

Supplementary

Table1. qRT-PCR Primer sequences in this study

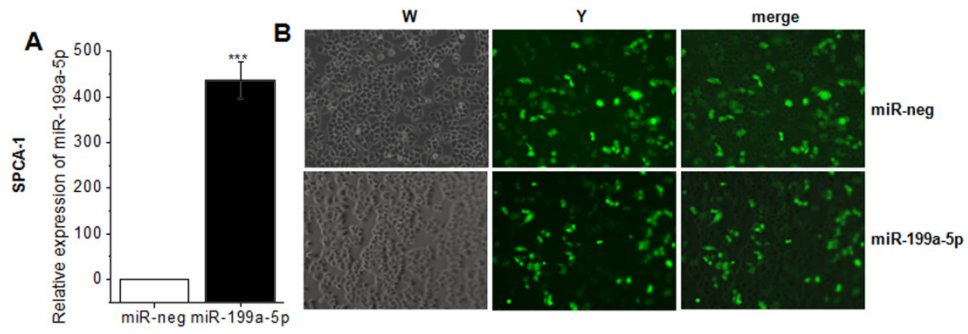
Name	Primer Sequences
18S RNA	Sense: 5'-CAGCCACCCGAGATTGAGCA-3' Antisense: 5'-TAGTAGCGACGGGCGGTGTG-3'
U6 snRNA	Sense: 5'-CTCGCTTCGGCAGCACA-3' Antisense: 5'-AACGCTTCACGAATTTGCGT-3'
MAP2K3	Sense: 5'- GGAGACAGAACTTTGAGGTG -3' Antisense: 5'- GCTTCTGCTCCTGTGAGTTC -3'
MAP2K4	Sense: 5'-TCAGAGAGGGTACTGTTGGA -3' Antisense: 5'- GGTTAGTGCTTTCACAGTTGC -3'
MAP3K3	Sense: 5'- CCAGGACTATGATTCTATTGTG-3' Antisense: 5'-ATTGCACAGCCAGACCCAT-3'
MAP3K5	Sense: 5'- CCAGGACTATGATTCTATTGTG-3' Antisense: 5'-TGCTCTGTCACCAGGGAGAT-3'
MAP3K9	Sense: 5'- CTCATGGAAGACTGCTGGAA-3' Antisense: 5'-TCTCGTGTTCAGTTGTCC-3'
MAP3K11	Sense: 5'-GAGCCAAGGAAAAGGAACTA-3' Antisense: 5'- GAACACCTCTAGCTCCCACT-3'
MAP3K12	Sense: 5'- TCACTTTCAAGGGTGTGTGC-3' Antisense: 5'- ATGGACCAGTCAACCAGTAAG-3'
MAP4K3	Sense: 5'-TAICTGGTAAAGCTTCTCAGC -3' Antisense:5'- GCAGTATTCTGTCAGGGAGT -3'
RASGRP3	Sense: 5'-ATCAACCTGCTCACGCTTTC-3' Antisense:5'-GCTTTGGCATCACCCCTAAT -3'
miR-199a-5p	5'-CCCAGTGTTCAGACTACCTGTTC -3'

Table 2. Primer sequences used for amplification

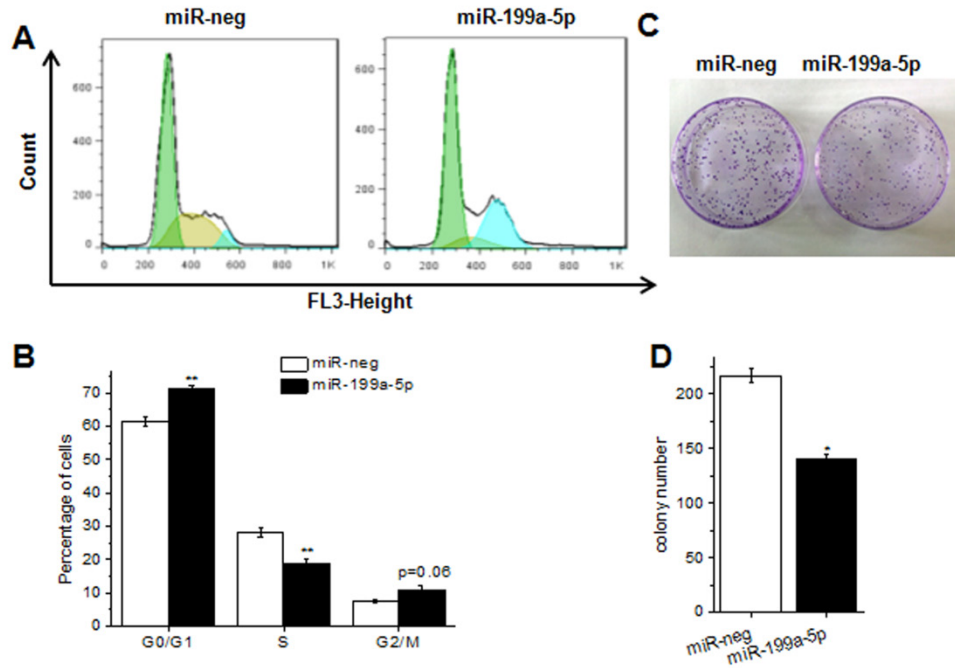
Name	Primer Sequences	Restriction Site
3'-UTR of MAP2K3	Sense: 5'- GTGCCAAAGAAGCAGACCAT-3' Antisense: 5'- GAGAAGCGATCAGCTCCAAA-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP2K4	Sense: 5'-AGCCGATGTGGTAGGTGATA -3' Antisense: 5'-GAGAAGATAGGGAAATGAGGC -3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP3K3	Sense: 5'-TGCCAGTCCTGTCCTTACC -3' Antisense: 5'-GAGAAGATAGGGAAATGAGGC -3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP3K5	Sense: 5'- GTGGGAAAATCGAAGGGAGA-3' Antisense: 5'- CAAGCATGTGCAACTGGTAC-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP3K9	Sense: 5'- ATCCAGCCCTACTTCTTGC-3' Antisense: 5'- CAAGCCAGATTCCCATTCC-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP3K11	Sense: 5'- CCACTCCCCGAGCTCCA-3' Antisense: 5'- GGCAGCAGGAAGGCATCC-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP3K12	Sense: 5'- GCCACTCGTATTCCTTGT-3' Antisense: 5'- CATTGCCACCTGAGAAAC-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of MAP4K3	Sense: 5'- TATTCTTGGGTGTGGCTA-3' Antisense: 5'- CTATCATGGTACCGCTATTC-3'	<i>Xba</i> I <i>EcoR</i> I
3'-UTR of RASGRP3	Sense: 5'- CCTACCCCTAGTTAAGTGCC-3' Antisense: 5'- CAGTCAGAAGGGACAAGCAT-3'	<i>Xba</i> I <i>EcoR</i> I
Mutant 1 3'-UTR of MAP3K11	Sense: 5'- GCATTCTCAGCAACAGGAGCTGGGTCAGCCTCT -3' Antisense: 5'-CTGTTGCTGAGAATGCTGTGACTCCTCCTAAGGCA -3'	None None
Mutant 2 3'-UTR of MAP3K11	Sense: 5'-CTTCTCTCAGCAAGGGGACCTGCGCCCCACAT -3' Antisense: 5'-CCCTTGCTGAGAGAAGGCTTCTGTGCAGTGTAGT -3'	None None

Table 3. Detail information of 16 pairs of NSCLC tissues

NO.	Sex	Age	Tumor Site	Tumor Size	Histologic Grade	TNM	Histologic Type
1	F	60	Lower lobe	5*4*6	G2	T2aN2M0	Adenocarcinoma
2	F	57	Middle lobe	4*3*2.5	G2	T2aN1M0	Adenocarcinoma
3	F	52	upper lobe	6.5*6*4	G2	T2bN0M0	Adenocarcinoma
4	M	61	Lower lobe	5.5*3.5*2.2	G1-G2	T2bN2M0	Adenocarcinoma
5	M	62	upper lobe	4*4*3.5	G2	T2aN1M0	Squamous cell carcinoma
6	M	58	upper lobe	4.3*4*2.3	G1	T2aN2M0	Adenocarcinoma
7	F	67	upper lobe	3*2.5*2	G2	T1bN1M0	Adenocarcinoma
8	M	61	Middle lobe	7*6.5*5	G2	T2bN0M0	Adenocarcinoma
9	F	74	Lower lobe	4.5*4*4	G3	T2aN0M0	Combined Small Cell carcinoma
10	F	65	Lower lobe	2*2*1.8	G1-G2	T1aN0M0	Adenocarcinoma
11	F	63	upper lobe	4*3.5	G2	T2N0M0	Adenocarcinoma
12	F	70	upper lobe	1.3*1	G2	T1N0M0	Adenocarcinoma
13	M	56	upper lobe	1*1	G2	T1N0M0	Adenocarcinoma
14	M	72	upper lobe	4.5*2	G2	T2N0M1	Adenosquamous carcinoma
15	M	62	upper lobe	3.5*2.5	G1	T1N0M0	Squamous cell carcinoma
16	F	59	upper lobe	5*4	G2	T3N1M0	Adenocarcinoma



Supplementary Figure 1. miR-199a-5p was stable over-expression in lentivirus infected SPCA-1. A, the expression of miR-199a-5p was detected in SPCA-1 cells after lentivirus infected 72 hours respectively. U6 was used as an internal control. B, Infection efficiency was observed in SPCA-1 cells under fluorescence microscope. *** $P < 0.001$.



Supplementary Figure 2. MiR-199a-5p could arrest cell cycle and inhibit cell proliferation in NSCLC cell line SPCA-1. A, Cell cycle distribution was measured by flow cytometry. Cell cycle analysis was performed in SPCA-1 cell by staining DNA with propidium iodide prior to flow cytometry. B, The phase ratio (%) of cells was showed. C, Representative images show the cell growth in SPCA-1 cells. D, Average colonies in each well for each group were counted from three independent experiments. All experiments were at least repeated in triplicate with similar results. **P<0.01