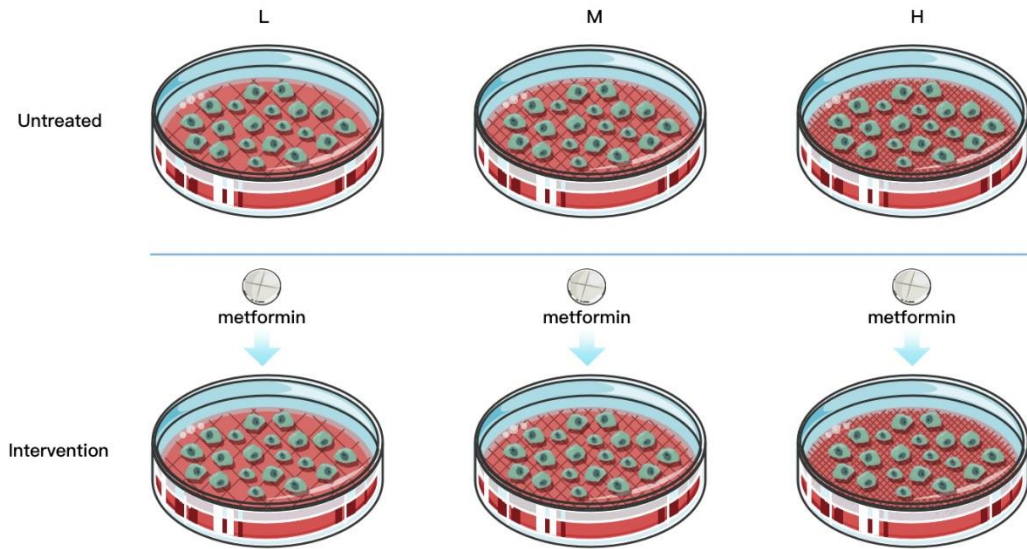
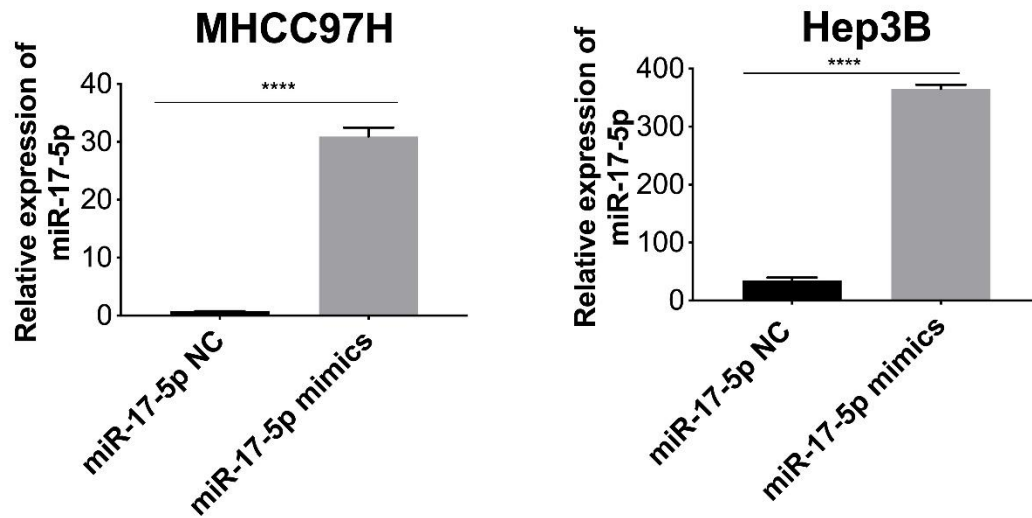


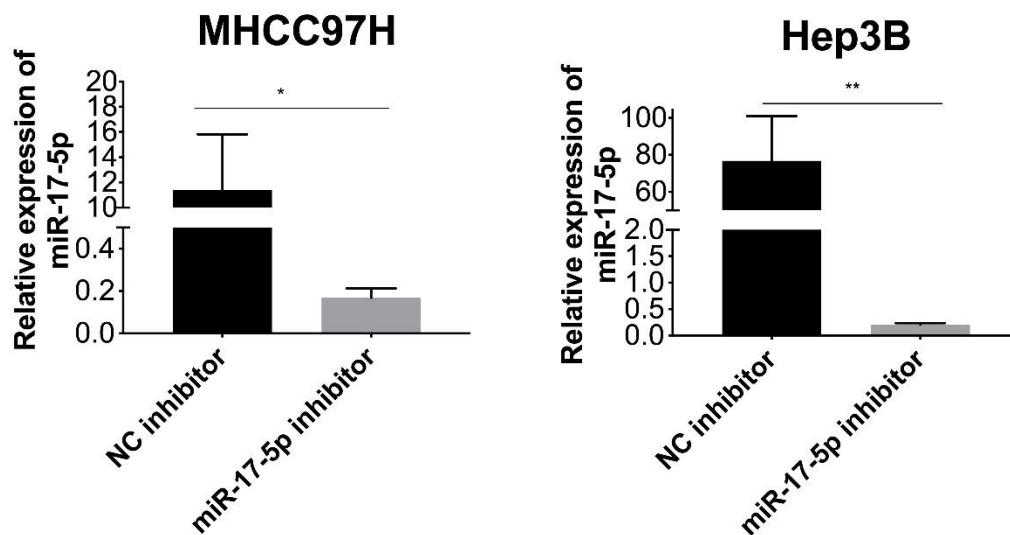


**Fig.S1 Schematic diagram of metformin intervention on HCC cells grown on different stiffness substrates.**

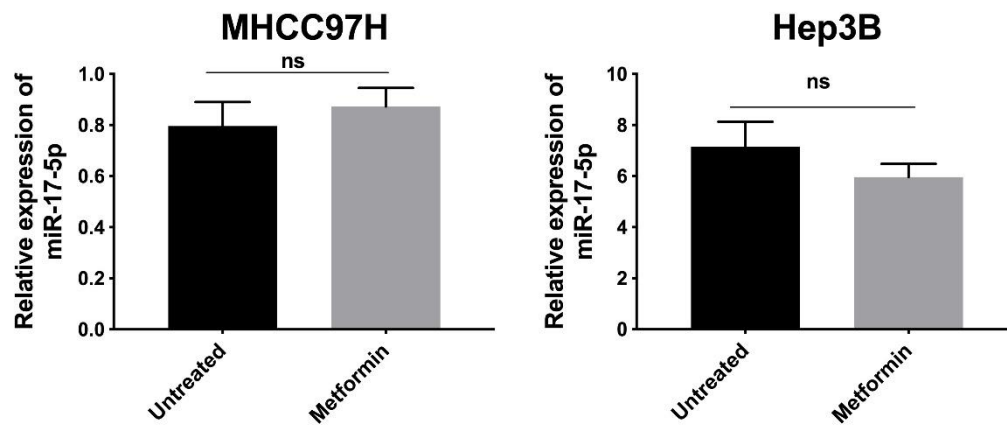
**A**



**B**



**Fig.S2 Assessment of miRNA-17-5p transfection efficiency. (A) MiRNA-17-5p mimic (50nmol/l) transient transfection in MHCC97H and Hep3B cells. (B) MiRNA-17-5p inhibitor (50nmol/l) transient transfection in MHCC97H and Hep3B cells. Error bar represents a standard error of the means (SEM), \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  and \*\*\*\* $p < 0.0001$ .**



**Fig.S3 Metformin has little effect on miR-17-5p expression level in HCC cells (27mM for MHCC97H cells and 22mM for Hep3B cells for 24h). Error bar represents a standard error of the means (SEM), \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  and \*\*\*\* $p < 0.0001$ .**

**Table S1 Quantitative density area value of immunohistochemistry in  
HCC tissue microarray**

|             | <b>L</b> | <b>M</b> | <b>H</b> |
|-------------|----------|----------|----------|
| <b>PTEN</b> | 30.54    | 27.34    | 23.76    |
|             | 30.81    | 30.16    | 24.99    |
|             | 33.14    | 29.56    | 25.84    |
|             | 32       | 32.9     | 24.61    |
|             | 31.63    | 27.7     | 21.82    |
|             | 33.26    | 26.97    | 26.53    |
|             | 34.72    | 27.5     | 20.83    |
|             | 38.47    | 27.42    | 23.34    |
|             | 36.8     | 25.19    | 19.32    |
|             | 44.33    | 26.98    | 23.36    |
|             | 35.9     | 32.03    | 26.56    |
|             | 45.37    | 25.7     | 19.08    |
|             |          |          |          |
| <b>MMP2</b> | 23.74    | 41.68    | 29.4     |
|             | 20.47    | 30.71    | 29.25    |
|             | 21.65    | 32.76    | 32.54    |
|             | 22.62    | 28.84    | 32.81    |
|             | 22.65    | 22.95    | 29.92    |
|             | 23.85    | 26.02    | 33.08    |
|             | 23.37    | 29.72    | 28.32    |
|             | 20.08    | 28.55    | 31.38    |
|             | 20.49    | 30.05    | 30.77    |
|             | 21.57    | 29.31    | 31.25    |
|             | 23.38    | 28.31    | 29.79    |
|             | 20.01    | 29.09    | 32.07    |
|             |          |          |          |
| <b>MMP9</b> | 23.17    | 32.94    | 44.54    |
|             | 21.37    | 36.08    | 38.81    |
|             | 12.38    | 31.72    | 48.89    |
|             | 19.53    | 38.66    | 39.62    |
|             | 25.48    | 35.84    | 39.89    |
|             | 26.48    | 33.18    | 48.36    |
|             | 32.85    | 50.09    | 56.74    |
|             | 35.67    | 39.87    | 47.95    |
|             | 30.58    | 42.6     | 62.94    |
|             | 29.6     | 39.33    | 56.16    |
|             | 32.98    | 41.7     | 56.08    |
|             | 34.29    | 38.2     | 48.21    |
|             |          |          |          |

**Table S1 Quantitative density area value of immunohistochemistry in  
HCC tissue microarray.**