**Appendix A. Supplementary material: Accession numbers on NCBI**

**A.1 Information from omo sapiens cytochrome oxidase subunit I (COI) gene.**

>EU834863:Homo sapiens cytochrome oxidase subunit I (COI) gene, partial cds; mitochondrial

TAGCCTCCTTATTCGAGCCGAGCTGGGCCAGCCAGGCAACCTTCTAGGTAACGACCACATCTACAACGTTATCGTCACAGCCCATGCATTTGTAATAATCTTCTTCATAGTAATACCCATCATAATCGGAGGCTTTGGCAACTGACTAGTTCCCCTAATAATCGGTGCCCCCGATATGGCGTTTCCCCGCATAAACAACATAAGCTTCTGACTCTTACCTCCCTCTCTCCTACTCCTGCTCGCATCTGCTATAGTGGAGGCCGGAGCAGGAACAGGTTGAACAGTCTACCCTCCCTTAGCAGGGAACTACTCCCACCCTGGAGCCTCCGTAGACCTAACCATCTTCTCCTTACACCTAGCAGGTGTCTCCTCTATCTTAGGGGCCATCAATTTCATCACAACAATTATCAATATAAAACCCCCTGCCATAACCCAATACCAAACGCCCCTCTTCGTCTGATCCGTCCTAATCACAGCAGTCCTACTTCTCCTATCTCTCCCAGTCCTAGCTGCTGGCATCACTATACTACTAACAGACCGCAACCTCAACACCACCTTCTTCGACCCCGCCGGAGGAGGAGACCCCATTCTATACCAACACCTATTCTTGATTCTTA

**A.2 Information from GenBank of the 38 Influenza A viruses**

|  |  |  |
| --- | --- | --- |
| Accession  Number | Length  (nt) | Description |
| HM370969 | 1419 | A/turkey/Ontario/FAV110-4/2009(H1N1) |
| CY138562 | 1422 | A/mallard/Nova Scotia/00088/2010(H1N1) |
| CY149630 | 1433 | A/thick-billed murre/Canada/1871/2011(H1N1) |
| KC608160 | 1398 | A/duck/Guangxi/030D/2009(H1N1) |
| AM157358 | 1413 | A/mallard/France/691/2002(H1N1) |
| AB470663 | 1422 | A/duck/Hokkaido/w73/2007(H1N1) |
| AB546159 | 1410 | A/pintail/Miyagi/1472/2008(H1N1) |
| HQ897966 | 1410 | A/mallard/Korea/KNU YP09/2009(H1N1) |
| EU026046 | 1433 | A/mallard/Maryland/352/2002(H1N1) |
| FJ357114 | 1433 | A/mallard/Maryland/26/2003(H1N1) |
| GQ411894 | 1413 | A/dunlin/Alaska/44421-660/2008(H1N1) |
| CY140047 | 1433 | A/mallard/Minnesota/Sg-00620/2008(H1N1) |
| KM244078 | 1410 | A/turkey/Virginia/4135/2014(H1N1) |
| HQ185381 | 1350 | A/chicken/Eastern China/XH222/2008(H5N1) |
| HQ185383 | 1350 | A/duck/Eastern China/JS017/2009(H5N1) |
| EU635875 | 1350 | A/chicken/Yunnan/chuxiong01/2005(H5N1) |
| FM177121 | 1370 | A/chicken/Germany/R3234/2007(H5N1) |
| AM914017 | 1350 | A/domestic duck/Germany/R1772/2007(H5N1) |
| KF572435 | 1350 | A/wild bird/Hong Kong/07035-1/2011(H5N1) |
| AF509102 | 1366 | A/Chicken/Hong Kong/822.1/01 (H5N1) |
| AB684161 | 1350 | A/chicken/Miyazaki/10/2011(H5N1) |
| EF541464 | 1350 | A/chicken/Korea/es/2003(H5N1) |
| JF699677 | 1350 | A/mandarin duck/Korea/K10-483/2010(H5N1) |
| GU186511 | 1370 | A/turkey/VA/505477-18/2007(H5N1) |
| EU500854 | 1453 | A/American black duck/NB/2538/2007(H7N3) |
| CY129336 | 1428 | A/American black duck/New Brunswick/02490/2007(H7N3) |
| CY076231 | 1420 | A/American green-winged teal/California/44242-906/2007(H7N3) |
| CY039321 | 1434 | A/avian/Delaware Bay/226/2006(H7N3) |
| AY646080 | 1453 | A/chicken/British Columbia/GSC\_human\_B/04(H7N3) |
| KF259734 | 1398 | A/chicken/Rizhao/713/2013(H7N9) |
| KF938945 | 1404 | A/chicken/Jiangsu/1021/2013(H7N9) |
| KF259688 | 1413 | A/duck/Jiangxi/3096/2009(H7N9) |
| KC609801 | 1426 | A/wild duck/Korea/SH19-47/2010(H7N9) |
| CY014788 | 1460 | A/turkey/Minnesota/1/1988(H7N9) |
| CY186004 | 1422 | A/mallard/Minnesota/AI09-3770/2009(H7N9) |
| DQ017487 | 1467 | A/mallard/Postdam/178-4/1983(H2N2) |
| [CY005540](http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?val=CY005540) | 1467 | A/duck/Hong Kong/319/1978(H2N2) |
| [JX081142](http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?val=JX081142) | 1457 | A/emperor goose/Alaska/44297-260/2007(H2N2) |

**A.3 Information from GenBank of the 12 primates**

|  |  |  |
| --- | --- | --- |
| Accession  Number | Length  (nt) | Description |
| M22653 | 896 | MacacaA fascicular |
| M22651 | 896 | MacacaB fuscata |
| M22650 | 896 | MacacaC mulatta |
| M22655 | 893 | Saimir sciureus |
| M22654 | 896 | Macaca sylvanus |
| V00672 | 896 | Chimpanzee |
| M22657 | 895 | Lemur catta |
| V00658 | 896 | Gorilla |
| V00659 | 896 | Hylobates |
| V00675 | 895 | Orangutan |
| M22656 | 895 | Tarsisus syrichta |
| L00016 | 896 | Human |

**A.4 Information from GenBank of the 113 HRV and 3 HEV**

|  |  |  |  |
| --- | --- | --- | --- |
| Genome names on tree | Accession Number | Class | Length |
| cva-13 | AF499637 | HEV-C | 7458 |
| cva-21 | AF546702 | HEV-C | 7406 |
| pv-1m | V01149 | HEV-C | 7440 |
| hrv-03 | DQ473485 | HRV-B | 7208 |
| hrv-04 | DQ473490 | HRV-B | 7212 |
| hrv-05 | FJ445112 | HRV-B | 7212 |
| hrv-06 | DQ473486 | HRV-B | 7216 |
| hrv-14 | L05355 | HRV-B | 7212 |
| hrv-17 | EF173420 | HRV-B | 7219 |
| hrv-26 | FJ445124 | HRV-B | 7211 |
| hrv-27 | FJ445186 | HRV-B | 7217 |
| hrv-35 | FJ445187 | HRV-B | 7224 |
| hrv-37 | EF173423 | HRV-B | 7216 |
| hrv-42 | FJ445130 | HRV-B | 7223 |
| hrv-48 | DQ473488 | HRV-B | 7214 |
| hrv-52 | FJ445188 | HRV-B | 7216 |
| hrv-69 | FJ445151 | HRV-B | 7211 |
| hrv-70 | DQ473489 | HRV-B | 7223 |
| hrv-72 | FJ445153 | HRV-B | 7216 |
| hrv-79 | FJ445155 | HRV-B | 7224 |
| hrv-83 | FJ445161 | HRV-B | 7230 |
| hrv-84 | FJ445162 | HRV-B | 7201 |
| hrv-86 | FJ445164 | HRV-B | 7213 |
| hrv-91 | FJ445168 | HRV-B | 7221 |
| hrv-92 | FJ445169 | HRV-B | 7233 |
| hrv-93 | EF173425 | HRV-B | 7215 |
| hrv-97 | FJ445172 | HRV-B | 7207 |
| hrv-99 | FJ445174 | HRV-B | 7208 |
| hrv-52-f10 | FJ445137.1 | HRV-B | 7216 |
| hrv-01 | FJ445111 | HRV-A | 7137 |
| hrv-02 | X02316 | HRV-A | 7102 |
| hrv-07 | FJ445176 | HRV-A | 7146 |
| hrv-08 | FJ445113 | HRV-A | 7108 |
| hrv-09 | FJ445177 | HRV-A | 7132 |
| hrv-09-f01 | FJ445114.1 | HRV-A | 7134 |
| hrv-09-f02 | FJ445115.1 | HRV-A | 7133 |
| hrv-13-f03 | FJ445117.1 | HRV-A | 7143 |
| hrv-49-f04 | FJ445134.1 | HRV-A | 7109 |
| hrv-54-f05 | FJ445139.1 | HRV-A | 7133 |
| hrv-10 | FJ445178 | HRV-A | 7137 |
| hrv-11 | EF173414 | HRV-A | 7125 |
| hrv-12 | EF173415 | HRV-A | 7124 |
| hrv-13 | FJ445116 | HRV-A | 7140 |
| hrv-15 | DQ473493 | HRV-A | 7134 |
| hrv-16 | L24917 | HRV-A | 7124 |
| hrv-18 | FJ445118 | HRV-A | 7119 |
| hrv-19 | FJ445119 | HRV-A | 7135 |
| hrv-21 | FJ445121 | HRV-A | 7134 |
| hrv-22 | FJ445122 | HRV-A | 7129 |
| hrv-23 | DQ473497 | HRV-A | 7025 |
| hrv-24 | FJ445190 | HRV-A | 7132 |
| hrv-25 | FJ445123 | HRV-A | 7126 |
| hrv-28 | DQ473508 | HRV-A | 7148 |
| hrv-29 | FJ445125 | HRV-A | 7123 |
| hrv-30 | FJ445179 | HRV-A | 7099 |
| hrv-31 | FJ445126 | HRV-A | 7131 |
| hrv-32 | FJ445127 | HRV-A | 7133 |
| hrv-33 | FJ445128 | HRV-A | 7133 |
| hrv-34 | FJ445189 | HRV-A | 7119 |
| hrv-36 | DQ473505 | HRV-A | 7141 |
| hrv-38 | FJ445180 | HRV-A | 7136 |
| hrv-39 | AY751783 | HRV-A | 7136 |
| hrv-40 | FJ445129 | HRV-A | 7138 |
| hrv-41 | DQ473491 | HRV-A | 7145 |
| hrv-43 | FJ445131 | HRV-A | 7129 |
| hrv-44 | DQ473499 | HRV-A | 7123 |
| hrv-45 | FJ445132 | HRV-A | 7114 |
| hrv-46 | DQ473506 | HRV-A | 7149 |
| hrv-47 | FJ445133 | HRV-A | 7132 |
| hrv-49 | DQ473496 | HRV-A | 7109 |
| hrv-50 | FJ445135 | HRV-A | 7118 |
| hrv-51 | FJ445136 | HRV-A | 7152 |
| hrv-53 | DQ473507 | HRV-A | 7143 |
| hrv-54 | FJ445138 | HRV-A | 7134 |
| hrv-55 | DQ473511 | HRV-A | 7036 |
| hrv-56 | FJ445140 | HRV-A | 7136 |
| hrv-57 | FJ445141 | HRV-A | 7134 |
| hrv-58 | FJ445142 | HRV-A | 7140 |
| hrv-59 | DQ473500 | HRV-A | 7135 |
| hrv-60 | FJ445143 | HRV-A | 7139 |
| hrv-61 | FJ445144 | HRV-A | 7139 |
| hrv-62 | FJ445145 | HRV-A | 7131 |
| hrv-63 | FJ445146 | HRV-A | 7141 |
| hrv-64 | FJ445181 | HRV-A | 7129 |
| hrv-65 | FJ445147 | HRV-A | 7162 |
| hrv-66 | FJ445148 | HRV-A | 7139 |
| hrv-67 | FJ445149 | HRV-A | 7135 |
| hrv-71 | FJ445152 | HRV-A | 7161 |
| hrv-73 | DQ473492 | HRV-A | 7140 |
| hrv-74 | DQ473494 | HRV-A | 7120 |
| hrv-75 | DQ473510 | HRV-A | 7137 |
| hrv-76 | FJ445182 | HRV-A | 7128 |
| hrv-77 | FJ445154 | HRV-A | 7136 |
| hrv-78 | FJ445183 | HRV-A | 7145 |
| hrv-80 | FJ445156 | HRV-A | 7138 |
| hrv-81 | FJ445157 | HRV-A | 7116 |
| HRV-81-f06 | FJ445158.1 | HRV-A | 7116 |
| HRV-81-f07 | FJ445159.1 | HRV-A | 7116 |
| hrv-82 | FJ445160 | HRV-A | 7123 |
| hrv-85 | FJ445163 | HRV-A | 7140 |
| hrv-88 | DQ473504 | HRV-A | 7143 |
| hrv-89 | FJ445184 | HRV-A | 7152 |
| hrv-89-f08 | FJ445166.1 | HRV-A | 7150 |
| hrv-89-f09 | FJ445165.1 | HRV-A | 7152 |
| hrv-90 | FJ445167 | HRV-A | 7124 |
| hrv-94 | FJ445185 | HRV-A | 7132 |
| hrv-95 | FJ445170 | HRV-A | 7110 |
| hrv-96 | FJ445171 | HRV-A | 7134 |
| hrv-98 | FJ445173 | HRV-A | 7133 |
| hrv-100 | FJ445175 | HRV-A | 7140 |
| qpm | EF186077 | HRV-C | 6917 |
| nat001 | EF077279 | HRV-C | 7079 |
| c024 | EF582385 | HRV-C | 7099 |
| nat045 | EF077280 | HRV-C | 7015 |
| c026 | EF582387 | HRV-C | 7086 |
| c025 | EF582386 | HRV-C | 7114 |

**A.5 Sequences of VIPR1-AS1 and artificial mutations**

* Original VIPR1-AS1 gene sequence:

>NC\_000003.12:c42532606-42530896 Homo sapiens chromosome 3, GRCh38.p12 Primary Assembly

CTCCCTGGCTTGGCAGCAGATGCATACCTGGGAAGGATGCTAGGTGAGTGTGGGCAGGAGAAGCATGCAGGGCTCTGAGTGCAGCCTGGTGAGGGTGGGGCTGGAGCAGGGGATGGTGGTGGGCTGAGCCAGGCCATGGTGGAGGTGGGAAAGAACAATGTGGCTCTTTGGTGACTCTGGATGTTTGGGGTGGGAGGACTTCAAGGAGATGTGGGATGATTTGAGGACTGGGGATGGAGGTACTGGGGGCTGAGGCACTAGGCCCACACTCACGAGTATGGACTGCTGTCACTCTTCCTGATATCTGGGGGCCGCAGTTTCTGAAGCAGGATTCGGATGATGCAAATAAACAGGATGAAGTTTACCTAGTGGGTGGGGACCCGAGTTCGGGCAGTCAGAGCGGGAAGGCTGAGGTGTTCAGGCCCCTTGACTGCTGGCCTGTCTTCTTTCCCAGGGTCCTGCTGCCCCTCTCTCTATCTTACCTCTCCTCTGGCATTTCCCCTTTGGGCAGGTCATCCGGGAACTCTACCTCCTTCAAATCCCTAAGGACTGTGCTCCCAATCCGCTTACGCTCAAGGAAGAACTGGTAGGACAGGGGTGGGGATGATCCTGCATTGGGCATTAGGAAGCTACGTTTCAGTTCTGACCTAGATACTAATTTCCCATGTGACCTTGGGCTAAGTTGCCTGCCCTTTGGGCCTGTTTCCCCATCTCTAGGTGGTGGGAGGGTATCTTACCAAGATGGAGGTGAGGATGGGGCCCTTTATGATCCACCACAGTGAGGAGTTGATGGTGTCCCAGCACCTGAGCAGACCGTGGGGAGGAATGAGAGGGATTGTCCTCAGCCAGAGAGAGACTCAGCAGCACCTCCCCCAGTTGTCCCCAGCTCTGCTCCTGAGCACTTTAGCAACCCCGGGCCCAGAGTCTGTTGCTCCCCAGGTCCTCCTCCAGCCTCCCCTCTGGCCCGAGAGCTGTGGTTTTTGTCCACTCACCAAGGCCAGATGGCATTATCATCCCACCCAGGGGGCCTGCCCAAGTGATGGCGGCCGGGGGAGTGTGTGGGGCAGCAGCTCACCCATAATCCTCAAAATGGATCCTGGCGATGGTCCACACCATGGTGAATGTGCTGGGTACCCCTGTCAGGCCCAGGGAGAGTGAAAGAGCAGAGAGGGCACAGGAAGCAGGGGTAGAGGGCATGAGGGAGAGATTTTGGAGAAAAGCAGGGAGAGGGAGGGAGAGAGAAAAGGGTGGGTTGTCAGTCTGCTGTCTTTGGTTGCATAGGTTGTTCACCACGGAGGGATGCTCCACTGAGGGGGTGAAGCTGTATGCCTGAAGGGCTGTGTCTACCTAGACGGACATTCTCTTTCTAATTGTGACAGAGGCCCTTTATAGATTAGCAGTGGCCCTGTGTATTTCGGGAACTAAAGGGAAATGGAAAGATGTTCACAAAATCTGTCCCACAGGTCAGCCCTAGGTGCAGCTGCAACCTGAGGGACTTGTCCTGGGATCAGACATTTTGAGGACTTTCTTGACCCTTGGCTGATATCCTTGCAGGCAGGACCTGCAGCTAAGCAAGACGTAGGACTGCAAGCTGGGTTGGCACCCTCCCCCTAGGGAGTTCTCCAGGCCTTGCCCCCTCTGTCCCCAGCCTGGAAGCCCTCCCTGGTACCATACCCCAGCCGATGAGTATGTACCCCCAGAAGTACTTCCG

* Mutation-1 sequence:

CTCCAAAAACCCCCGGGGGTTTTTCTGGCTTGGCAGCAGATGCATACCTGGGAAGGATGCTAGGTGAGTGTGGGCAGGAGAAGCATGCAGGGCTCTGAGTGCAGCCTGGTGAGGGTGGGGCTGGAGCAGGGGATGGTGGTGGGCTGAGCCAGGCCATGGTGGAGGTGGGAAAGAACAATGTGGCTCTTTGGTGACTCTGGATGTTTGGGGTGGGAGGACTTCAAGGAGATGTGGGATGATTTGAGGACTGGGGATGGAGGTACTGGGGGCTGAGGCACTAGGCCCACACTCACGAGTATGGACTGCTGTCACTCTTCCTGATATCTGGGGGCCGCAGTTTCTGAAGCAGGATTCGGATGATGCAAATAAACAGGATGAAGTTTACCTAGTGGGTGGGGACCCGAGTTCGGGCAGTCAGAGCGGGAAGGCTGAGGTGTTCAGGCCCCTTGACTGCTGGCCTGTCTTCTTTCCCAGGGTCCTGCTGCCCCTCTCTCTATCTTACCTCTCCTCTGGCATTTCCCCTTTGGGCAGGTCATCCGGGAACTCTACCTCCTTCAAATCCCTAAGGACTGTGCTCCCAATCCGCTTACGCTCAAGGAAGAACTGGTAGGACAGGGGTGGGGATGATCCTGCATTGGGCATTAGGAAGCTACGTTTCAGTTCTGACCTAGATACTAATTTCCCATGTGACCTTGGGCTAAGTTGCCTGCCCTTTGGGCCTGTTTCCCCATCTCTAGGTGGTGGGAGGGTATCTTACCAAGATGGAGGTGAGGATGGGGCCCTTTATGATCCACCACAGTGAGGAGTTGATGGTGTCCCAGCACCTGAGCAGACCGTGGGGAGGAATGAGAGGGATTGTCCTCAGCCAGAGAGAGACTCAGCAGCACCTCCCCCAGTTGTCCCCAGCTCTGCTCCTGAGCACTTTAGCAACCCCGGGCCCAGAGTCTGTTGCTCCCCAGGTCCTCCTCCAGCCTCCCCTCTGGCCCGAGAGCTGTGGTTTTTGTCCACTCACCAAGGCCAGATGGCATTATCATCCCACCCAGGGGGCCTGCCCAAGTGATGGCGGCCGGGGGAGTGTGTGGGGCAGCAGCTCACCCATAATCCTCAAAATGGATCCTGGCGATGGTCCACACCATGGTGAATGTGCTGGGTACCCCTGTCAGGCCCAGGGAGAGTGAAAGAGCAGAGAGGGCACAGGAAGCAGGGGTAGAGGGCATGAGGGAGAGATTTTGGAGAAAAGCAGGGAGAGGGAGGGAGAGAGAAAAGGGTGGGTTGTCAGTCTGCTGTCTTTGGTTGCATAGGTTGTTCACCACGGAGGGATGCTCCACTGAGGGGGTGAAGCTGTATGCCTGAAGGGCTGTGTCTACCTAGACGGACATTCTCTTTCTAATTGTGACAGAGGCCCTTTATAGATTAGCAGTGGCCCTGTGTATTTCGGGAACTAAAGGGAAATGGAAAGATGTTCACAAAATCTGTCCCACAGGTCAGCCCTAGGTGCAGCTGCAACCTGAGGGACTTGTCCTGGGATCAGACATTTTGAGGACTTTCTTGACCCTTGGCTGATATCCTTGCAGGCAGGACCTGCAGCTAAGCAAGACGTAGGACTGCAAGCTGGGTTGGCACCCTCCCCCTAGGGAGTTCTCCAGGCCTTGCCCCCTCTGTCCCCAGCCTGGAAGCCCTCCCTGGTACCATACCCCAGCCGATGAGTATGTACCCCCAGAAGTACTTCCG

* Mutation-2 sequence:

CTCCCTGGCTTGGCAGCAGATGCATACCTGGGAAGGATGCTAGGTGAGTGTGGGCAGGAGAAGCATGCAGGGCTCTGAGTGCAGCCTGGTGAGGGTGGGGCTGGAGCAGGGGATGGTGGTGGGCTGAGCCAGGCCATGGTGGAGGTGGGAAAGAACAATGTGGCTCTTTGGTGACTCTGGATGTTTGGGGTGGGAGGACTTCAAGGAGATGTGGGATGATTTGAGGACTGGGGATGGAGGTACTGGGGGCTGAGGCACTAGGCCCACACTCACGAGTATGGACTGCTGTCACTCTTCCTGATATCTGGGGGCCGCAGTTTCTGAAGCAGGATTCGGATGATGCAAATAAACAGGATGAAGTTTACCTAGTGGGTGGGGACCCGAGTTCGGGCAGTCAGAGCGGGAAGGCTGAGGTGTTCAGGCCCCTTGACTGCTGGCCTGTCTTCTTTCCCAGGGTCCTGCTGCCCCTCTCTCTATCTTACCTCTCCTCTGGCATTTCCCCTTTGGGCAGGTCATCCGGGAACTCTACCTCCTTCAAATCCCTAAGGACTGTGCTCCCAATCCGCTTACGCTCAAGGAAGAACTGGTAGGACAGGGGTGGGGATGATCCTGCATTGGGCATTAGGAAGCTACGTTTCAGTTCTGACCTAGATACTAATTTCCCATGTGACCTTGGGCTAAGTTGCCTGCCCTTTGGGCCTGTTTCCCCATCTCTAGGTGGTGGGAGGGTATCTTACCAAGATGGAGGTGAGGATGGGGCCCTTTATGATCCACCACAGTGAGGAGTTGATGGTGTCCCAGCACCTGAGCAGACCGTGGGGAGGAATGAGAGGGATTGTCCTCAGCCAGAGAGAGACTCAGCAGCACCTCCCCCAGTTGTCCCCAGCTCTGCTCCTGAGCACTTTAGCAACCCCGGGCCCAGAGTCTGTTGCTCCCCAGGTCCTCCTCCAGCCTCCCCTCTGGCCCGAGAGCTGTGGTTTTTGTCCACTCACCAAGGCCAGATGGCATTATCATCCCACCCAGGGGGCCTGCCCAAGTGATGGCGGCCGGGGGAGTGTGTGGGGCAGCAGCTCACCCATAATCCTCAAAATGGATCCTGGCGATGGTCCACACCATGGTGAATGTGCTGGGTACCCCTGTCAGGCCCAGGGAGAGTGAAAGAGCAGAGAGGGCACAGGAAGCAGGGGTAGAGGGCATGAGGGAGAGATTTTGGAGAAAAGCAGGGAGAGGGAGGGAGAGAGAAAAGGGTGGGTTGTCAGTCTGCTGTCTTTGGTTGCATAGGTTGTTCACCACGGAGGGATGCTCCACTGAGGGGGTGAAGCTGTATGCCTGAAGGGCTGTGTCTACCTAGACGGACATTCTCTTTCTAATTGTGACAGAGGCCCTTTATAGATTAGCAGTGGCCCTGTGTATTTCGGGAACTAAAGGGAAATGGAAAGATGTTCACAAAATCTGTCCCACAGGTCAGCCCTAGGTGCAGCTGCAACCTGAGGGACTTGTCCTGGGATCAGACATTTTGAGGACTTTCTTGACCCTTGGCTGATATCCTTGCAGGCAGGACCTGCAGCTAAGCAAGACGTAGGACTGCAAGCTGGGTTGGCACCCTCCCCCTAGGGAGTTCTCCAGGCCTTGCCCCCTCTGTCCCCAGCCTGGAAGCCCTCCAAAAACCCCCGGGGGTTTTTCTGGTACCATACCCCAGCCGATGAGTATGTACCCCCAGAAGTACTTCCG