Molecule: pHAGE-CMV-eGFP-W, 7149 bps DNA Circular File Name: pHAGE-CMV-eGFP-W.cm5, dated 17 Jun 2004

Description:

Type	Start	End	Name	Description
	-			
REGION	1	636	LTR	long terminal repeat
REGION	1303	1536	RRE	rev response element
REGION	2034	2211	срРи	central polypurine tract, aka
Trip				
REGION	2218	2802	CMVp	
GENE	2812	3531	eGFP	
REGION	3538	4129	WPRE	
REGION	4200	4435	dU3LTR	
REGION	4436	4506	3'flank	cellular flanking sequence
GENE	4745	5605	AMPr	
REGION	6601	6724	SV40ori	SV40 replication origin

Sequence:

```
1 tggaagggct aattcactcc caaagaagac aagatatcct tgatctgtgg
 51 atctaccaca cacaaggcta cttccctgat tagcagaact acacaccagg
 101 gccaggggtc agatatccac tgacctttgg atggtgctac aagctagtac
 151 cagttgagcc agataaggta gaagaggcca ataaaggaga gaacaccagc
 201 ttgttacacc ctgtgagcct gcatgggatg gatgacccgg agagaagat
 251 gttagagtgg aggtttgaca gccgcctagc atttcatcac gtggcccgag
 301 agctgcatcc ggagtacttc aagaactgct gatatcgagc ttgctacaag
 351 ggactttccg ctggggactt tccagggagg cgtggcctgg gcgggactgg
401 ggagtggcga gccctcagat cctgcatata agcagctgct ttttgcctgt
 451 actgggtctc tctggttaga ccagatctga gcctgggagc tctctggcta
501 actagggaac ccactgctta agcctcaata aagcttgcct tgagtgcttc
551 aagtagtgtg tgcccgtctg ttgtgtgact ctggtaacta gagatccctc
601 agaccetttt agteagtgtg gaaaatetet ageagtggeg eeegaacagg
651 gacttgaaag cgaaagggaa accagaggag ctctctcgac gcaggactcg
 701 gcttgctgaa gcgcgcacgg caagaggcga ggggcggcga ctggtgagta
751 cgccaaaaat tttgactagc ggaggctaga aggagagaga tgggtgcgag
801 agcqtcaqta ttaaqcqqqq qaqaattaqa tcqcqatqqq aaaaaattcq
851 gttaaggcca gggggaaaga aaaaatataa attaaaacat atagtatggg
901 caagcagga gctagaacga ttcgcagtta atcctggcct gttagaaaca
951 tcagaaggct gtagacaaat actgggacag ctacaaccat cccttcagac
1001 aggatcagaa gaacttagat cattatataa tacagtagca accctctatt
1051 gtgtgcatca aaggatagag ataaaagaca ccaaggaagc tttagacaag
1101 atagaggaag agcaaaacaa aagtaagacc accgcacagc aagcggccgg
1151 ccgctgatct tcagacctgg aggaggagat atgagggaca attggagaag
1201 tgaattatat aaatataaag tagtaaaaat tgaaccatta ggagtagcac
1251 ccaccaaggc aaagagaaga gtggtgcaga gagaaaaaag agcagtggga
1301 ataggagett tgtteettgg gttettggga geageaggaa geactatggg
1351 cgcagcgtca atgacgctga cggtacaggc cagacaatta ttgtctggta
1401 tagtgcagca gcagaacaat ttgctgaggg ctattgaggc gcaacagcat
1451 ctgttgcaac tcacagtctg gggcatcaag cagctccagg caagaatcct
1501 ggctgtggaa agatacctaa aggatcaaca gctcctgggg atttggggtt
1551 gctctggaaa actcatttgc accactgctg tgccttggaa tgctagttgg
```

```
1601 agtaataaat ctctggaaca gatttggaat cacacgacct ggatggagtg
1651
     ggacagagaa attaacaatt acacaagctt aatacactcc ttaattgaag
1701
     aatcgcaaaa ccagcaagaa aagaatgaac aagaattatt ggaattagat
1751
     aaatgggcaa gtttgtggaa ttggtttaac ataacaaatt ggctgtggta
1801 tataaaatta ttcataatga tagtaggagg cttggtaggt ttaagaatag
1851 tttttgctgt actttctata gtgaatagag ttaggcaggg atattcacca
1901 ttatcqtttc agacccacct cccaaccccq aggggacccq acaggcccqa
1951 aggaatagaa gaagaaggtg gagagagaga cagagacaga tccattcgat
2001 tagtgaacgg atctcgacgg tatcgccgaa ttcacaaatg gcagtattca
2051
     tccacaattt taaaagaaaa ggggggattg gggggtacag tgcaggggaa
2101 agaatagtag acataatagc aacagacata caaactaaag aattacaaaa
2151 acaaattaca aaaattcaaa attttcgggt ttattacagg gacagcagag
2201 atccaptttg gactagtgga gttccgcgtt acataactta cggtaaatgg
2251 cccgcctggc tgaccgccca acgacccccg cccattgacg tcaataatga
2301 cgtatgttcc catagtaacg ccaataggga ctttccattg acgtcaatgg
2351 gtggagtatt tacggtaaac tgcccacttg gcagtacatc aagtgtatca
2401
     tatgccaagt acgcccccta ttgacgtcaa tgacggtaaa tggcccgcct
2451 ggcattatgc ccagtacatg accttatggg actttcctac ttggcagtac
2501 atctacgtat tagtcatcgc tattaccatg gtgatgcggt tttggcagta
2551 catcaatggg cgtggatagc ggtttgactc acggggattt ccaagtctcc
2601 accccattga cgtcaatggg agtttgtttt ggcaccaaaa tcaacgggac
2651 tttccaaaat gtcgtaacaa ctccgcccca ttgacgcaaa tgggcggtag
2701 gcgtgtacgg tgggaggtct atataagcag agctcgttta gtgaaccgtc
2751
     agatcgcctg gagacgccat ccacgctgtt ttgacctcca tagaagacac
2801 cggcggccgc catggtgagc aagggcgagg agctgttcac cggggtggtg
2851 cccatcctgg tcgagctgga cggcgacgta aacggccaca agttcagcgt
2901 qtccqqcqaq qqcqaqqqcq atqccaccta cqqcaaqctq accctqaaqt
2951 tcatctgcac caccggcaag ctgcccgtgc cctggcccac cctcgtgacc
3001 accetgacet acggegtgea gtgetteage egetaeeceg accaeatgaa
3051
     gcagcacgac ttcttcaagt ccgccatgcc cgaaggctac gtccaggagc
3101
     gcaccatctt cttcaaggac gacggcaact acaagacccg cgccgaggtg
3151
     aagttcgagg gcgacaccct ggtgaaccgc atcgagctga agggcatcga
3201 cttcaaggag gacggcaaca tcctggggca caagctggag tacaactaca
3251 acagecacaa egtetatate atggeegaca ageagaagaa eggeateaag
3301 gtgaacttca agatccgcca caacatcgag gacggcagcg tgcagctcgc
3351 cgaccactac cagcagaaca cccccatcgg cgacggcccc gtgctgctgc
3401 ccgacaacca ctacctgagc acccagtccg ccctgagcaa agaccccaac
3451 gagaagcgcg atcacatggt cctgctggag ttcgtgaccg ccgccgggat
3501 cactctcggc atggacgagc tgtacaagta aggatcctaa tcaacctctg
3551 gattacaaaa tttgtgaaag attgactggt attcttaact atgttgctcc
3601 ttttacgcta tgtggatacg ctgctttaat gcctttgtat catgctattg
3651 cttcccgtat ggctttcatt ttctcctcct tgtataaatc ctggttgctg
3701 tetetttatg aggagttgtg geeegttgte aggeaacgtg gegtggtgtg
3751
     cactqtqttt qctqacqcaa ccccactqq ttqqqqcatt qccaccacct
3801
     gtcagctcct ttccgggact ttcgctttcc ccctccctat tgccacggcg
3851 gaactcatcg ccgcctgcct tgcccgctgc tggacagggg ctcggctgtt
3951 ggctgctcgc ctgtgttgcc acctggattc tgcgcgggac gtccttctgc
4001 tacgtccctt cggccctcaa tccagcggac cttccttccc gcggcctgct
4051 gccggctctg cggcctcttc cgcgtcttcg ccttcgccct cagacgagtc
4101
     ggatctccct ttgggccgcc tccccgcctg agatccttta agaccaatga
4151
     cttacaaggc agctgtagat cttagccact ttttaaaaga aaagggggga
4201 ctggaagggc taattcactc ccaacgaaga caagatctgc tttttgcttg
4251 tactqqqtct ctctqqttaq accaqatctq aqcctqqqaq ctctctqqct
4301 aactagggaa cccactgctt aagcctcaat aaagcttgcc ttgagtgctt
4351 caagtagtgt gtgcccgtct gttgtgtgac tctggtaact agagatccct
4401 cagacccttt tagtcagtgt ggaaaatctc tagcagtagt agttcatgtc
```

```
4451 atcttattat tcagtattta taacttgcaa agaaatgaat atcagagagt
4501
     gagaggcccg ggttaattaa ggaaagggct agatcattct tgaagacgaa
4551
     agggcctcgt gatacgccta tttttatagg ttaatgtcat gataataatg
4601
     gtttcttaga cgtcaggtgg cacttttcgg ggaaatgtgc gcggaacccc
4651
     tatttqttta tttttctaaa tacattcaaa tatqtatccq ctcatqaqac
4701 aataaccctq ataaatqctt caataatatt qaaaaaqqaa qaqtatqaqt
4751 attcaacatt teegtgtege cettatteee ttttttgegg cattttgeet
4801 tcctgttttt gctcacccag aaacgctggt gaaagtaaaa gatgctgaag
4851 atcagttggg tgcacgagtg ggttacatcg aactggatct caacagcggt
4901 aagateettg agagtttteg eeecgaagaa egtttteeaa tgatgageae
4951
     ttttaaagtt ctgctatgtg gcgcggtatt atcccgtgtt gacgccgggc
5001
     aagagcaact cggtcgccgc atacactatt ctcagaatga cttggttgag
5051
     tactcaccag tcacagaaaa gcatcttacg gatggcatga cagtaagaga
5101 attatgcagt gctgccataa ccatgagtga taacactgcg gccaacttac
5151 ttctgacaac gatcggagga ccgaaggagc taaccgcttt tttgcacaac
5201 atgggggatc atgtaactcg ccttgatcgt tgggaaccgg agctgaatga
5251 agccatacca aacgacgagc gtgacaccac gatgcctgta gcaatggcaa
5301 caacgttgcg caaactatta actggcgaac tacttactct agcttcccgg
5351 caacaattaa tagactggat ggaggcggat aaagttgcag gaccacttct
5401 gcgctcggcc cttccggctg gctggtttat tgctgataaa tctggagccg
5451 gtgagcgtgg gtctcgcggt atcattgcag cactggggcc agatggtaag
5501 ccctcccgta tcgtagttat ctacacgacg gggagtcagg caactatgga
5551 tgaacgaaat agacagatcg ctgagatagg tgcctcactg attaagcatt
5601 ggtaactgtc agaccaagtt tactcatata tactttagat tgatttaaaa
5651 cttcattttt aatttaaaag gatctaggtg aagatccttt ttgataatct
5701 catgaccaaa atcccttaac gtgagttttc gttccactga gcgtcagacc
5751 ccqtaqaaaa qatcaaaqqa tcttcttqaq atccttttt tctqcqcqta
5801 atctgctgct tgcaaacaaa aaaaccaccg ctaccagcgg tggtttgttt
5851 gccggatcaa gagctaccaa ctctttttcc gaaggtaact ggcttcagca
5901
     gagcgcagat accaaatact gttcttctag tgtagccgta gttaggccac
5951
     cacttcaaga actctgtagc accgcctaca tacctcgctc tgctaatcct
6001
     gttaccagtg gctgctgcca gtggcgataa gtcgtgtctt accgggttgg
6051
     actcaagacg atagttaccg gataaggcgc agcggtcggg ctgaacgggg
6101 ggttcgtgca cacagcccag cttggagcga acgacctaca ccgaactgag
6151 atacctacag cgtgagctat gagaaagcgc cacgcttccc gaagggagaa
6201 aggcggacag gtatccggta agcggcaggg tcggaacagg agagcgcacg
6251 agggagette cagggggaaa egeetggtat etttatagte etgtegggtt
6301 tcgccacctc tgacttgagc gtcgattttt gtgatgctcg tcaggggggc
6351 ggagectatg gaaaaacgcc agcaacgcgg cetttttacg gtteetggee
6401
     ttttgctggc cttttgctca catgttcttt cctgcgttat cccctgattc
6451 tgtggataac cgtattaccg cctttgagtg agctgatacc gctcgccgca
6501 gccgaacgac cgagcgcagc gagtcagtga gcgaggaagc ggaagagcgc
     ccaatacgca aaccgcctct ccccgcgcgt tggccgattc attaatgcag
6551
6601
     caaqctcatq qctqactaat tttttttatt tatqcaqaqq ccqaqqccqc
6651
     ctcggcctct gagctattcc agaagtagtg aggaggcttt tttggaggcc
6701
     taggettttg caaaaagete eegtggeae gacaggttte eegactggaa
6751
     agcgggcagt gagcgcaacg caattaatgt gagttagctc actcattagg
6801
     caccccaggc tttacacttt atgcttccgg ctcgtatgtt gtgtggaatt
6851 gtgagcggat aacaatttca cacaggaaac agctatgaca tgattacgaa
6901
     tttcacaaat aaagcatttt tttcactgca ttctagttgt ggtttgtcca
6951 aactcatcaa tgtatcttat catgtctgga tcaactggat aactcaagct
7001 aaccaaaatc atcccaaact tcccacccca taccctatta ccactgccaa
7051 ttacctgtgg tttcatttac tctaaacctg tgattcctct gaattatttt
7101 cattttaaaq aaattgtatt tgttaaatat gtactacaaa cttagtagt
```

