Virus sequence info:

**SARS coronavirus, complete genome**

NCBI Reference Sequence: NC\_004718.3

**Influenza A virus (A/AA/Huston/1945(H1N1)) segment 1, complete sequence**

GenBank: CY021716.1

**Zika virus isolate ZIKV/Homo sapiens/PAN/CDC-259249\_V1-V3/2015, complete genome**

GenBank: MN124091.1

**Human papillomavirus type 16 isolate xuca1916, complete genome**

GenBank: MK484705.1

**Group 1 Sequences:**

> SARS virus strain\_2 patients\_New York City

GTGACGAGCTTGGCACTGATCCCATTGAAGATTATGAACAAAACTGGAACACTAAGCATGGCAGTGGTGC

> Influenza A virus\_1\_Albany

TCAATTATATTCAATATGGAAAGAATAAAAGAACTAAGGAATCTAATGTCGCAATCTCGCACTCGCGAGA

> Zika virus\_1\_Chicago

CGTTAGTGGACAGAGGCTGGGGAAATGGATGTGGACTTTTTGGCAAAGGGAGCCTGGTGACATGCGCTAA

> Influenza A virus\_1\_Wichita

GGGCAACAGCTATACTCAGAAAAGCAACCAGGAGATTGATTCAGCTGATAGTGAGTGGAAGAGACGAACA

> Human papillomavirus type 16\_2\_D.C.

TAAAGAGTTATACGGGGTGAGTTTTTCAGAATTAGTAAGACCATTTAAAAGTAATAAATCAACGTGTTGC

> SARS virus strain\_1\_Austin

TTTAAAACTTACTGACAATGTTGCCATTAAATGTGTTGACATCGTTAAGGAGGCACAAAGTGCTAATCCT

> Zika virus\_1\_DC

AAGAAGTTCAAGAAAGATCTGGCTGCCATGCTGAGAATAATCAATGCTAGGAAGGAGAAGAAGAGACGAG

**Group 2 Samples:**

> Influenza A virus\_2\_Boston

TGATGATATTGATCAAAGTCTAATTATTGCTGCTAGGAACATAGTGAGAAGAGCTGCTGTATCAGCAGAT

> Zika virus\_2\_Helena

TGTGTACGGAACCTGCCATCACAAAAAAGGTGAAGCACGGAGATCTAGAAGAGCCGTGACGCTCCCCTCC

> SARS virus strain\_1\_Denver

CACCTAATGCTAAGGAAGAGATTCTAGGAACTGTATCCTGGAATTTGAGAGAAATGCTTGCTCATGCTGA

> Human papillomavirus type 16\_1\_Seattle

GTGGGGGTGGTTGCAGTCAGTACAGTAGTGGAAGTGGGGGAGAGGGTGTTAGTGAAAGACACACTATATG

> Influenza A virus\_1\_Nebraska

ATTAACGATAACCAAAGAGAAGAAAGAAGAACTCAAGGATTGCAAAATTTCTCCTTTGATGGTTGCATAC

> SARS virus strain\_1\_LA

GAGTACACTGGTAACTATCAGTGTGGTCATTACACTCATATAACTGCTAAGGAGACCCTCTATCGTATTG

> Zika virus\_1\_LA

TCAGTTCATGGCTCCCAGCACAGTGGGATGATTGTTAATGACACAGGACATGAAACTGATGAGAATAGAG

**Group 3 Samples:**

> Human papillomavirus type 16\_1\_New York

ACTCAGCAGATGTTACAGGTAGAAGGGCGCCATGAGACTGAAACACCATGTAGTCAGTATAGTGGTGGAA

> Zika virus\_1\_Cheyenne

GGGAAGCTCAACGAGCCAAAAAGTCATATACTTGGTCATGATACTGCTGATTGCCCCGGCATACAGCATC

> SARS virus strain\_1\_Sacramento

GTGAAGTCTTCATCGCTCAAAGCAAGGGACTTTACCGTCAGTGTATACGTGGCAAGGAGCAGCTGCAACT

> Influenza A virus\_2\_Bismark

CTTCAGTTTTGGCGGATTCACATTTAAGAGAACAAGCGGATCATCAGTCAAGAGAGAGGAGGAAGTGCTT

> Zika virus\_1\_Columbus

AGGTGCATAGGAGTCAGCAATAGGGACTTTGTGGAAGGTATGTCAGGTGGGACTTGGGTTGATGTCGTCT

> SARS virus strain\_2\_Las Vegas

TTACATATGCATCTGCACTCTGGGAAATCCAGCAAGTTGTTGATGCGGATAGCAAGATTGTTCAACTTAG

> Influenza A virus\_1\_LA

ATGATTCCTGAGAGAAATGACCAAGGACAAACTTTATGGAGTAAAATGAATGATGCCGGATCAGACCGAG

**Group 4 Samples:**

> SARS virus strain\_2\_sacramento

AACAAGGCACTCGAAATGTGCATTGATCAAGTCACTATCGCTGGCGCAAAGTTGCGATCACTCAACTTAG

> Zika virus\_1\_Miami

GGGATGAATAAGTGTTATATACAGATCATGGATCTTGGACACATGTGTGATGCCACCATGAGCTATGAAT

> Human papillomavirus type 16\_2\_Miami

CACTTAGTGATATTAGTGGATGTGTAGACAATAATATTAGTCCTAGATTAAAAGCTATATGTATAGAAAAA

> SARS virus strain\_1\_Sante Fe

TATTCTCATGACAGCTCGCACTGTTTATGATGATGCTGCTAGACGTGTTTGGACACTGATGAATGTCATT

> Zika virus\_1\_Dallas

TGGAACATGGAGGTTGTGTCACCGTAATGGCACAGGACAAACCGACTGTCGACATAGAGCTGGTTACAAC

> Influenza A virus\_1\_Salt lake city

AAAAATCTACAAAACTTATTTTGAAAAAGTCGAAAGGTTAAAACATGGAACCTTTGGCCCTGTCCATTTT

> SARS virus strain\_1\_LA

GTATACGGCATGCTCTCATGCAGCTGTTGATGCCCTATGTGAAAAGGCATTAAAATATTTGCCCATAGAT

**Group 5 Samples:**

> Zika virus\_1\_Raleigh

TGGGAGTGCATACTATATGTACTTGGACAGAAACGATGCTGGGGAGGCCATATCTTTTCCAACCACATTG

> Human papillomavirus type 16\_1\_Miami

CAAAGTAGAGCTGCAAAAAGGAGATTATTTGAAAGCGAAGACAGCGGGTATGGCAATACTGAAGTGGAA

> SARS virus strain\_2\_LA

TCTTTGGAGTACAAAGCCAGTAGATACTTCAAATTCATTTGAAGTTCTGGCAGTAGAAGACACACAAGGA

> Influenza A virus\_1\_Sante fe

ATGTTAGAGAGAGAACTAGTCCGCAAAACGAGATTCCTCCCAGTTGCTGGTGGAACAAGCAGTGTGTACA

> SARS virus strain\_1\_Chicago

CCTCTACTTTGACAAGGCTGGTCAAAAGACCTATGAGAGACATCCGCTCTCCCATTTTGTCAATTTAGAC

> Influenza A virus\_1\_Atlanta

CCCGTCACTTAGGATGAAATGGATGATGGCAATGAAATATCCAATTACAGCAGACAAAAGGATAACGGAA

> SARS virus strain\_1\_Seattle

TTTGTCCGTATCCAACCTGGTCAAACATTTTCAGTTCTAGCATGCTACAATGGTTCACCATCTGGTGTTT

**Group 6 samples:**

> Influenza A virus\_1\_Washington

TACTCACAAAAACCACCGTGGACCATATGGCCATAATCAAGAAATACACATCAGGAAGACAGGAAAAGAA

> SARS virus strain\_1\_Las Vegas

TGGATTCATATTACTCATTGCTGATGCCCATCCTCACTTTGACTAGGGCATTGGCTGCTGAGTCCCATAT

> Zika virus\_2\_New York

TTAGAGTCGAAAATTGGATATTCAGGAACCCTGGTTTCGCTTTAGCAGCAGCTGCCATCGCTTGGCTTTT

> Human papillomavirus type 16\_1\_Atlanta

TTTACTGCACAGGAAGCAAAACAACATAGAGATGCAGTACAGGTTCTAAAACGAAAGTATTTGGGTAGTC

> Influenza A virus\_1\_Seattle

CCACTAGCATCTTTATTGGAGATGTGCCACAGCACACAGATTGGTGGAACAAGGATGGTGGACATTCTTA

> SARS virus strain\_1\_LA

AATGCTAGTTAAACAAGGAGATGATTACGTGTACCTGCCTTACCCAGATCCATCAAGAATATTAGGCGCA

> Zika virus\_1\_sacrameto

CATTCCACTAGGAAGCTGCAAACGCGGTCGCAAACCTGGTTGGAATCAAGAGAATACACAAAGCACTTGA

**Group 7 Samples:**

> Influenza A virus\_2\_Sacramento

ACGGGCAATCTTCAAACATTGAAGATAAGGGTGCATGAGGGATATGAAGAATTCACAATGGTTGGGAGAA

> Zika virus\_2\_Wichita

GCCCTATGCTGGATGAGGGGGTGGAACCAGATGACGTCGATTGTTGGTGCAACACGACGTCAACTTGGGT

> Human papillomavirus type 16\_1\_Chicago

CCAAACACCACTTACAAATATTTTAAATGTACTAAAAACTAGTAATGCAAAGGCAGCAATGTTAGCAAAATT

> SARS virus strain\_2\_Salt lake city

CTGTCACCATACTTGATGGTATTTCTGAACAGTCATTACGTCTTGTCGACGCCATGGTTTATACTTCAGA

> Influenza A virus\_1\_Denver

AATGAGGGATGTGCTTGGGACATTTGACACCACTCAGATAATAAAACTTCTTCCCTTTGCAGCCGCTCCA

> SARS virus strain\_1\_Cheyenne

AAGCCTAGAGTGGAAGCACCTAAACAAGAGGAGCCACCAAACACAGAAGATTCCAAAACTGAGGAGAAAT

**Group 8 Samples:**

> SARS virus strain\_1\_LA

CATTACCAAATGCGAGTTTTGATAATTTCAAACTCACATGTTCTAACACAAAATTTGCTGATGATTTAAA

> Influenza A virus\_1\_Helena

CACAGGATGTAATCATGGAAGTTGTTTTCCCAAACGAAGTGGGAGCCAGAATACTAACGTCGGAGTCGCA

> Zika virus\_1\_Baton Rouge

AGCCGCTGCCCAACACAAGGTGAAGCCTACCTTGACAAGCAATCAGACACTCAATATGTYTGCAAAAGAA

> Human papillomavirus type 16\_1\_D.C.

GATTGGTGTATTGCTGCATTTGGACTTACACCCAGTATAGCTGACAGTATAAAAACACTATTACAACAAT

> Zika virus\_1\_Boston

GTTTGCATGCTCCAAGAAAATGACCGGGAAGAGCATCCAGCCAGAGAATCTGGAGTACCGGATAATGTTG

> SARS virus strain\_2\_miami

CACTCAAGGGTGGTAAGATTGTTAGTACTTGTTTTAAACTTATGCTTAAGGCCACATTATTGTGCGTTCT

**Group 9 Samples:**

> Human papillomavirus type 16\_1\_Boston

ATTGTTTATATTTACACATTCAAAGTTTAGCATGTTCATGGGGAATGGTTGTGTTACTATTAGTAAGATA

> Zika virus\_1\_Madison

GCGCAGAAACTAGTGTCGGAATTGTTGGCCTCCTTCTGACCACAGCTATGGCAGCGGAGGTCACTAGACG

> Influenza A virus\_1\_Nashville

TTGAAGTGTTGCATTTGACTCAAGGAACATGCTGGGAACAGATGTACACTCCAGGTGGAGAAGTGAGGAA

> SARS virus strain\_2\_sacramento

CGTCAAGGGTCAAATACAGGTTGCTTCAGATAACATCAAGGATTGTGTAAAATGCTTCATTGATGTTGTT

> Influenza A virus\_1 Austin

AGAAACCAAGTCAAAATACGCCGAAGAGTTGACATAAATCCTGGCCATGCAGACCTCAGTGCCAAGGAGG

> SARS virus strain\_1\_LA

GGAGTTTTCTGTGGTGTTGATGCGATGAATCTCATAGCTAACATCTTTACTCCTCTTGTGCAACCTGTGG

> Human papillomavirus type 16\_1\_LA

ATGGCTGATCCTGCAGGTACCAATGGGGAAGAGGGTACGGGATGTAATGGATGGTTTTATGTAGAGGCTG

**Group 10 samples:**

> SARS virus strain\_2 patient\_Santa fe

TTTGACACTTTCAAAGGGGAATGCCCAAAGTTTGTGTTTCCTCTTAACTCAAAAGTCAAAGTCATTCAAC

> Influenza A virus\_1\_Des Moines

TGATGGTATCACCTCTGGCTGTGACATGGTGGAATAGAAATGGACCAATGACAAGTACAATTCATTATCC

> Human papillomavirus type 16\_1\_LA

TAGTGGAAAAAAAAACAGGGGATGCTATATCAGATGACGAGAACGAAAATGACAGTGATACAGGTGAAGA

> Zika virus\_1\_Dallas

AACAGTCAGCAACATGGCGGAGGTAAGATCCTACTGCTATGAGGCATCAATATCAGACATGGCTTCGGAC

> Human papillomavirus type 16\_1\_Chicago

TTTGGTAGATTTTATAGTAAATGATAATGATTATTTAACACAGGCAGAAACAGAGACAGCACATGCGTTG

> SARS virus strain\_1 patient\_seattle

CATGTGGGTACCTACCTACTAATGCTGTAGTGAAAATGCCATGTCCTGCCTGTCAAGACCCAGAGATTGG

> Influenza A virus\_2\_Lincoln

GGCAGAACCCAACAGAAGAACAAGCCGTGGATATATGCAAGGCTGCAATGGGACTGAGAATCAGCTCATC