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**Supplementary Data**

**Nonmuscle myosin IIA promotes the internalization of influenza A virus and regulates viral polymerase activity through interacting with nucleoprotein in human pulmonary cells**

**Jian Chena, b, c, #, Jian Liuc, #, Zhilu Chenc, Daobin Fengc, Cuisong Zhuc, Jun Fanc, Shuye Zhanga, c, \*, Xiaoyan Zhanga, c, \*, Jianqing Xua, c, \***

*a Clinical Center for Bio-Therapy, Zhongshan Hospital, Fudan University (Xiamen Branch), Shanghai, 200032, China;*

*b Center for Infectious Disease Research, Science of Life Sciences, Westlake University, Hangzhou, 310024, China.*

*c Shanghai Public Health Clinical Center & Institutes of Biomedical Sciences, Shanghai Medical College, Fudan University, Shanghai, 201508, China.*

1Jian Chen and Jian Liu contributed equally to this work.

Corresponding authors.

xujianqing@fudan.edu.cn (J. Xu), ORCID: 0000-0003-0896-9273

zhangxiaoyan@fudan.edu.cn (X. Zhang), ORCID: 0000-0002-3193-1401

shuye\_zhang@fudan.edu.cn (S. Zhang), ORCID: 0000-0002-4749-6790

**Table S1.** List of primers.

|  |  |
| --- | --- |
| **Primer name**  | **Primer sequence** |
|  RT-NP- vRNA | GGCCGTCATGGTGGCGAATGAATGGACGGAGAACAAGGATTGC |
|  RT-NP- cRNA | GCTAGCTTCAGCTAGGCATCAGTAGAAACAAGGGTATTTTTCTTT |
|  RT-NP- mRNA | CCAGATCGTTCGAGTCGTTTTTTTTTTTTTTTTTCTTTAATTGTC |
| IAV NP vRNA-F | GGCCGTCATGGTGGCGAAT |
| IAV NP vRNA-R | CTCAATATGAGTGCAGACCGTGCT |
| IAV NP cRNA-F | GCTAGCTTCAGCTAGGCATC |
| IAV NP cRNA-R | CGATCGTGCCCTCCTTTG |
| IAV NP mRNA-F | CCAGATCGTTCGAGTCGT |
| IAV NP mRNA-R | CGATCGTGCCCTCCTTTG |
|  PR8-NP-F | TGTGTATGGACCTGCCGTAGC |
|  PR8-NP-R | CCATCCACACCACACCAGTTGACTCTTG |
| H7N9-NP-F | CAGTGAAGGGGATAGGGACA |
| H7N9-NP-R | CCAGGATTTCTGCTCTCTCG |
| MYH9-FW-BamHI | AAGCTTGGTACCGAGCTCGGATCCATGGCACAGCAAGCTGCCGATAAGT |
| MYH9-RE-ECORI | CTGTGCTGGATATCTGCAGAATTCTTACTGGGCCTGCAGCTTCCGCAG |
| pCAGGS-flag-F | GATTACAAGGATGACGACGATAAGTGACTCGAGGGTACCCCCGG |
| PB1-flag-R | ATCGTCGTCATCCTTGTAATCTTTTTGCCGTCTGAGCTCTTCAATG |
| PB2-flag-R | ATCGTCGTCATCCTTGTAATCATTGATGGCCATCCGAATCCTTTTG |
| NP-flag-R | TATCGTCGTCATCCTTGTAATCATTGTCATACTCCTCTGCATTGTC |
| PA-flag-R | ATCGTCGTCATCCTTGTAATCTCTTAGTGCATGTGTGAGGAAGGAG |
| MYH9-sgRNA1 | ACGCCACGTACGCCAGATAC |
| MYH9-sgRNA2 | CACGTGCCTCAACGAAGCCT |

**Supplementary Figures.**



**Figure. S1** MYH9 expression levels in wild type and MYH9 knockout H1299 and A549 clone cells. **A** Western blotting analysis on the knockout efficacy of MYH9 of H1299. **B** Western blotting analysis on the knockout efficacy of MYH9 of A549 cells.

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**Figure. S2** MYH9 depletion prevents IAV-induced (**A:** H1N1PR8, **B**: H7N9) cell death at varying viral doses. MOI = 0.1, 1, or 10. The data from three biological replicates are shown as the means (n=3).\*\*, *P* < 0.01; \*\*\*, *P* < 001; \*\*\*\*, *P* < 0.0001.

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**Figure. S3** MYH9 overexpression doesn’t affect the protein levels of IAV viral proteins. Immunoblot analysis of lysates from H1299 cells transfected with black vector or vector expressing NP, PB1, PB2, and PA with an increased dose of MYH9 for 24 h.

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**Figure. S4** The immunofluorescence images of NP protein.Immunofluorescence analyses of the binding and entry of H7N9 viruses in NC- and MYH9-H1299 cells. Cells were treated or untreated with H7N9 for 0, 1, 2, 3, and 6 hours. MOI=10. Scale bars, 20 μm. NP, red; DAPI, blue.