Supplementary Information

RNA Micelles for Systemic Delivery of Anti-miRNA for Cancer Targeting and Inhibition without Ligand

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Supplementary Figure. 1. Conjugation of folate to RNA. A. Illustration of conjugation of folate to 3WJ-a-sph1 by click reaction. **B.** 8M 20% UREA gel showing conjugation product.



TAE Buffer

TAE Buffer (0.5%SDS)



Supplementary Figure. 2. Evaluation of micelles formation by hydrophobic force. A. 2% Agarose gel comparing 3WJ RNA micelles formation in TAE running buffer with or without 0.5% SDS. **B.** 2% Agarose gel showing 3WJ RNA micelles and 3WJ assembly in the presence of increasing percent of DMSO.

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3WJ/FA/anti-miR21 micelles	100%
3WJ/FA/anti-miR21	18.9%
3WJ/anti-miR21 micelles	99.9%
3WJ/anti-miR21	9.74%
Cell only	0%

В	DAPI	Alexa488	Alexa647	Merge
Cell only	Carling and			
3WJ/anti-miR21	12 C			
3WJ/FA/anti-miR21				
3WJ/anti-miR21 micelles	の			
3WJ/FA/anti-miR21 micelles	A State			

Supplementary Figure. 3. *In vitro* binding and internalization of RNA micelles to colon cancer HT29 cell. A. Flow cytometry comparing binding affinity to HT29 cells after treatment for 1hr. **B.** Confocal microscope showing internalization profile. Blue: nuclei; Green: cytoskeleton; Red: RNA nanoparticles.



Supplementary Figure. 4. The weight of tumors harvested from mice at day10.