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## **Supplemental information**

### **5'-tiRNA-Cys-GCA regulates VSMC proliferation and phenotypic transition by targeting STAT4 in aortic dissection**

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**Table S1 Oligonucleotides used in this study**

<b>Definition</b>	<b>Sequence (5'-3')</b>
5'-tiRNA-Cys-GCA mimics	Sense: GCAGUCAAAUGCUCUACCACUGAGCUAUACCCCC Antisense: GGGUAUAGCUCAGUGGUAGAGCAUUUGACUGCUU
5'-tiRNA-Cys-GCA mimics NC	Sense: UUCUCCGAACGUGUCACGUTT Antisense: ACGUGACACGUUCGGAGAATT
5'-tiRNA-Cys-GCA inhibitor	GGGGGUAUAGCUCAGUGGUAGAGCAUUUGACUGC
5'-tiRNA-Cys-GCA inhibitor NC	CAGUACUUUUGUGUAGUACAA
si-STAT4	Sense: CCUGCCACAUUGAGUCAACUATT Antisense: UAGUUGACUCA AUGUGGCAGGTT
si-STAT4 NC	Sense: UUCUCCGAACGUGUCACGUTT Antisense: ACGUGACACGUUCGGAGAATT

**Table S2 Primers used in this study**

<b>Primer</b>	<b>Sequence (5'-3')</b>
5'-tiRNA-Cys-GCA	GCAGTCAAATGCTCTACCACTG
STAT4-Forward	CCTGACATTCCCAAAGACAAAGC
STAT4- Reverse	TCTCTCAACACCGCATAACACAC
PCNP-Forward	CAACAAAGCCTACAAAGATCTCCAA
PCNP-Reverse	AGCTGCTGCTACTGAAAGAGTTTTT
CRISPLD2-Forward	CGGACGAGATGAATGAGGTG
CRISPLD2-Reverse	TGACCGCAGAGGTT TTCTTG
U6-Forward	GGAACGATACAGAGAAGATTAGC
U6- Reverse	TGGAACGCTTCACGAATTTGCG
GAPDH-Forward	AAGAAGGTGGTGAAGCAGGC
GAPDH-Reverse	TCCACCACCCAGTTGCTGTA

Figure S1

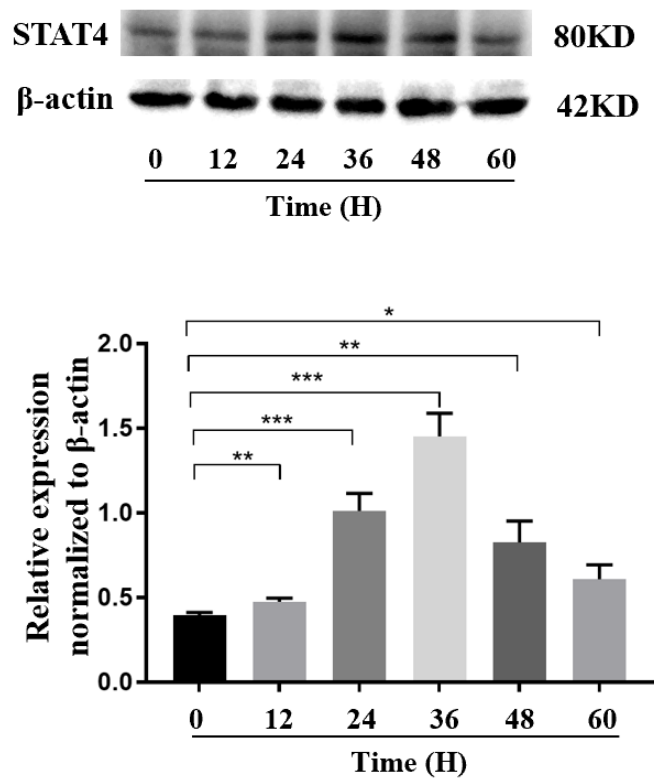


Figure S1. Western blotting analyses were conducted to measure the protein expression level of STAT4 after knockdown of 5'-tiRNA-Cys-GCA in VSMCs. Data are presented as mean  $\pm$  SD. Each experiment was repeated at least three times. \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001; \*\*\*\*p < 0.0001; ns, not significant.

Figure S2

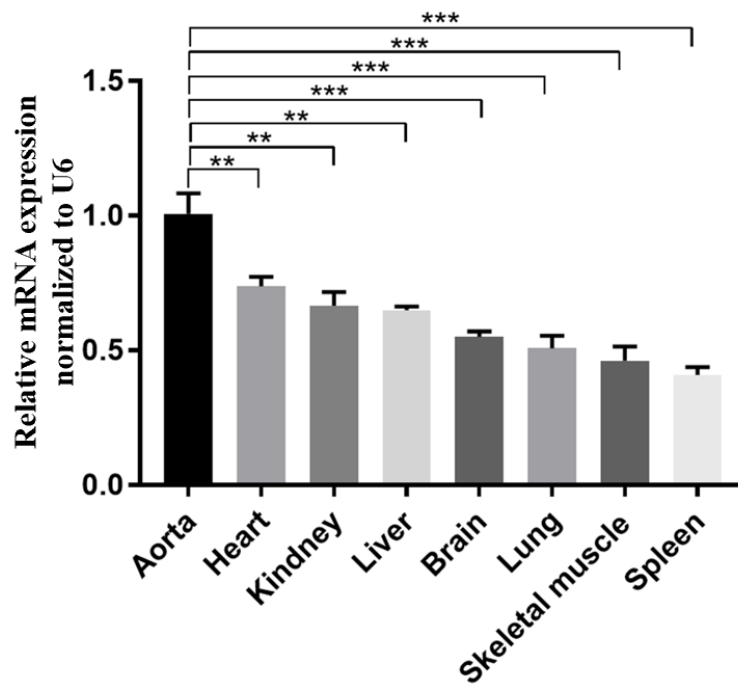


Figure S2. RT-qPCR was used to detect the expression level of 5'-tRNA-Cys-GCA in various organs of mice. Data are presented as mean  $\pm$  SD. Each experiment was repeated at least three times. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; \*\*\*\* $p < 0.0001$ ; ns, not significant.