca	3720
cctacggcag	agaaccaga	gtacctgggt	ctggacgtgc	cagtgtga		3768

<210> 6  
 <211> 3768  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 6): (GC) stabilized RNA sequence encoding Her-2/neu (HsHer2/neu GC)

<400> 6

2008012169

atggagctgg	ccgccctctg	ccggtggggc	ctgctgctcg	cgctgctgcc	cccggggggc	60
gccagcacc	aggtgtgcac	cggcacggac	atgaagctcc	gcctgcccgc	ctcccccgag	120
accacactgg	acatgctccg	gcacctgtac	caggggtgcc	aggtcgtgca	gggcaacctg	180
gagctcacct	acctgcccac	caacgccagc	ctgtccttcc	tccaggacat	ccaggagggtg	240
caggggtacg	tcctgatcgc	gcacaaccag	gtgcgccagg	tgccgctgca	gcggctccgc	300
atcgtccggg	gcacgcagct	gttcgaggac	aactacgccc	tggccgtgct	cgacaacggc	360
gacccctga	acaacaccac	ccccgtgacc	ggggccagcc	ccggcggggct	gcgcgagctc	420
cagctgcggt	ccctgacgga	gatcctcaag	ggcgggggtcc	tgatccagcg	caaccgcgag	480
ctgtgctacc	aggacaccat	cctctggaag	gacatcttcc	acaagaacaa	ccagctggcg	540
ctgacctca	tcgacacca	ccggagccgc	gcctgccacc	cctgctcccc	catgtgcaag	600
ggcagccggt	gctggggcga	gtccagcgag	gactgccagt	ccctgacgcg	caccgtgtgc	660
gccgggggct	gcgcccggtg	caagggggccc	ctgccgaccg	actgctgcca	cgagcagtgc	720
gccgcgggct	gcaccggccc	caagcacagc	gactgcctcg	cctgcctgca	cttcaaccac	780
tccgggatct	gcgagctgca	ctgccccgcc	ctcgtgacgt	acaacaccga	caccttcgag	840
agcatgccc	acccggaggg	ccgctacacc	ttcggggcct	cctgcgtcac	ggcctgcccc	900
tacaactacc	tgagcaccga	cgtgggctcc	tgcaccctgg	tgtgccccct	ccacaaccag	960
gaggtcaccg	cggaggacgg	gacgcagcgg	tgcgagaagt	gcagcaagcc	ctgcgcccgc	1020
gtgtgctacg	gcctgggcat	ggagcacctg	cgggaggtgc	gcgccgtcac	ctccgccaac	1080
atccaggagt	tcgccgggtg	caagaagatc	ttcggcagcc	tcgcgttcct	gccggagagc	1140
ttcgacgggg	accccgctc	caacaccgcc	cccctgcagc	ccgagcagct	gcagggtgttc	1200
gagacctcg	aggagatcac	gggctacctg	tacatcagcg	cctggccgga	ctccctgccc	1260
gacctcagcg	tgttccagaa	cctgcaggtc	atccgggggc	gcatcctgca	caacggcgcc	1320
tactccctca	ccctgcaggg	cctggggatc	agctggctcg	gcctgcggtc	cctgcgggag	1380
ctcgggagcg	gcctggcgct	gatccaccac	aacaccacc	tctgcttcgt	gcacaccgtg	1440
ccctgggacc	agctgttccg	caacccccac	caggccctgc	tccacacggc	caaccggccg	1500
gaggacgagt	gcgtcgggga	gggcctggcc	tgccaccagc	tgtgcgcgcg	cggccactgc	1560
tgggggccc	gccccacca	gtgcgtgaac	tgctccagct	tcctccgggg	gcaggagtgc	1620
gtcgaggagt	gccgcgtgct	gcagggcctg	ccgcgggagt	acgtgaacgc	ccgccactgc	1680
ctcccctgcc	accccgagt	ccagccccag	aacggcagcg	tcacctgctt	cgggccggag	1740
gccgaccagt	gcgtggcctg	cgccactac	aaggaccgc	ccttctgcgt	ggcgcggtgc	1800
ccctccggcg	tcaagccgga	cctgagctac	atgcccatt	ggaagtccc	cgacgaggag	1860
ggggcctgcc	agccctgccc	gatcaactgc	accactcct	gcgtggacct	ggacgacaag	1920
ggctgcccc	ccgagcagcg	cgccagcccc	ctcacgtcca	tcattcagcg	cgtggctcggg	1980
atcctgctgg	tgggtggtcct	cggcgtgggtg	ttcggcatcc	tgatcaagcg	gcgccagcag	2040

2008012169

```

aagatccgga agtacaccat gcgccggctg ctccaggaga ccgagctggt cgagcccctg 2100
accccgctccg gggcgatgcc caaccaggcc cagatgcgca tcctcaagga gaccgagctg 2160
cggaaggtga aggtgctggg cagcggggcc ttcggcacgg tctacaaggg gatctggatc 2220
cccgcggcg agaacgtgaa gatccccgtg gccatcaagg tcctccgcga gaacacctcc 2280
ccgaaggcca acaaggagat cctggacgag gcgtacgtga tggccggcgt ggggagcccc 2340
tacgtcagcc ggctgctcgg catctgcctg acctccaccg tgcagctggt gacgcagctc 2400
atgccctacg ggtgcctgct ggaccacgtc cgcgagaacc ggggcccggct cgggagccag 2460
gacctgctga actggtgcat gcagatcgcc aagggcattgt cctacctcga ggacgtgcgc 2520
ctggtgcacc gggacctggc cgcgcgcaac gtcctcgtga agagcccca ccacgtgaag 2580
atcaccgact tcggcctggc ccggctgctc gacatcgacg agaccgagta ccacgccgac 2640
gggggcaagg tcccgatcaa gtggatggcc ctggagtcca tcctgcgccg gcgcttcacc 2700
caccagagcg acgtgtggtc ctacggggtg acggtctggg agctcatgac cttcggcgcc 2760
aagccctacg acgggatccc cgcgcgggag atcccggacc tgctggagaa gggcgagcgc 2820
ctccccagc ccccatctg caccatcgac gtgtacatga tcatggtgaa gtgctggatg 2880
atcgacagcg agtgccggcc gcgcttcggg gagctggtct ccgagttcag ccgcatggcc 2940
cgggaccccc agcgcttcgt ggtgatccag aacgaggacc tgggccccgc ctccccctc 3000
gacagcacct tctaccggtc cctgctggag gacgacgaca tgggggacct cgtcgacgcc 3060
gaggagtacc tgggtccgca gcagggttc ttctgccccg accccgcccc cggggcgggc 3120
ggcatggtgc accaccgcca ccggagctcc agcacgcgct ccggggggcg ggacctgacc 3180
ctcggcctgg agccgagcga ggaggaggcc ccgcggagcc ccctggcccc ctccgagggg 3240
gccggcagcg acgtcttcga cggcgacctc gggatgggcg ccgcgaaggg gctgcagtcc 3300
ctgccgaccc acgaccccag cccctccag cgctactccg aggacccac cgtgccgctg 3360
cccagcgaga cggacggcta cgtggcccc ctgacctgct ccccgagcc ggagtacgtc 3420
aaccagccc acgtgcggcc ccagcccccg agccccggg agggggccct cccggccgcc 3480
cgccccgcgg gcgccacct ggagcggccc aagaccctgt cccccgcaa gaacgggggtg 3540
gtcaaggacg tgttcgctt cggcggggcc gtcgagaacc cggagtacct cacgccccag 3600
ggcggggccg cggccagcc ccacccgccc cccgccttca gccccgcctt cgacaacctg 3660
tactactggg accaggaccc gccggagcgc ggcgcccccc cctccacctt caagggcacc 3720
ccgaccgccg agaaccccga gtacctgggg ctcgacgtgc ccgtgtga 3768

```

<210> 7  
 <211> 3399  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 7): RNA sequence  
 (starting sequence based on the wildtype) encoding hTERT  
 (HsTERT (telomerase reverse transcriptase))



2008012169

<400> 7  
atgccgcgcg ctccccgctg ccgagccgtg cgctccctgc tgcgcagcca ctaccgcgag 60  
gtgctgccgc tggccacgtt cgtgcggcgc ctggggcccc agggctggcg gctggtgcag 120  
cgcggggacc cggcggcttt ccgcgcgctg gtggcccagt gcctggtgtg cgtgccctgg 180  
gacgcacggc cccccccgc cccccctcc ttccgccagg tgcctgcct gaaggagctg 240  
gtggcccagag tgctgcagag gctgtgcgag cgcggcgcga agaactgtgt ggccttcggc 300  
ttcgcgctgc tggacggggc ccgcgggggc cccccgagg ccttcaccac cagcgtgcgc 360  
agctacctgc ccaacacggt gaccgacgca ctgcggggga gcggggcgtg ggggctgctg 420  
ctgcgccgcg tgggcgacga cgtgctggtt cacctgctgg cagcgtgcgc gctctttgtg 480  
ctggtggctc ccagctgcgc ctaccagggt tgccggccgc cgctgtacca gctcggcgct 540  
gccactcagg cccggcccc gccacacgt agtggaaccc gaaggcgtct gggatgcgaa 600  
cgggcctgga accatagcgt cagggaggcc ggggtcccc tgggcctgcc agccccgggt 660  
gagaggaggc gcgggggag tgccagccga agtctgccgt tgcccaagag gccaggcgt 720  
ggcgtgccc ctgagccgga gcggacgccc gttgggcagg ggtcctgggc ccacccgggc 780  
aggacgcgtg gaccgagtga ccgtggtttc tgtgtggtgt cacctgccag acccgccgaa 840  
gaagccacct ctttgagggg tgcgtctctt ggcacgcgcc actcccaccc atccgtgggc 900  
cgccagcacc acgcggggcc cccatccaca tcgcggccac cagctccctg ggacacgcct 960  
tgtccccgg tgtacgccga gaccaagcac ttctctact cctcaggcga caaggagcag 1020  
ctgcggccct ctttctact cagctctctg agggccagcc tgactggcgc tcggaggctc 1080  
gtggagacca tctttctggg ttccaggccc tggatgccag ggactcccc caggttgccc 1140  
cgctgcccc agcgtactg gcaaagtgcg cccctgtttc tggagctgct tgggaaccac 1200  
gcgcagtgcc cctacggggt gtcctcaag acgactgcc cgctgcgagc tgcggtcacc 1260  
ccagcagccg gtgtctgtgc ccgggagaag ccccagggct ctgtggcggc ccccaggag 1320  
gaggacacag acccccgtcg cctggtgcag ctgctccgcc agcacagcag cccctggcag 1380  
gtgtacggct tcgtgcgggc ctgcctgcgc cggctggtgc cccaggcct ctggggctcc 1440  
aggcacaacg aacgccgctt cctcaggaac accaagaagt tcatctccct ggggaagcat 1500  
gccaaactct cgctgcagga gctgacgtgg aagatgagcg tgcgggactg cgcttggtg 1560  
cgcaggagcc cagggggttg ctgtgttccg gccgcagagc accgtctgcg tgaggagatc 1620  
ctggccaagt tcctgcactg gctgatgagt gtgtacgtcg tcgagctgct caggcttttc 1680  
ttttatgtca cggagaccac gtttcaaaag aacaggctct ttttctaccg gaagagtgtc 1740  
tgagcaagt tgcaaagcat tggaatcaga cagcacttga agagggtgca gctgcgggag 1800  
ctgtcggag cagaggtcag gcagatcgg gaagccaggc ccgccctgct gacgtccaga 1860  
ctccgcttca tccccagcc tgacgggctg cggccgattg tgaacatgga ctacgtcgtg 1920  
ggagccagaa cgttccgcag agaaaagagg gccgagcgtc tcacctcgag ggtgaaggca 1980

2008012169

ctgttcagcg	tgctcaacta	cgagcgggcg	cggcgccccg	gcctcctggg	cgcctctgtg	2040
ctgggccttg	acgatatcca	cagggccttg	cgcaccttcg	tgctgcgtgt	gcgggccccag	2100
gacccgccgc	ctgagctgta	ctttgtcaag	gtggatgtga	cgggcgcgta	cgacaccatc	2160
ccccaggaca	ggctcacgga	ggatcatgcc	agcatcatca	aaccccagaa	cacgtactgc	2220
gtgcgtcgg	atgccgtgg	ccagaaggcc	gccccatggg	acgtccgcaa	ggccttcaag	2280
agccacgtct	ctaccttgac	agacctccag	ccgtacatgc	gacagtccgt	ggctcacctg	2340
caggagacca	gcccgtgag	ggatgccgtc	gtcatcgagc	agagctcctc	cctgaatgag	2400
gccagcagtg	gcctcttcga	cgtcttccta	cgcttcatgt	gccaccacgc	cgtgcgcgac	2460
aggggcaagt	cctacgtcca	gtgccagggg	atcccgagc	gctccatcct	ctccacgctg	2520
ctctgcagcc	tgtgctacgg	cgacatggag	aacaagctgt	ttgcggggat	tcggcgggac	2580
gggctgctcc	tgcgtttggt	ggatgatttc	ttgttggtga	cacctcacct	cacccacgcg	2640
aaaaccttcc	tcaggaccct	ggtcgcaggt	gtccctgagt	atggctgcgt	ggtgaacttg	2700
cggaagacag	tggtgaactt	ccctgtagaa	gacgaggccc	tggtgggcac	ggcttttggt	2760
cagatgccgg	cccacggcct	attccccctg	tgccgacctg	tgctggatac	ccggaccctg	2820
gaggtgcaga	gcgactactc	cagctatgcc	cggacctcca	tcagagccag	tctcaccttc	2880
aaccgcggct	tcaaggctgg	gaggaacatg	cgtcgcaaac	tctttggggg	cttgccggctg	2940
aagtgtcaca	gcctgtttct	ggatttgcag	gtgaacagcc	tccagacggt	gtgcaccaac	3000
atctacaaga	tcctcctgct	gcaggcgtac	aggtttcacg	catgtgtgct	gcagctccca	3060
tttcatcagc	aagtttgga	gaaccccaca	tttttcctgc	gcgtcatctc	tgacacggcc	3120
tccctctgct	actccatcct	gaaagccaag	aacgcaggga	tgctcgtggg	ggccaagggc	3180
gccgcccggc	ctctgccctc	cgaggccgtg	cagtggctgt	gccaccaagc	attcctgctc	3240
aagctgactc	gacaccgtgt	cacctacgtg	ccactcctgg	ggtcactcag	gacagccccag	3300
acgcagctga	gtcggaagct	cccggggacg	acgtgactg	ccctggaggc	cgcagccaac	3360
ccggcactgc	cctcagactt	caagaccatc	ctggactga			3399

<210> 8  
 <211> 3399  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 8): (GC) stabilized RNA sequence encoding hTERT (hTERT GC)

<400> 8						
atgccccggg	ccccgcgctg	ccgggcccgtg	cgcagcctgc	tccgggtccca	ctaccgcgag	60
gtcctgcccc	tggcgacctt	cgtgcggcgc	ctcggccccc	aggggtggcg	gctgggtgcag	120
cgcggcgacc	ccgccgcctt	ccgggcccctg	gtcgcccagt	gcctcgtgtg	cgtgccgtgg	180
gacgcgcgcc	ccccgcccgc	cgccccgagc	ttccggcagg	tctcctgcct	gaaggagctg	240
gtggcccgcg	tgctccagcg	gctgtgcgag	cgcggggcga	agaacgtcct	ggccttcggc	300

2008012169

ttcgccctcc	tggacggggc	ccggggcggc	ccccccgagg	ccttcaccac	gagcgtgcgc	360
tcctacctgc	ccaacaccgt	gaccgacgcg	ctccggggga	gcggcgccctg	ggggctgctg	420
ctccgccggg	tcggcgacga	cgtgctggtg	cacctgctcg	cccgtgcgc	cctgttcgtc	480
ctggtggccc	cgctctgcgc	gtaccaggtg	tgcgggcccc	cgctctacca	gctggggcgcc	540
gccacccagg	cccggcccc	gccccacgcc	agcggcccc	ggcgccggct	ggggtgcgag	600
cgcgcggtga	accactccgt	ccgggaggcc	ggcgtgcccc	tcgggctgcc	ggccccggc	660
gcccgcgggc	gcggcgggag	cgctccccg	agcctgcccc	tccccaaagc	cccgcggcgc	720
ggcgcgggcc	ccgagcccga	gcggacgccc	gtggggcagg	gctcctgggc	ccacccgggg	780
cgaccccggg	gccccagcga	ccgcggcttc	tgcgtcgtgt	cccccgcccc	gccggcggag	840
gaggccacca	gcctggaggg	ggccctgtcc	ggcaccgcgc	acagccaccc	ctccgtgggg	900
cggcagcacc	acgccggccc	ccccagcacg	agccgcccc	cccggccctg	ggacaccccc	960
tgcccgcgcc	tctacgccga	gaccaagcac	ttcctctact	ccagcgggga	caaggagcag	1020
ctgcggccct	ccttcctgct	cagctccctg	cgccccagcc	tgaccggcgc	gcggcgccctc	1080
gtggagacga	tcttcctggg	ctcccggccg	tggatgcccc	ggaccccgcg	ccggctgccc	1140
cgctccccgc	agcgggtactg	gcagatgcgc	cccctgttcc	tggagctcct	gggcaaccac	1200
gcccagtgcc	cctacgggggt	cctgctgaag	acccactgcc	ccctccgggc	cgccgtgacc	1260
ccggccgcgg	gcgtgtgcgc	ccgcgagaag	ccccagggga	gcgtcgccgc	ccccgaggag	1320
gaggacacgg	acccccggcg	cctggtgcag	ctgctccggc	agcactccag	cccgtggcag	1380
gtgtacggct	tcgtccgcgc	ctgcctgcgg	cgcctggtgc	cccccgccct	ctgggggtcc	1440
cggcacaacg	agcgccgggt	cctgcgcaac	accaagaagt	tcatcagcct	gggcaagcac	1500
gcgaagctct	ccctgcagga	gctgacctgg	aagatgagcg	tgcgggactg	cgcttggtc	1560
cggcgctccc	cgggggtcgg	ctgcgtgccc	gccgcccagc	accggctgcg	cgaggagatc	1620
ctggcgaagt	tcctccactg	gctgatgagc	gtgtacgtcg	tggagctgct	ccggtccttc	1680
ttctacgtga	ccgagacgac	cttcagaaag	aaccgcctgt	tcttctaccg	gaagagcgtc	1740
tggccaagc	tgagagcat	cggcatccgc	cagcacctca	agcgggtgca	gctgcgcgag	1800
ctgagcgagg	ccgaggtgcg	gcagcaccgc	gaggcccggc	ccgccctcct	gacctcccgc	1860
ctgcggttca	tccccaagcc	ggacgggctc	cgccccatcg	tcaacatgga	ctacgtgggtg	1920
ggcgcccggga	ccttcgcggc	ggagaagcgc	gcggagcggc	tgacgagccg	ggtcaaggcc	1980
ctgtttctcc	tgctcaacta	cgagcgcgcc	cggcgccccg	ggctgctggg	cgccagcggtg	2040
ctcgggctgg	acgacatcca	ccgggcctgg	cgcaccttcg	tcctgcgggt	gcgcgcgcag	2100
gacccccgc	ccgagctcta	cttcgtgaag	gtcgacgtga	ccggcgcccta	cgacaccatc	2160
ccccaggacc	ggctgacgga	ggtgatcgcc	tccatcatca	agccccagaa	cacctactgc	2220
gtccgccgggt	acgccgtgggt	gcagaaggcc	gcgcacggcc	acgtccgcaa	ggccttcaag	2280
agccacgtgt	ccaccctgac	cgacctccag	ccgtacatgc	ggcagttcgt	ggccccacctg	2340

2008012169

caggagacga	gccccctgcg	cgacgccgtc	gtgatcgagc	agtccagctc	cctcaacgag	2400
gcgagctccg	ggctgttcga	cgtgttcctg	cggttcacgt	gccaccacgc	cgtccgcatc	2460
cggggcaaga	gctacgtgca	gtgccagggg	atccccccagg	gctccatcct	cagcaccctg	2520
ctgtgctccc	tctgctacgg	ggacatggag	aacaagctgt	tcgccggcat	ccgccgggac	2580
ggcctgctcc	tgcgcctggt	ggacgacttc	ctcctgggtca	ccccgcacct	gaccacacgcc	2640
aagacgttcc	tccggaccct	ggtgcgcggg	gtgccggaggt	acggctgcgt	cgtgaacctg	2700
cggaagaccg	tgggtcaactt	ccccgtggag	gacgaggccc	tcggggggcac	cgcgttcgtg	2760
cagatgcccc	cccacgggct	gttccccctgg	tgcggcctgc	tcctggacac	ccggacgctg	2820
gaggtccaga	gcgactacag	ctcctacgcc	cgaccacagca	tccgggcctc	cctcaccttc	2880
aaccgcggct	tcaaggccgg	gcggaacatg	cgccggaagc	tgttcggcgt	gctgcgcctc	2940
aagtgccaca	gcctgttcct	ggacctccag	gtcaactccc	tgacagaccgt	gtgcacgaac	3000
atctacaaga	tcctgtctct	gcaggcgtag	cggttcacag	cctgcgtgct	gcagctcccc	3060
ttccaccagc	aggtctggaa	gaacccccacc	ttcttcctgc	gcgtgatcag	cgacaccgcc	3120
tcctgtgct	acagcatcct	caaggccaag	aacgccggga	tgtccctggg	cgcgaggggg	3180
gccgccggcc	ccctgcccag	cgaggccgtg	cagtggctct	gccaccaggc	cttcctgctg	3240
aagctcacc	ggcaccgcgt	cacgtacgtg	ccgtgctgg	gctccctccg	gaccgcgcag	3300
accagctga	gccgcaagct	gcccgggacc	acgtcaccg	ccctggaggc	cgccgcgaac	3360
cccgccctgc	cctccgactt	caagaccatc	ctcgactga			3399

<210> 9  
 <211> 1554  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 9): RNA sequence (starting sequence based on the wildtype) encoding WT1 (HsWT1 (Wilms tumor 1));

<400> 9						
ctgcaggacc	cggtttccac	gtgtgtcccg	gagccggcgt	ctcagcacac	gctccgctcc	60
gggcctgggt	gcctacagca	gccagagcag	cagggagctc	gggacccggg	cggcatctgg	120
gccaaagttag	gcgccgccga	ggccagcgct	gaacgtctcc	agggccggag	gagccgcggg	180
gcgtccgggt	ctgagccgca	gcaaatgggc	tccgacgtgc	gggacctgaa	cgcgctgctg	240
cccgcgctcc	cctccctggg	tggcggcggc	ggctgtgccc	tgctgtgag	cggcgcgggc	300
cagtgggcgc	cggtgtgga	ctttgcgccc	ccgggcgctt	cggcttacgg	gtcgttgggc	360
ggccccgcgc	cgccaccggc	tccgccgcca	cccccgccgc	cgccgcctca	ctccttcac	420
aaacaggagc	cgagctgggg	cggcgcgag	ccgcacgagg	agcagtgctt	gagcgcttc	480
actgtccact	tttccggcca	gttactggc	acagccggag	cctgtcgcta	cgggcccttc	540
ggctctcttc	cgcccagcca	ggcgctcatc	ggccaggcca	ggatgtttcc	taacgcgccc	600

2008012169

tacctgcca gctgcctcga gagccagccc gctattcgca atcaggggta cagcacggtc	660
accttcgacg ggacgcccag ctacgggtcac acgcccctcgc accatgcggc gcagttcccc	720
aaccactcat tcaagcatga ggatcccatg ggccagcagg gctcgctggg tgagcagcag	780
tactcggtgc cgtcccccgggt ctatggctgc cacaccccca ccgacagctg caccggcagc	840
caggctttgc tgctgaggac gccctacagc agtgacaatt tataccaaat gacatccccag	900
cttgaatgca tgacctggaa tcagatgaac ttaggagcca ccttaaaggg agttgctgct	960
gggagctcca gctcagtga atggacagaa gggcagagca accacagcac agggtagcag	1020
agcgataacc acacaacgcc catcctctgc ggagcccaat acagaatata cacgcacggc	1080
gtcttcagag gcattcagga tgtgcgacgt gtgcctggag tagccccgac tcttgtagcg	1140
tcggcatctg agaccagtga gaaacgcccc ttcatgtgtg cttaccagcag ctgcaataag	1200
agatatttta agctgtccca cttacagatg cacagcagga agcacactgg tgagaaacca	1260
taccagtgtg acttcaagga ctgtgaacga aggttttctc gttcagacca gctcaaaaaga	1320
caccaaagga gacatacagg tgtgaaacca ttccagtgtg aaacttgta gcgaaagtgc	1380
tcccgggtccg accacctgaa gaccacacac aggactcata caggtaaaac aagtgaaaag	1440
cccttcagct gtcggtggcc aagttgtcag aaaaagtttg cccggtcaga tgaattagtc	1500
cgccatcaca acatgcatca gagaaacatg accaaactcc agctggcgct ttga	1554

<210> 10  
 <211> 1554  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 10): RNA sequence encoding WT1 (HsWT1 (Wilms tumor 1)) showing a sequence with a reduced GC content in region 325-408 of said sequence compared to the corresponding region of the wildtype sequence

<400> 10	
atgcaggacc ccgccagcac ctgcgtgccg gagcccgccct cccagcacac cctccggagc	60
ggccccgggt gcctgcagca gcccgagcag cagggcgctcc gcgaccgagg cgggatctgg	120
gcgaagctgg gggccgcccga ggcctccgcc gagcggctcc agggccgccc gagccgcggc	180
gcgtccggga gcgagcccca gcagatgggc tccgacgtgc gggacctgaa cgccctgctc	240
cccgccgtgc ccagcctggg cggcgggggc ggggtgcgcc tgccgggtctc cggggcgggc	300
cagtgggccc ccgtgctcga cttcgctcct ccaggagcta gcgcttacgg atctctggga	360
ggacctgctc ctccaccgc tccgccacct cctccaccac ctccacctca cagcttcac	420
aagcaggagc cctcctgggg cggcgccgag cccacgagg agcagtgctt gagcgcttc	480
acggtgact tctccgggca gttcaccggg acccgggggg cctgccccta cggccccctc	540
ggcccgcgcc ccccgagcca ggcctccagc gggcaggccc ggatgttccc caacgcccc	600
tacctccct cctgcctgga gagccagccg gcgatccgca accagggcta cagcaccgctc	660

2008012169

acgttcgacg	ggacccccctc	ctacggccac	acccccagcc	accacgccgc	ccagttcccc	720
aaccactcct	tcaagcacga	ggacccgatg	gggcagcagg	gcagcctggg	cgagcagcag	780
tactccgtgc	ccccgcccgt	gtacgggtgc	cacaccccga	cggacagctg	caccggctcc	840
caggccctcc	tgctgcggac	cccctacagc	tccgacaacc	tctaccagat	gaccagccag	900
ctggagtgc	tgacgtggaa	ccagatgaac	ctggggggcca	ccctcaaggg	cgtcgcggcc	960
gggtccagct	ccagcgtgaa	gtggaccgag	ggccagtcca	accacagcac	cggctacgag	1020
tccgacaacc	acacgacccc	catcctgtgc	ggggcccagt	accgcatcca	cacccacggc	1080
gtgttccggg	ggatccagga	cgtccgccgg	gtgcccggcg	tggccccgac	cctgggtccgc	1140
agcgcgtccg	agacgagcga	gaagcggccc	ttcatgtgcg	cctaccccgg	ctgcaacaag	1200
cgctacttca	agctcagcca	cctgcagatg	cactcccggg	agcacaccgg	ggagaagccc	1260
taccagtgcg	acttcaagga	ctgcgagcgc	cggttcagcc	gctccgacca	gctgaagcgg	1320
caccagcggc	gccacaccgg	cgtgaagccg	ttccagtgc	agacctgcca	gcggaagtcc	1380
agccgctccg	accacctcaa	gacgcacacc	cggacccaca	ccgggaagac	gagcgagaag	1440
cccttctcct	gccgctggcc	cagctgccag	aagaagttcg	cccgggtccga	cgagctggtg	1500
cgccaccaca	acatgcacca	gcggaacatg	accaagctgc	agctcgccct	gtga	1554

<210> 11  
 <211> 1554  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 11): (GC) stabilized RNA sequence encoding WT1 (HsWT1 GC)

<400> 11	
atgcaggacc	ccgccagcac
ctgcgtgccg	gagcccgccct
cccagcacac	cctccggagc
60	
ggccccgggt	gcctgcagca
gcccagcag	cagggcgtcc
gcgacccggg	cgggatctgg
120	
gcgaagctgg	gggcccgcga
ggcctccgcc	gagcggctcc
agggccgccc	gagccgcggc
180	
gcgtccggga	gcgagcccca
gcagatgggc	tccgacgtgc
gggacctgaa	cgccctgctc
240	
cccgccgtgc	ccagcctggg
cggcgggggc	gggtgcgccc
tgccggtctc	cggggcggcc
300	
cagtggggccc	ccgtgctcga
cttcgcccc	cccggcgcca
gcgcgtacgg	gtccctgggc
360	
ggccccggccc	cgccccccgc
cccgccccc	ccgcccggccc
ccccgcccga	cagcttcac
420	
aagcaggagc	cctcctgggg
cggcggccgag	ccccacgagg
agcagtgcct	gagcgccttc
480	
acggtgcact	tctccgggca
gttcaccggg	accgcggggg
cctgccgcta	cggccccctc
540	
ggccccgccc	ccccgagcca
ggcctccagc	gggcaggccc
ggatgttccc	caacgcccc
600	
tacctcccct	cctgcctgga
gagccagccg	gcgatccgca
accagggcta	cagcaccgtc
660	
acgttcgacg	ggacccccctc
ctacggccac	acccccagcc
accacgccgc	ccagttcccc
720	
aaccactcct	tcaagcacga
ggacccgatg	gggcagcagg
gcagcctggg	cgagcagcag
780	
tactccgtgc	ccccgcccgt
gtacgggtgc	cacaccccga
cggacagctg	caccggctcc
840	

2008012169

caggccctcc	tgctgcggac	cccctacagc	tccgacaacc	tctaccagat	gaccagccag	900
ctggagtgc	tgacgtgga	ccagatgaac	ctgggggcca	ccctcaagg	cgctgcggcc	960
gggtccagct	ccagcgtga	gtggaccgag	ggccagtcca	accacagcac	cggctacgag	1020
tccgacaacc	acacgacccc	catcctgtgc	ggggcccagt	accgcatcca	caccacggc	1080
gtgttccggg	ggatccagga	cgctccggcg	gtgcccggcg	tggccccgac	cctggtccgc	1140
agcgcgtccg	agacgagcga	gaagcggccc	ttcatgtgcg	cctaccccgg	ctgcaacaag	1200
cgctacttca	agctcagcca	cctgcagatg	cactcccgga	agcacaccgg	ggagaagccc	1260
taccagtgcg	acttcaagga	ctgcgagcgc	cggttcagcc	gctccgacca	gctgaagcgg	1320
caccagcggc	gccacaccgg	cgtgaagccg	ttccagtgc	agacctgcca	gcggaagtcc	1380
agccgctccg	accacctcaa	gacgcacacc	cggaccacaa	ccgggaagac	gagcgagaag	1440
cccttctcct	gccgctggcc	cagctgccag	aagaagtctg	cccgggtccga	cgagctggtg	1500
cgccaccaca	acatgcacca	gcggaacatg	accaagctgc	agctcgccct	gtga	1554

<210> 12  
 <211> 2109  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 12): RNA sequence (starting sequence based on the wildtype) encoding CEA (CEA (carcinoembryonic antigen) HsCEACAM5);

<400> 12	
atggagtctc	cctcggcccc tccccacaga tgggtgcatcc cctggcagag gtcctgctc 60
acagcctcac	ttctaacctt ctggaacccg cccaccactg ccaagctcac tattgaatcc 120
acgccgttca	atgtcgcaga ggggaaggag gtgcttctac ttgtccacaa tctgccccag 180
catctttttg	gctacagctg gtacaaaggt gaaagagtgg atggcaaccg tcaaattata 240
ggatatgtaa	taggaactca acaagctacc ccagggcccc catacagtgg tcgagagata 300
atatacccca	atgcatccct gctgatccag aacatcatcc agaatgacac aggtattctac 360
accctacacg	tcataaagtc agatcttggt aatgaagaag caactggcca gttccgggta 420
taccgggagc	tgcccaagcc ctccatctcc agcaacaact ccaaaccgt ggaggacaag 480
gatgctgtgg	ccttcacctg tgaacctgag actcaggacg caacctacct gtggtgggta 540
aacaatcaga	gcctcccggt cagtcacagg ctgcagctgt ccaatggcaa caggaccctc 600
actctattca	atgtcacaa gaaatgacaca gcaagctaca aatgtgaaac ccagaaccca 660
gtgagtgcc	ggcgcagtga ttcagtcatc ctgaatgtcc tctatggccc ggatgcccc 720
accatttccc	ctctaaacac atcttacaga tcaggggaaa atctgaacct ctctgcccac 780
gcagcctcta	acccacctgc acagtactct tggtttgtca atgggacttt ccagcaatcc 840
accaagagc	tctttatccc caacatcact gtgaataata gtggatccta tacgtgcca 900
gcccataact	cagacactgg cctcaatagg accacagtca cgacgatcac agtctatgca 960

2008012169

gagccaccca aacccttcat caccagcaac aactccaacc ccgtaggagga tgaggatgct	1020
gtagccttaa cctgtgaacc tgagattcag aacacaacct acctgtggtg ggtaaataat	1080
cagagcctcc cggtcagtcc caggctgcag ctgtccaatg acaacaggac cctcactcta	1140
ctcagtgtca caaggaatga tgtaggaccc tatgagtgtg gaatccagaa caaattaagt	1200
gttgaccaca gcgacccagt catcctgaat gtcctctatg gcccagacga ccccaccatt	1260
tccccctcat acacctatta ccgtagggg gtgaacctca gcctctcctg ccatgcagcc	1320
tctaaccac ctgcacagta ttcttggtg attgatggga acatccagca acacacacaa	1380
gagctcttta tctccaacat cactgagaag aacagcggac tctataacctg ccaggccaat	1440
aactcagcca gtggccacag caggactaca gtcaagacaa tcacagtctc tgcggagctg	1500
cccaagccct ccatctccag caacaactcc aaaccctggtg aggacaagga tgctgtggcc	1560
ttcacctgtg aacctgaggc tcagaacaca acctacctgt ggtgggtaaa tggtcagagc	1620
ctcccagtca gtcccaggct gcagctgtcc aatggcaaca ggaccctcac tctattcaat	1680
gtcacaagaa atgacgcaag agcctatgta tgtggaatcc agaactcagt gagtgcaaac	1740
cgcagtgacc cagtcaccct ggatgtcctc tatgggccgg acacccccat catttcccc	1800
ccagactcgt cttacctttc gggagcgaac ctcaacctct cctgccactc ggcttctaac	1860
ccatccccgc agtattcttg gcgtatcaat gggataccgc agcaacacac acaagttctc	1920
tttatcgcca aaatcacgcc aaataataac gggacctatg cctgttttgt ctctaacttg	1980
gctactggcc gcaataattc catagtcaag agcatcacag tctctgcac tggaacttct	2040
cctggtctct cagctggggc cactgtcggc atcatgattg gagtgtggt tggggttgct	2100
ctgatatag	2109

<210> 13  
 <211> 2109  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 13): (GC) stabilized RNA  
 sequence encoding CEA (CEACAM5 GC)

<400> 13	
atggagagcc cgtcggcccc gccgcaccgg tggtagcatcc cctggcagcg cctgctcctg	60
accgcgagcc tgctgacgtt ctggaacccg ccgaccaccg ccaagctgac catcgagagc	120
accccggttca acgtggccga gggcaaggag gtcctgctcc tggtagcaca cctgccccag	180
cacctgttcg ggtacagctg gtacaagggc gagcgggttg acggcaaccg gcagatcatc	240
ggctacgtga tcggcaccca gcaggccacg ccggggcccg cctacagcgg gcgggagatc	300
atctaccgga acgccagcct gctgatccag aacatcatcc agaacgacac cggcttctac	360
accctccacg tgatcaagtc ggacctggtg aacgaggagg cgaccggcca gttccgggtc	420
taccgggagc tgccgaagcc cagcatcagc agcaacaaca gcaagccggt ggaggacaag	480



2008012169

gacgccgtgg ccttcacctg cgagccggag acccaggacg ccacgtacct gtggtgggtg	540
aacaaccaga gcctgccggt gtcgccgagg ctgcagctca gcaacggcaa ccgcaccctg	600
accctgttca acgtgacccg gaacgacacc gccagctaca agtgcgagac ccagaacccg	660
gtcagcgccc ggcggagcga cagcgtgatc ctgaacgtgc tgtacggccc cgacgcgccc	720
acgatctcgc cgctgaacac cagctaccgg agcggcgaga acctcaacct gagctgccac	780
gccgccagca acccgccggc ccagtacagc tggttcgtga acgggacctt ccagcagtcg	840
accaggagc tgttcatccc gaacatcacc gtgaacaaca gcggcagcta cacctgccag	900
gcccacaaca gcgacacggg cctgaaccgg accaccgtga ccaccatcac cgtctacgcc	960
gagccccga agccgttcat cagagcaac aacagcaacc cgggtggagga cgaggacgcg	1020
gtggccctga cctgcgagcc ggagatccag aacaccacct acctgtggtg ggtgaacaac	1080
cagtcgctcc cgggtgagccc ccgcctgcag ctgagcaacg acaaccggac cctgaccctg	1140
ctgagcgtga cgcggaacga cgtcggcccc tacgagtgcg gcatccagaa cgagctcagc	1200
gtggaccaca gcgacccggt gatcctgaac gtgctgtacg gcccgagca cccgaccatc	1260
tcgccgagct acacctacta ccggccccgg gtgaacctga gcctgagctg ccacgccgcc	1320
agcaaccgc cgccccagta cagctggctg atcgacggca acatccagca gcacacccag	1380
gagctcttca tctcgaacat caccgagaag aacagcggcc tgtacacctg ccaggccaac	1440
aacagcgcga gcggccacag ccggacgacc gtgaagacca tcaccgtcag cgccgagctg	1500
ccgaagccgt cgatcagcag caacaacagc aagccggtgg aggacaagga cgccgtggcc	1560
ttcacctgcg agcccgaggc ccagaacacc acgtacctgt ggtgggtgaa cggccagagc	1620
ctgccggtga gcccgcggt gcagctctcg aacggcaacc gcaccctgac cctgttcaac	1680
gtgacccgga acgacgccc ggcgtacgtc tgcgggatcc agaacagcgt gagcgccaac	1740
cggagcgacc cggtgaccct ggacgtgctg tacggccccg acaccccgat catcagcccc	1800
ccggacagct cgtacctgag cggcgccaac ctcaacctga gctgccacag cgccagcaac	1860
ccgagccgc agtactcgtg gcggatcaac ggcattccgc agcagcacac gcagggtgctg	1920
ttcatcgcca agatcacccc gaacaacaac ggcacctacg cctgcttcgt gagcaacctg	1980
gcgaccggcc ggaacaacag catcgtcaag agcatcaccg tgagcgccag cgggacctcg	2040
cccggcctga gcgccggcgc cagggtgggc atcatgatcg gcgtgctggt gggcgtggcc	2100
ctcatctga	2109

<210> 14  
 <211> 945  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 14): RNA sequence (starting sequence based on the wildtype) encoding MAGE-A2 (HSMAGE-A2 (melanoma antigen family A, 2) HSMAGE-A2B).

<400> 14

2008012169

atgcctcttg agcagaggag tcagcactgc aagcctgaag aaggccttga ggccccgagga	60
gagggccctgg gcctggtggg tgcgcaggct cctgctactg aggagcagca gaccgcttct	120
tcctcttcta ctctagtggg agttaccctg ggggagggtgc ctgctgccga ctcaccgagt	180
cctccccaca gtcctcaggg agcctccagc ttctcgacta ccatcaacta cactctttgg	240
agacaatccg atgaggggctc cagcaaccaa gaagaggagg ggccaagaat gtttcccgcac	300
ctggagtccg agttccaagc agcaatcagt aggaagatgg ttgagttggt tcattttctg	360
ctcctcaagt atcgagccag ggagccgggtc acaaaggcag aaatgctgga gagtgtcctc	420
agaaattgcc aggacttctt tcccgtgatc ttcagcaaag cctccgagta cttgcagctg	480
gtctttggca tcgaggtggt ggaagtgggtc cccatcagcc acttgtagat ccttgtcacc	540
tgcctggggc tctcctacga tggcctgctg ggcgacaatc aggtcatgcc caagacaggc	600
ctcctgataa tcgtcctggc cataatcgca atagagggcg actgtgcccc tgaggagaaa	660
atctgggagg agctgagtat gttggagggtg tttgagggga gggaggacag tgtcttcgca	720
catcccagga agctgctcat gcaagatctg gtgcaggaaa actacctgga gtaccggcag	780
gtgcccggca gtgatcctgc atgctacgag ttcctgtggg gtccaagggc cctcattgaa	840
accagctatg tgaaagtcct gcaccataca ctaaagatcg gtggagaacc tcacatttcc	900
taccacccc tgcataaacg ggctttgaga gaggggagaag agtga	945

<210> 15  
 <211> 945  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 15): (GC) stabilized RNA sequence encoding MAGe-A2 (HSMAGe-A2B GC)

<400> 15	
atgcccctgg agcagcggag ccagcactgc aagccggagg agggcctcga ggccccgagg	60
gagggccctgg gcctggtggg ggcgcaggcc cccgccaccg aggagcagca gaccgcctcc	120
agctccagca cgctcgtaga ggtgaccctg ggcgagggtgc ccgccgcgga ctccccagc	180
ccgccccact cccccaggg ggccagctcc ttcagcacca ccatcaacta cacgctgtgg	240
cggcagtcag acgagggcag ctccaaccag gaggaggagg gccccgcag gttccccggac	300
ctcgagagcg agttccaggc cgccatctcc cggaagatgg tcgagctggt gcacttcctg	360
ctcctgaagt accgcgcgcg ggagcccgtg accaaggccg agatgctgga gagcgtcctc	420
cgcaactgcc aggacttctt ccccgtgatc ttctccaagg ccagcgagta cctgcagctg	480
gtgttcggga tcgaggtcgt ggaggtgggtc cccatctccc acctctacat cctggtgacc	540
tgcctggggc tcagctacga cgggctgctg ggcgacaacc aggtgatgcc gaagaccggg	600
ctcctgatca tcgtcctggc catcatcgcc atcgagggcg actgcgcgcc cgaggagaag	660
atctgggagg agctcagcat gctggagggtg ttcgagggcc gggaggactc cgtgttcgcc	720
cacccccgca agctgctcat gcaggacctg gtccaggaga actacctgga gtaccggcag	780

2008012169

```
gtgcccggga gcgacccggc ctgctacgag ttctcttggg gcccccgcg cctgatcgag      840
acgtcctacg tgaaggtcct gcaccacacc ctcaagatcg ggggcgagcc ccacatcagc      900
taccgcgcgc tgcacgagcg ggccttgcgc gagggcgagg agtga                        945
```

<210> 16  
<211> 945  
<212> DNA  
<213> Artificial

<220>  
<223> Description of sequence (see Figure 16): RNA sequence (starting sequence based on the wildtype) encoding MAGE-A3 (MAGE-A3 (melanoma antigen family A, 3) MAGE-A3)

```
<400> 16
atgcctcttg agcagaggag tcagcactgc aagcctgaag aaggccttga ggcccgagga      60
gaggcccttg gcctggtggg tgcgcaggct cctgctactg aggagcagga ggctgcctcc      120
tcctcttcta ctctagttga agtcaccctg ggggaggtgc ctgctgccga gtcaccagat      180
cctccccaga gtcctcaggg agcctccagc ctccccacta ccatgaacta ccctctcttg      240
agccaatcct atgaggactc cagcaaccaa gaagaggagg ggccaagcac cttccctgac      300
ctggagtccg agttccaagc agcactcagt aggaagggtg ccgagttggt tcattttctg      360
ctcctcaagt atcgagccag ggagccggtc acaaaggcag aaatgctggg gagtgtcgtc      420
ggaaattggc agtattttctt tcctgtgatc tttagcaaag cttccagttc cttgcagctg      480
gtctttggca tcgagctgat ggaagtggac cccatcggcc acttgtagat ctttgccacc      540
tgcttggggc tctcctacga tggcctgctg ggtgacaatc agatcatgcc caaggcaggc      600
ctcctgataa tcgtcctggc cataatcgca agagagggcg actgtgcccc tgaggagaaa      660
atctgggagg agctgagtgt gttagagggtg tttgagggga gggaagacag tatcttgggg      720
gatcccaaga agctgctcac ccaacatttc gtgcaggaaa actacctgga gtaccggcag      780
gtccccggca gtgatcctgc atgttatgaa ttctgttggg gtccaagggc cctcgttgaa      840
accagctatg tgaaagtcct gcaccatatg gtaaagatca gtggaggacc tcacatttcc      900
taccacccc tgcatgagtg ggttttgaga gagggggaag agtga                        945
```

<210> 17  
<211> 945  
<212> DNA  
<213> Artificial

<220>  
<223> Description of sequence (see Figure 17): a (GC) stabilized RNA sequence encoding MAGE-A3 (MAGE-A3 GC)

```
<400> 17
atgccccttg agcagcgctc gcagcactgc aagccggagg agggcctcga ggcccggggc      60
gaggcccttg gcctggtggg cgcgcaggcc ccggccaccg aggagcagga ggccgccagc      120
agcagcagca ccctggtgga ggtgaccctg ggcgaggtgc cggccgcgga gagcccggac      180
```

2008012169

```

ccgccccagt cgccgcaggg ggccagcagc ctgccgacca cgatgaacta cccgctcttg 240
agccagagct acgaggacag ctcgaaccag gaggaggagg gcccagacac cttcccggac 300
ctggagagcg agttccaggg cgccctgagc cggaagggtg ccgagctggt ccacttcctg 360
ctgctcaagt accggggccc ggagcccgtg accaaggcgg agatgctggg cagcgtgggtg 420
ggcaactggc agtacttctt cccggtgata ttcagcaagg cctcgagcag cctgcagctg 480
gtgttcggca tcgagctgat ggaggtcgac ccgatcggcc acctgtacat cttcgccacc 540
tgcctcgggc tgagctacga cggcctgctg ggcgacaacc agatcatgcc gaaggccggc 600
ctgctgatca tcgtgctcgc catcatcgcc cgggagggcg actgcgcgcc ggaggagaag 660
atctgggagg agctgagcgt gctggagggtg ttcgagggcc gcgaggacag catcctgggg 720
gacccgaaga agctgctgac ccagcacttc gtgcaggaga actacctga gtaccggcag 780
gtgcccggct cggacccggc ctgctacgag ttcctgtggg gcccgcgggc cctggtcgag 840
accagctacg tgaagggtgct gcaccacatg gtgaagatca gcggcgggcc gcacatcagc 900
taccgcgcgc tgcacgagtg ggtgctgcgg gagggcgagg agtga 945

```

<210> 18  
 <211> 429  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 18): RNA sequence (starting sequence based on the wildtype) encoding Survivin (Survivin (baculoviral IAP repeat-containing 5, BIRC5) HsSurvivin(wt));

```

<400> 18
atgggtgccc cgacgttgcc ccctgcctgg cagccctttc tcaaggacca ccgcatctct 60
acattcaaga actggccctt cttggagggc tgcgcctgca ccccgagcgc gatggccgag 120
gctggcttca tccactgccc cactgagaac gagccagact tggcccagtg tttcttctgc 180
ttcaaggagc tggaaggctg ggagccagat gacgacccca tagaggaaca taaaagcat 240
tcgtccggtt gcgctttcct ttctgtcaag aagcagtttg aagaattaac ccttggtgaa 300
tttttgaaac tggacagaga aagagccaag acaaaaattg caaaggaaac caacaataag 360
aagaaagaat ttgaggaaac tgcgaagaaa gtgcgccgtg ccatcgagca gctggctgcc 420
atggattga 429

```

<210> 19  
 <211> 429  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 19): (GC) stabilized RNA sequence encoding Survivin (HsSurvivin(GC))

```

<400> 19
atgggcgccc ccaccctgcc gccggcctgg cagccgttcc tcaaggacca ccgcatctcg 60
accttcaaga actggccggt cctggagggc tgcgcgtgca ccccgagcgc gatggccgag 120

```

2008012169

```
gccggcttca tccactgccc caccgagaac gagccggacc tggcccagtg cttcttctgc 180
ttcaaggagc tggagggctg ggagccggac gacgacccga tcgaggagca caagaagcac 240
agcagcggct gcgccttcct gagcgtgaag aagcagttcg aggagctgac gctcggggag 300
ttcctgaagc tggaccggga gcggggccaag aacaagatcg cgaaggagac caacaacaag 360
aagaaggagt tcgaggagac cgccaagaag gtgcggcggg ccatcgagca gctggccgcc 420
atggactga 429
```

<210> 20  
 <211> 543  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 20): RNA sequence (starting sequence based on the wildtype) encoding NY-ESO-1 (Homo sapiens NY-ESO-1 (NY-ESO-1(wt)));

```
<400> 20
atgcaggccg aaggccgggg cacagggggg tcgacgggcg atgctgatgg cccaggaggc 60
cctggcattc ctgatggccc agggggcaat gctggcggcc caggagaggc gggtgccacg 120
ggcggcagag gtccccgggg cgacggggca gcaaggccct cggggccggg aggaggcgcc 180
ccgcgggggtc cgcatggcgg cgcggttca gggctgaatg gatgctgag atgcggggcc 240
agggggccgg agagccgcct gcttgagttc tacctcgcca tgcctttcgc gacacccatg 300
gaagcagagc tggcccgcag gagcctggcc caggatgccc caccgcttcc cgtgccaggg 360
gtgcttctga aggagttcac tgtgtccggc aacatactga ctatccgact gactgctgca 420
gaccaccgcc aactgcagct ctccatcagc tcctgtctcc agcagctttc cctgttgatg 480
tggatcacgc agtgctttct gcccgtgttt ttggctcagc ctccctcagg gcagaggcgc 540
taa 543
```

<210> 21  
 <211> 543  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 21): (GC) stabilized RNA sequence encoding NY-ESO-1 (NY-ESO-1(GC));

```
<400> 21
atgcaggccg aaggccgcgg caccggcggc tcgaccggcg acgccgacgg gcccggcggc 60
ccgggcatcc cggacggccc gggcgggaaac gcgggcggcc cgggcgaggc cggcgccacc 120
ggcgggcggg gcccgcgggg cgccggcgcc gcccgggcga gcggccccgg cgggggcgcc 180
ccgcggggcc cgacggcggg cgccgccagc ggcctgaacg ggtgctgccg gtgcggcgcc 240
cgcgggcccg agagccggct cctggagttc tacctggcca tgccgttcgc gaccccgatg 300
gaggccgagc tggcccggcg gagcctggcc caggacgccc cgccgctgcc cgtgccgggc 360
```

2008012169

gtgctcctga aggagttcac ggtgagcggc aacatcctga ccatccggct gaccgccgcg	420
gaccaccggc agctgcagct gtcgatcagc agctgcctcc agcagctgag cctgctgatg	480
tggatcacc cagtgttctt gccggtgttc ctggcccagc cgcccagcgg ccagcgccgg	540
tga	543

<210> 22  
 <211> 3429  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 22): RNA sequence (starting sequence based on the wildtype) encoding MAGE-C1 (HSMAGEC1 (melanoma antigen family C, 1) HSMAGEC1(wt))

<400> 22	
atgggggaca aggatatgcc tactgctggg atgccgagtc ttctccagag ttctcttgag	60
agtcctcaga gttgtcctga gggggaggac tcccagtcct ctctccagat tccccagagt	120
tctcttgaga gcgacgacac cctgtatcct ctccagagtc ctccagagtcg ttctgagggg	180
gaggactcct cggatcctct ccagagacct cctgagggga aggactccca gtctcctctc	240
cagattcccc agagttctcc tgaggggcag gacaccagtc ctctctcca gaattctcag	300
agttctcctg aggggaagga ctccctgtct cctctagaga tttctcagag ccctcctgag	360
ggtgaggatg tccagtcctc tctgcagaat cctgcgagtt ctttcttctc ctctgcttta	420
ttgagtatatt tccagagttc ccctgagagt actcaaagtc cttttgaggg ttttccccag	480
tctgttctcc agattcctgt gagcgccgcc tcctcctcca ctttagtgag tattttccag	540
agttcccctg agagtactca aagtcctttt gaggggtttt cccagtcctc actccagatt	600
cctgtgagcc gctccttctc ctccacttta ttgagtatatt tccagagttc ccctgagaga	660
actcagagta cttttgaggg ttttgcccag tctcctctcc agattcctgt gagcccctcc	720
tcctcctcca ctttactgag tcttttccag agtttctctg agagaactca gagtactttt	780
gaggggtttt cccagtcctc tctccagatt cctgtgagcc cctccttctc ctccacttta	840
gtgagtcctt tccagagttc ccctgagaga actcagagta cttttgaggg ttttccccag	900
tctcctctcc agattcctgt gagctcctcc tcctcctcca ctttattgag tcttttccag	960
agttcccctg agagaactca cagtactttt gaggggtttt cccagtcctc tctccagatt	1020
cctatgacct cctccttctc ctctacttta ttgagtatatt tccagagttc tcctgagagt	1080
gctcaaagta cttttgaggg ttttccccag tctcctctcc agattcctgg gagcccctcc	1140
ttctcctcca ctttactgag tcttttccag agttcccctg agagaactca cagtactttt	1200
gaggggtttt cccagtcctc tctccagatt cctatgacct cctccttctc ctctacttta	1260
ttgagtatatt tacagagttc tcctgagagt gctcaaagtg cttttgaggg ttttccccag	1320
tctcctctcc agattcctgt gagctcctct ttctcctaca ctttattgag tcttttccag	1380
agttcccctg agagaactca cagtactttt gaggggtttt cccagtcctc tctccagatt	1440

2008012169

cctgtgagct	cctcctcctc	ctcctccact	ttattgagtc	ttttccagag	ttcccctgag	1500
tgtactcaaa	gtacttttga	gggttttccc	cagtctcctc	tccagattcc	tcagagtcct	1560
cctgaagggg	agaataccca	ttctcctctc	cagattgttc	caagtcttcc	tgagtgggag	1620
gactccctgt	ctcctcacta	ctttcctcag	agccctcctc	agggggagga	ctccctatct	1680
cctcactact	ttcctcagag	ccctcctcag	ggggaggact	ccctgtctcc	tcactacttt	1740
cctcagagcc	ctcaggggga	ggactccctg	tctcctcact	actttcctca	gagccctcct	1800
cagggggagg	actccatgtc	tcctctctac	tttcctcaga	gtcctcttca	gggggaggaa	1860
ttccagtctt	ctctccagag	ccctgtgagc	atctgtctct	cctccactcc	atccagtctt	1920
ccccagagtt	tccctgagag	ttctcagagt	cctcctgagg	ggcctgtcca	gtctcctctc	1980
catagtctct	agagccctcc	tgaggggatg	cactcccaat	ctcctctcca	gagtcctgag	2040
agtgtctctg	agggggagga	ttccctgtct	cctctccaaa	ttcctcagag	tcctcttgag	2100
ggagaggact	ccctgtcttc	tctccatttt	cctcagagtc	ctcctgagtg	ggaggactcc	2160
ctctctcctc	tccactttcc	tcagtttctt	cctcaggggg	aggacttcca	gtcttctctc	2220
cagagtcttg	tgagtatctg	ctcctcctcc	acttctttga	gtcttcccca	gagtttccct	2280
gagagtctct	agagtctctc	tgaggggcct	gctcagtctc	ctctccagag	acctgtcagc	2340
tccttcttct	cctacacttt	agcgagtctt	ctccaaagtt	cccatgagag	tcctcagagt	2400
cctcctgagg	ggcctgcccc	gtctcctctc	cagagtcttg	tgagctcctt	cccctcctcc	2460
acttcatcga	gtcttttcca	gagttctcct	gtgagctcct	tcccctcctc	cacttcatcg	2520
agtctttcca	agagttcccc	tgagagtcct	ctccagagtc	ctgtgatctc	cttctcctcc	2580
tccacttcat	tgagcccatt	cagtgaagag	tccagcagcc	cagtagatga	atatacaagt	2640
tcctcagaca	ccttgctaga	gagtgattcc	ttgacagaca	gcgagtcctt	gatagagagc	2700
gagcccttgt	tcacttatac	actggatgaa	aagggtggacg	agttggcgcg	gtttcttctc	2760
ctcaaatact	aagtgaagca	gcctatcaca	aaggcagaga	tgctgacgaa	tgctcatcagc	2820
aggtacacgg	gctactttcc	tgtgatcttc	aggaaagccc	gtgagttcat	agagatactt	2880
tttggcattt	ccctgagaga	agtggaccct	gatgactcct	atgtctttgt	aaacacatta	2940
gacctcacct	ctgaggggtg	tctgagtgat	gagcagggca	tgtcccagaa	ccgcctcctg	3000
attcttattc	tgagtatcat	cttcataaag	ggcacctatg	cctctgagga	ggctcatctgg	3060
gatgtgctga	gtggaatagg	ggtgcgtgct	gggagggagc	actttgcctt	tggggagccc	3120
agggagctcc	tcactaaagt	ttgggtgcag	gaacattacc	tagagtaccg	ggaggtgccc	3180
aactcttctc	ctcctcgtta	cgaattcctg	tggggtccaa	gagctcattc	agaagtcatt	3240
aagaggaaag	tagtagagtt	tttggccatg	ctaaagaata	ccgtccctat	tacctttcca	3300
tcctcttaca	aggatgcttt	gaaagatgtg	gaagagagag	cccaggccat	aattgacacc	3360
acagatgatt	cgactgccac	agaaagtgca	agctccagtg	tcatgtcccc	cagcttctct	3420
tctgagtga						3429

<210> 23  
 <211> 3429  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 23): (GC) stabilized RNA sequence encoding MAGE-C1 (HSMAGEC1(GC),

<400> 23  
 atgggcgaca aggacatgcc caccgccggg atgccgagcc tgctccagtc cagctccgag 60  
 agccccagtc cctgccccga gggcgaggac agccagatccc ccctgcagat cccgcagagc 120  
 tcccccgaga gcgacgacac cctgtacccc ctccagatccc cgcagagccg gtccgagggg 180  
 gaggacagct ccgacccgct gcagcgcccc cccgaggggca aggacagcca gtccccgctg 240  
 cagatccccg agagctcccc cgaggggggac gacacgcaga gccccctcca gaacagccag 300  
 tccagccccg agggcaagga ctccctgagc ccgctggaga tctcccagag cccccccgag 360  
 ggcgaggacg tgcagtcccc gctccagaac ccggccagct ctttcttcag ctccgcgctg 420  
 ctgagcatct tccagtccag ccccgagtcc acccagagcc ctttcgaggg gttccccag 480  
 tccgtcctcc agatcccggg gagcgccgcc tccagcagca ccctggtgtc catcttccag 540  
 agtcccccg agagcaccca gtcccccttc gagggcttcc cccagagccc gctgcagatc 600  
 cccgtgtccc ggagcttctc cagcacgctc ctgtccatct tccagagctc ccccgagcgc 660  
 acccagagca ctttcgaggg gttcgcccag tccccgctgc agatccccgt gagccccctc 720  
 agcagctcca cctcctgag cctgttccag tccttcagcg agcggacgca gtccaccttc 780  
 gagggcttcg cccagagctc cctccagatc cccgtgagcc cgtccttcag ctccaccctg 840  
 gtcagcctgt tccagtccag ccccgagcgc acccagtcca cgttcgaggg gttccccag 900  
 agccccctcc agatcccggg gtccagctcc agcagctcca ccctgctgag cctcttccag 960  
 tccagccccg agcggaccca ctccaccttc gagggcttcc cccagagcct gctgcagatc 1020  
 cccatgacgt ccagcttctc cagcaccttc ctgtccatct tccagagctc cccggagagc 1080  
 gcgcagtcca ctttcgaggg cttccccag agccccctgc agatccccgg gtccccgagc 1140  
 ttctccagca cctcctgag cctgttccag tccagccccg agcgcacgca ctccaccttc 1200  
 gagggcttcc cccagagccc cctccagatc ccgatgacct ccagcttctc cagcaccttg 1260  
 ctgtccatcc tccagagctc ccccgagagc gcccagtccg ctttcgaggg gttccccag 1320  
 agccccctgc agatcccggg gtccagctcc ttcagctaca cgctgctctc cctgttccag 1380  
 agcagccccg agcggaccca ctccaccttc gagggcttcc cccagagccc gctgcagatc 1440  
 cccgtgtcca gctccagctc cagctccacc ctctgagcc tgttccagtc cagccccgag 1500  
 tgcacgcagt ccaccttcga gggcttcccc cagagcccgc tgcagatccc ccagtcccc 1560  
 cccgaggggg agaacaccca cagcccgtc cagatcgtgc cctccctgcc cgagtgggag 1620  
 gacagcctgt ccccgacta cttcccgag agccccccgc agggcgagga cagcctctcc 1680  
 cccactact tcccgcagag cccgccccag ggggaggact ccctgagccc ccactacttc 1740



2008012169

```

ccgcagtccc cccagggcga ggacagcctg tccccgcact acttccccca gagccccccc 1800
cagggggagg actccatgag cccctctac ttccccagc ccccgctgca gggcgaggag 1860
ttccagagct ccctgcagag ccccggtgcc atctgcagct ccagcacccc ctccagcctc 1920
ccgcagagct tccccgagtc cagccagtc ccccccgagg gcccggtcca gagccccctg 1980
cactccccgc agagcccccc ggaggggatg cactcccaga gccccctgca gtcccccgag 2040
agcgcctccg agggcgagga ctccctcagc ccgctgcaga tccccagtc cccgctggag 2100
ggggaggaca gcctctccag cctgcacttc cccagtc cgcgcgagtg ggaggacagc 2160
ctgagcccc tccacttccc ccagttccc cccagggcg aggacttcca gtccagcctg 2220
cagtcccccg tgagcatctg ctccagctcc acgagcctgt ccctccccca gagcttcccg 2280
gagtcccccc agagcccgcc cgaggggccc ggcgagtc cctgcagcg ccccgtagc 2340
tcctttctca gctacaccct ggcctccctc ctgcagagct cccacgagag cccgcagagc 2400
ccgcccagag gccccgccc gtccccgctg cagagccccg tgtccagctt cccctccagc 2460
acctccagct ccctcagcca gtccagcccc gtgtccagct tcccgccag caccctccagc 2520
tccttgagca agagctcccc cgagagcccc ctgcagtc ccgatgacag cttctccagc 2580
tccacgagcc tctccccgtt cagcgaggag tccagctccc ccgtcgacga gtacaccagc 2640
tccagcgaca ccctgctgga gtccgacagc ctcaccgact ccgagagcct gatcgagagc 2700
gagccccctgt tcacctacac gctcgacgag aaggtggacg agctggcccc gttcctgctc 2760
ctgaagtacc aggtgaagca gcccatcacc aaggccgaga tgctgaccaa cgtcatctcc 2820
cgctacaccg gctacttccc ggtgatcttc cggaaggcgc gcgagttcat cgagatcctc 2880
ttcgggatca gcctgcggga ggtggacccc gacgactcct acgtcttcgt gaacacgctg 2940
gacctcacca gcgagggctg cctgtccgac gagcagggga tgagccagaa ccgcctgctc 3000
atcctgatcc tgtccatcat cttcatcaag ggcacctacg ccagcgagga ggatcatctg 3060
gacgtgctct ccgggatcgg cgtgcgggcc ggccgcgagc acttcgcctt cggggagccc 3120
cgggagctgc tgaccaaggt ctgggtgcag gagcactacc tcgagtaccg cgaggtgccc 3180
aacagctccc cggcccggtc cgagttcctg tggggcccc gcgcccacag cgaggtcatc 3240
aagcggaagg tgggtggagt cctggcgatg ctcaagaaca cggccccat caccctcccg 3300
tccagctaca aggacgccct gaaggacgtg gaggagcggg cccaggccat catcgacacc 3360
accgacgact ccacggccac cgagagcgcg tccagctccg tgatgagccc cagcttctcc 3420
agcgagtga 3429

```

<210> 24  
 <211> 1596  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 24): (GC) stabilized RNA  
 sequence encoding a truncated MAGC-1 (HsMAGC1(GC),

2008012169

```

<400> 24
atgcagctccc cgctgcaggg cgaggagttc cagagctccc tgcagagccc cgtgtccatc      60
tgcagctcca gcacccccctc cagcctcccc cagagcttcc ccgagtccag ccagtcccccc      120
cccagagggcc cgggtccagag cccccctgcac tccccgcaga gccccccgga ggggatgcac      180
tcccagagccc ccctgcagtc ccccgagagc gcccccgagg gcgaggactc cctcagccccg      240
ctgcagatcc cccagtcccc gctggagggg gaggacagcc tctccagcct gcacttcccc      300
cagtccccgc ccgagtggga ggacagcctg agccccctcc acttccccca gttccccgcc      360
cagggcgagg acttccagtc cagcctgcag tccccgtga gcatctgctc cagctccacg      420
agcctgtccc tccccagag cttcccgagg tccccccaga gcccgcccga ggggccggcg      480
cagtcccccc tgcagcgcgc cgtgagctcc ttcttcagct acaccctggc ctccctcctg      540
cagagctccc acgagagccc gcagagcccc cccgagggcc ccgcccagtc cccgctgcag      600
agccccgtgt ccagcttccc ctccagcacc tccagctccc tcagccagtc cagccccgtg      660
tccagcttcc cgtccagcac ctccagctcc ctgagcaaga gctcccccca gagccccctg      720
cagtcccccc tgatcagctt ctccagctcc acgagcctct ccccgttcag cgaggagtcc      780
agctcccccc tcgacgagta caccagctcc agcgacaccc tgctggagtc cgacagcctc      840
accgactccg agagcctgat cgagagcgag cccctgttca cctacacgct cgacgagaag      900
gtggacgagc tggcccgggt cctgctcctg aagtaccagg tgaagcagcc catcaccaag      960
gccgagatgc tgaccaacgt catctccgc tacaccggct acttcccggg gatcttccgg      1020
aaggcgcgcg agttcatcga gatcctcttc gggatcagcc tgcgggaggt ggaccccgcac      1080
gactcctacg tcttcgtgaa cacgctggac ctaccagcg agggctgcct gtccgacgag      1140
caggggatga gccagaaccg cctgctcatc ctgatcctgt ccatcatctt catcaagggc      1200
acctacgcca gcgaggaggt catctgggac gtgctctccg ggatcggcgt gcgggccggc      1260
cgcgagcact tcgccttcgg ggagccccgg gagctgctga ccaaggctct ggtgcaggag      1320
cactacctcg agtaccgca ggtgcccac agctccccgc cccggtacga gttcctgtgg      1380
ggcccccgcg cccacagcga ggtcatcaag cggaagggtg tggagttcct ggcgatgctc      1440
aagaacacgg tccccatcac cttcccgctc agctacaagg acgccctgaa ggacgtggag      1500
gagcggggcc aggccatcat cgacaccacc gacgactcca cggccaccga gagcgcgtcc      1560
agctccgtga tgagccccag cttctccagc gagtga      1596

```

```

<210> 25
<211> 1122
<212> DNA
<213> Artificial

```

```

<220>
<223> Description of sequence (see Figure 25): RNA sequence (starting
sequence based on the wildtype) encoding MAGC-C2 (HSMAGC-C2
(melanoma antigen family C, 2)HSMAGC-C2);

```

<400> 25

2008012169

atgcctcccg	ttccaggcgt	tccattccgc	aacgttgaca	acgactcccc	gacctcagtt	60
gagttagaag	actgggtaga	tgcacagcat	cccacagatg	aggaagagga	ggaagcctcc	120
tccgcctctt	ccactttgta	cttagtattt	tccccctctt	ctttctccac	atcctcttct	180
ctgattcttg	gtggtcctga	ggaggaggag	gtgccctctg	gtgtgatacc	aaatcttacc	240
gagagcattc	ccagtagtcc	tccacagggg	cctccacagg	gtccttccca	gagtcctctg	300
agctcctgct	gctcctcttt	ttcatggagc	tcattcagtg	aggagtccag	cagccagaaa	360
ggggaggata	caggcacctg	tcagggcctg	ccagacagtg	agtcctcttt	cacatataca	420
ctagatgaaa	aggtggccga	gttagtggag	ttcctgctcc	tcaaatacga	agcagaggag	480
cctgtaacag	aggcagagat	gctgatgatt	gtcatcaagt	acaaagatta	ctttcctgtg	540
atactcaaga	gagcccgtga	gttcatggag	cttctttttg	gccttgccct	gatagaagtg	600
ggccctgacc	acttctgtgt	gtttgcaaac	acagtaggcc	tcaccgatga	gggtagtgat	660
gatgagggca	tgcccagaga	cagcctcctg	attattattc	tgagtgtgat	cttcataaag	720
ggcaactgtg	cctctgagga	ggcatcttgg	gaagtgtctga	atgcagtagg	ggtatatgct	780
gggagggagc	acttcgtcta	tggggagcct	agggagctcc	tcactaaagt	ttgggtgcag	840
ggacattacc	tggagtatcg	ggagggtgcc	cacagttctc	ctccatatta	tgaattcctg	900
tggggtccaa	gagcccattc	agaaagcatc	aagaagaaag	tactagagtt	tttagccaag	960
ctgaacaaca	ctgttcctag	ttcctttcca	tcctggtaca	aggatgcttt	gaaagatgtg	1020
gaagagagag	tccaggccac	aattgatacc	gcagatgatg	ccactgtcat	ggccagtgaa	1080
agcctcagtg	tcatgtccag	caacgtctcc	ttttctgagt	ga		1122

<210> 26  
 <211> 1122  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Description of sequence (see Figure 26): (GC) stabilized RNA sequence encoding MAGC-C2 (HSMAGC-C2 GC)

<400> 26						
atgcccccg	tgcccggcgt	ccccttccgg	aacgtggaca	acgacagccc	cacctccgtg	60
gagctggagg	actgggtcga	cgcccagcac	ccgaccgacg	aggaggagga	ggaggccagc	120
tccgcgagct	ccacgtctta	cctgggtgtt	agccccctca	gcttctccac	cagctccagc	180
ctgatcctcg	ggggccccga	ggaggaggag	gtgccctccg	gggtcatccc	gaacctgacc	240
gagagcatcc	cctccagccc	cccgcagggc	ccgccccagg	ggccctccca	gagccccctg	300
tccagctgct	gcagctcctt	cagctgggtc	agcttctccg	aggagagctc	cagccagaag	360
ggcgaggaca	ccggcacgtg	ccaggggctc	ccggactccg	agagctcctt	cacctacacc	420
ctggacgaga	aggtggccga	gctgggtggag	ttcctcctgc	tgaagtacga	ggccgaggag	480
cccgtcaccg	aggccgagat	gctcatgata	gtgatcaagt	acaaggacta	cttccccgtg	540
atcctgaagc	gcgcccggga	gttcatggag	ctgctcttcg	gcctggcgct	gatcgaggtc	600

2008012169

```
gggcccgacc acttctgcgt gttcgccaac acggtgggcc tcaccgacga ggggagcgac 660
gacgagggca tgccggagaa ctccctgctg atcatcatcc tcagcgatcat cttcatcaag 720
ggcaactgcg cctccgagga ggtgatctgg gaggtgctga acgccgtcgg ggtgtacgag 780
ggccgagcgc acttcgtgta cggggagccc cgggagctgc tcaccaaggt ctgggtgcag 840
ggccactacc tggagtaccg cgaggtgccg cacagctccc ccccgacta cgagttcctg 900
tggggcccc gggcccacag cgagtccatc aagaagaagg tcctcgagtt cctggccaag 960
ctgaacaaca ccgtgcccag cagcttcccc tcctggtaca aggacgccct caaggacgtc 1020
gaggagcgcg tgcaggccac gatcgacacc gcggacgacg ccaccgtgat ggccagcgag 1080
tccttgagcg tcatgtccag caacgtgtcc ttcagcgagt ga 1122
```

<210> 27  
<211> 13  
<212> RNA  
<213> Artificial

<220>  
<223> Description of sequence: kozsak-sequence (see description p. 36)

<400> 27  
gccgccacca ugg 13

<210> 28  
<211> 15  
<212> RNA  
<213> Artificial

<220>  
<223> Description of sequence: generic stabilizing sequence  
(see description p. 36)

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

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

/replace="adonosine"

<220>

<221> repeat\_unit

<222> (10)..(10)

<223> x = any number

<220>

<221> variation

<222> (10)..(10)

<223> /replace="pyrimidine"

<220>

<221> variation

<222> (13)..(13)

<223> /replace="cytosine"

/replace="uracile"

<400> 28

nccancccn ucnc