**Table S1. RNA oligonucleotides used in this study**

|  |  |
| --- | --- |
| small RNAs | Sequence (5'→3') |
| miR-30a | UGUAAACAUCCUCGACUGGAAG |
| miR-30b | UGUAAACAUCCUACACUCAGCU |
| miR-30c | UGUAAACAUCCUACACUCUCAGC |
| miR-30d | UGUAAACAUCCCCGACUGGAGG |
| miR-30e | UGUAAACAUCCUUGACUGGAGG |
| miR-30a inhibitor | CUUCCAGUCGAGGAUGUUUACA |
| miR-30b inhibitor | AGCUGAGUGUAGGAUGUUUACA |
| miR-30c inhibitor | GCUGAGAGUGUAGGAUGUUUACA |
| si-SOCS1 | UGAAAGUGCTCGCGGAUGC ([Wei et al., 2014](#_ENREF_3)) |
| si-SOCS3 | CCAAGAACCUGCGCAUCCA ([Pauli et al., 2008](#_ENREF_1)) |
| si-NEDD4 | UAGAGCCUGGCUGGGUUGUUU ([Simonin & Fuster, 2010](#_ENREF_2)) |
| NC | UUCUCCGAACGUGUCACGU |
| NC inhibitor | CAGUACUUUUGUGUAGUACAA |

**Table S2. Primers for clone**

|  |  |  |
| --- | --- | --- |
| Primers Sequence (5'→3') | |  |
| SOCS1 3’UTR-F | AATGAGCTCGCATTAACTGGGATGCCGTGTT |
| SOCS1 3’UTR-R | AATCTCGAGCTTTCATAATAAAGTTTATTACCTAAACTGAC |
| SOCS3 3’UTR-F | AATGAGCTCAGTATTGGCCAGTCAGGCGCCT |
| SOCS3 3’UTR-R | AATCTCGAGGCTCTTTATTATAAATTACTGAAATGTTTC |
| SOCS1 1’UTR-mut-F | CTCTTCAACGCTACATATACCCAGTATCTTTGCACAAACCAGG |
| SOCS1 1’UTR-mut-R | GTATATGTAGCGTTGAAGAGGTAGGAGGTGCGAGTTCAGG |
| SOCS3 3’UTR-mut-F | GAACGCGGATCTGCCTCAATCACTCT |
| SOCS3 3’UTR-mut-R | CCGCGTTCTTATTAAAAAACAAGAAACAAAC |
| p53 3’UTR-F | AAGAGCTCCATTCTCCACTTCTTGTTCCCCACTGA |
| p53 3’UTR-R | ATCTCGAGGGAACAAGCACCCTCAAGGGGGT |
| NEDD4 3’UTR-F | AATGAGCTCATTACAAATAACAATCTGTAGTGTTTTTACTGCCAT |
| NEDD4-3’UTR-R | AATCTCGAGTTTTGTTTTGTTTTTTAAAATCAGAATAGAACTTTATTT |
| NEDD4 3’UTR 942-949-mut-F | TAACGCGTCAGGGTTTATCATGTTTACAGATTAAGCTAATTTCTGT |
| NEDD4 3’UTR 942-949-mut-R | AAACCCTGACGCGTTACATTTACTACATAATTGTACAAGTGTAAAGAATATCTAGT |
| NEDD4 3’UTR 960-967-mut-F | CAACGCGTCAGATTAAGCTAATTTCTGTAGTCGCATTTTTATATTTT |
| NEDD4 3’UTR 960-967-mut-R | TTAATCTGACGCGTTGATAAACCCTGTAAACATACATTTACTACATAATTGTACAA |
| NEDD4 3’UTR 1116-1122-mut-F | ACACGCGTCTATGAAGACAATGTTTTTAATTACAAATCCAGAATTC |
| NEDD4 3’UTR 1116-1122-mut-R | CTTCATAGACGCGTGTATTTTAAAAGGCATAAGAAATAGTAATAAATTTAATACAAATTA |
| pCMV-Flag-SOCS1-F | ATAGGTACCATGGTAGCACACAACCAGGTGGCA |
| pCMV-Flag-SOCS1-R | ATATCTGAGAATCTGGAAGGGGAAGGAGCTC |
| pCMV-Flag-SOCS3-F | ATAGGTACCATGGTCACCCACAGCAAGTTTCCC |
| pCMV-Flag-SOCS3-R | ATATCTGAGAAGCGGGGCATCGTACTGGTC |
| PCAGGS-HA-NEDD4-F | AGCGAATTCATGGCAACTTGCGCGGTGGAG |
| PCAGGS-HA-NEDD4-R | AGCCTCGAGCTAATCAACTCCATCAAAGCCCTGGGT |

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**Fig. S1. Sequence comparison among miR-30 family members**

Nucleotides in red are seed region; black rectangle shows the difference in nucleotides among miR-30a, d, and e.

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**Fig. S2. H1N1 and H9N2 influenza virus infection decreased miR-30 expression**

A549 cells were infected with 0.5 MOI PR8/H1N1 and W1/H9N2 influenza virus. Expression of miR-30 was detected at 12, 24, 36, and 48 hpi by qRT-PCR. The values are shown as the mean and SD. \*\*\*, P < 0.001; \*, P < 0.05.

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**Fig. S3. MiR-30a/b/c inhibited influenza virus proliferation in HAECs**

HAECs were transfected with 120 nm miR-30a (A), miR-30b (B), miR-30c (C) or negative control (NC). twenty-four hours later, 0.1 moi HM/H5N1 was used to infect HAECs. At 30 h post infection, the supernatant were collected for plaque test, and the cells were lysed for NP determination using western blot. The values are shown as the mean and SD and are representative of three independent experiments. Data was analyzed using Student’s t test. \*\*\*, P < 0.001; \*\*, P < 0.01.

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**Fig. S4. MiR-30a/b/c inhibitors transfection significantly repressed miR-30a/b/c expression**

293T cells were transfected with 100 nM miR-30a/b/c inhibitors or control NC-inhibitor, twenty-four hours later, the cells were harvested for RNA extraction. Then, miR-30a/b/c expression was determined by qRT-PCR. Expression of miR-30a/b/c was normalized to U6. The values are shown as the mean and SD and was analyzed using Student’s t test. \*\*\*, P < 0.001; \*\*, P < 0.01.

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**Fig. S5. MiR-30a/b/c suppress SOCS1, SOCS3, and NEDD4 expression in HAECs**

120 nm miR-30c mimics or NC were transfected into HAECs, and 24 h after transfection, cells were harvested for RNA and protein extract. The mRNA and protein of SOCS1 (A), SOCS3 (B), and NEDD4 (C) were determined by qRT-PCR and western blot, respectively. The values are shown as the mean and SD and are representative of three independent experiments. Data was analyzed using Student’s t test. \*\*, P < 0.01; \*, P < 0.01.

**Reference**

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