**Viral Etiologies of Hospitalized Acute Lower Respiratory Infection Patients in China, 2009-2013**

**Supplementary Information**

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Table S1. Primers and sequence information to detect viral etiologies by RT-PCR or PCR in this study

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Virus | Primer | Sequence (5’-3’) | Gene | Amplification  size |
| RT-PCR |  |  |  |  |
| Influenza [1] | FluAB3 | GATCAAGTGAKMGRRAGYMGRAAYCCAGG | NP | A: 301bp  B: 226bp  C: 111bp |
| FluC3 | AAATTGGAATTTGTTCCTTTCAAGGGACA |
| FluAC4 | TCTTCAWATGCARSWSMAWKGCATGCCATC |
| FluB4 | CTTAATATGGAAACAGGTGTTGCCATATT |
| RSV [1] | RSVA3 | TTATACACTCAACAATRCCAAAAAWACC | F | A: 363 bp  B: 611 bp |
| RSVA4 | AAATTCCCTGGTAATCTCTAGTAGTAGTCTGT |
| RSVB3 | ATCTTCCTAACTCTTGCTRTTAATGCATTG |
| RSVB4 | GATGCGACAGCTCTGTTGATTTACTATG |
| PIV [2] | 1PIV13 | AGGWTGYSMRGATATAGGRAARTCAT | HA | PIV1: 439bp  PIV2: 297bp  PIV3: 390bp  PIV4: 174bp |
| 2PIV13 | CTWGTATATATATRTAGATCTTKTTRCCTAGT |
| 1PIV2 | TAATTCCTCTTAAAATTGACAGTATCGA |
| 1PIV4 | ATCCAGARRGACGTCACATCAACTCAT |
| 2PIV24 | TRAGRCCMCCATAYAMRGGAAATA |
| hMPV [3] | hMPVLF | CATGCCCACTATAAAAGGTCAG | L | 171bp |
| hMPVLR | CACCCCAGTCTTTCTTGAAA |
| hCoV [4] | hCoVFc | GGTTGGGACTATCCTAAGTGTGA | POL | 440bp |
| hCoVRc | CCATCATCAGATAGAATCATCATA |
| PCR |  |  |  |  |
| ADV [5] | 1-ADVF | GCCSCARTGGKCWTACATGCACATC | Hexon | 301bp |
| 1-ADVR | CAGCACSCCICGRATGTCAAA |
| hBoV [6] | HBoVF | GACCTCTGTAAGTACTATTAC | NP1 | 354bp |
| HBoVR | CTCTGTGTTGACTGAATACAG |

RSV: Respiratory syncytial virus; ADV: adenovirus virus; PIV: parainfluenza virus; hMPV: human metapneumovirus; hCoV: human coronavirus; hBoV: human bocavirus.

Table S2. Primers and sequence information to detect viral etiologies by Real-time RT-PCR or PCR in this study

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Virus | Primers | Sequence (5’-3’) | 3' Label | 5' Label | Gene |
| Influenza [7,8] | FluA-F  FluA-R  FluA-P | GACCRATCCTGTCACCTCTGAC  AGGGCATTYTGGACAAAKCGTCTA  TGCAGTCCTCGCTCACTGGGCACG | TAMRA | FAM | M2 |
| 09FluH1-F  09FluH1-R  09FluH1-P | GTGCTATAAACACCAGCCTYCCA  CGGGATATTCCTTAATCCTGTRGC  CAGAATATACA”T”CCRGTCACAATTGGARAA | TAMRA | FAM | HA |
| FluB-F  FluB-R  FluB-P | TGCCTACCTGCTTTMMYTRACA  CCRAACCAACARTGTAATTTTTCTG  TGCTTTGCCTTCTCCA | TAMRA | FAM | M |
| RSV [9] | RSVA-F  RSVA-R  RSVA-P | GCTCTTAGCAAAGTCAAGTTGAATGA  TGCTCCGTTGGATGGTGTATT  ACACTCAACAAAGATCAACTTCTGTCATCCAGC | TAMRA | FAM | N |
| RSVB-F  RSVB-R  RSVB-P | GATGGCTCTTAGCAAAGTCAAGTTAA  TGTCAATATTATCTCCTGTACTACGTTGAA  TGATACATTAAATAAGGATCAGCTGCTGTCATCCA | TAMRA | FAM | N |
| PIV [10] | hPIV1-F  hPIV1-R  hPIV1-P | TGATTTAAACCCGGTAATTTCTCAT  CCTTGTTCCTGCAGCTATTACAGA  ACGACAACAGGAAATC | TAMRA | FAM | HN |
| hPIV2-F  hPIV2-R  hPIV2-P | AGGACTATGAAAACCATTTACCTAAGTGA  AAGCAAGTCTCAGTTCAGCTAGATCA  ATCAATCGCAAAAGCTGTTCAGTCACTGCTATAC | TAMRA | FAM | HN |
| hPIV3-F  hPIV3-R  hPIV3-P | TGATGAAAGATCAGATTATGCATCATC  CCGGGACACCCAGTTGTG  TGGACCAGGGATATACTACAAAGGCAAAATAATATTTCTC | TAMRA | FAM | HN |
| hPIV4-F  hPIV4-R  hPIV4-P | CAAAYGATCCACAGCAAAGATTC  ATGTGGCCTGTAAGGAAAGCA  GTATCATCATCTGCCAAATCGGCAATTAAACA | TAMRA | FAM | Nucleoc-apsid |
| hMPV [11] | hMPV-F  hMPV-R  hMPV-P | CATAYAARCATGCTATATTAAAAGAGTCTC  CCTATYTCTGCAGCATATTTGTAATCAG  TGYAATGATGARGGTGTCACTGCRGTTG | TAMRA | FAM | NP |
| hCoV [12] | 229E-F  229E-R  229E-P | CAGTCAAATGGGCTGATGCA  AAAGGGCTATAAAGAGAATAAGGTATTCT  CCCTGACGACCACGTTGTGGTTCA | TAMRA | FAM | NP |
| NL63-F  NL63-R  NL63-P | GACCAAAGCACTGAATAACATTTTCC  ACCTAATAAGCCTCTTTCTCAACCC  AACACGCTTCCAACGAGGTTTCTTCAACTGAG | TAMRA | FAM | NP |
| OC43-F  OC43-R  OC43-P | CGATGAGGCTATTCCGACTAGGT  CCTTCCTGAGCCTTCAATATAGTAACC  TCCGCCTGGCACGGTACTCCCT | TAMRA | FAM | NP |
| HKU1-F  HKU1-R  HKU1-P | CCTTGCGAATGAATGTGCT  TTGCATCACCACTGCTAGTACCAC  TGTGTGGCGGTTGCTATTATGTTAAGCCTG | TAMRA | FAM | Replicase1b |
| ADV [13] | hAdV-F  hAdV-R  hAdV-P | GCCACGGTGGGGTTTCTAAACTT  GCCCCAGTGGTCTTACATGCACATC  TGCACCAGACCCGGGCTCAGGTACTCCGA | TAMRA | FAM | Hexon |
| hBoV [14] | HBoV-F  HBoV-R  HBoV-P | AGAGGCTCGGGCTCATATCA  CACTTGGTCTGAGGTCTTCGAA  AGGAACACCCAATCARCCACCTATCGTCT | TAMRA | FAM | NP-1 |

B =C, G, or T; H =A, C, or T; R= A or G; S =G or C; Y =C or T.

RSV: Respiratory syncytial virus; ADV: adenovirus virus; PIV: parainfluenza virus; hMPV: human metapneumovirus; hCoV: human coronavirus; hBoV: human bocavirus; HN: Hemagglutinin neuraminidase.

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