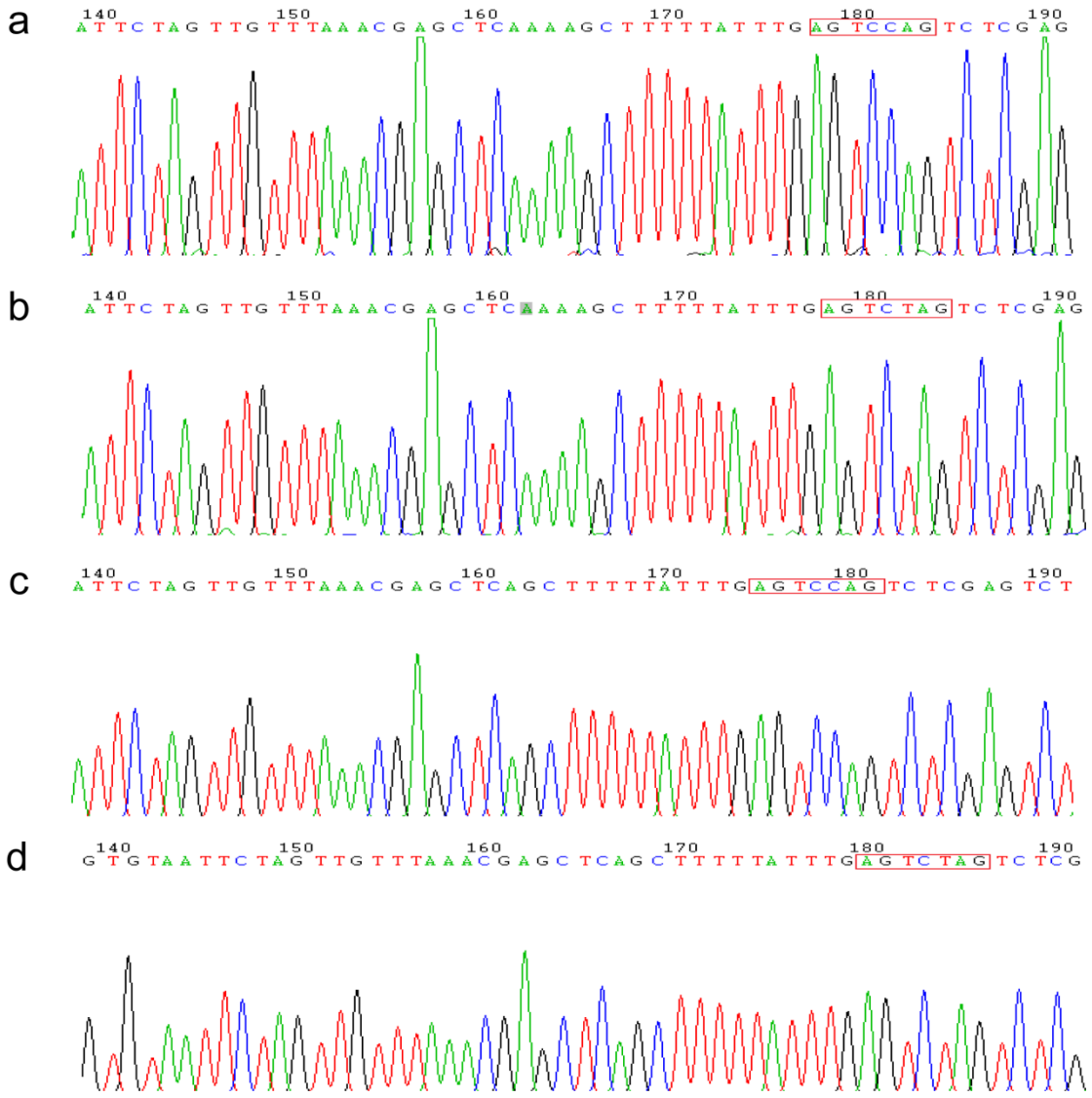

Fig. S1 Sequencing results for recombinant vectors a: Sequencing results for the rs12607853-378c-C construct. The red square (No. 178-184) AGTCCAG were the hsa-miR-378c binding sequences and the rs12607853 C allele was located at No. 182. b: Sequencing results for the rs12607853-378c-T construct. The red square (No. 178-184) AGTCTAG was the hsa-miR-378c binding sequences and the rs12607853 T allele was located at No. 182. c: Sequencing results for the rs12607853-422a-C construct. The red square (No. 175-181) AGTCCAG were the hsa-miR-422a binding sequences and the rs12607853 C allele was located at No. 179. d: Sequencing results for the rs12607853-422a-T construct. The red square (No. 180-186) AGTCTAG were

the hsa-miR-422a binding sequences and the rs12607853 T allele was located at No. 184.

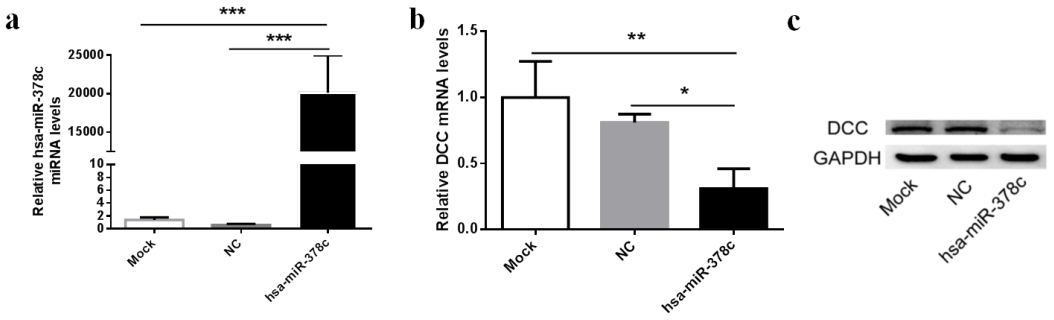

Fig. S2 DCC expression was inhibited by hsa-miR-378c. a-c : The relative expression of hsa-miR-378c , DCC mRNA and protein in SH-SY5Y cells after transfection with hsa-miR-378c or NC. Data were obtained from three independent experiments.* indicates $P<0.05$, ** indicates $P<0.01$ and *** indicates $P<0.001$ (one-way ANOVA). The data of a-c were presented as the mean ±Standard Deviation (SD).

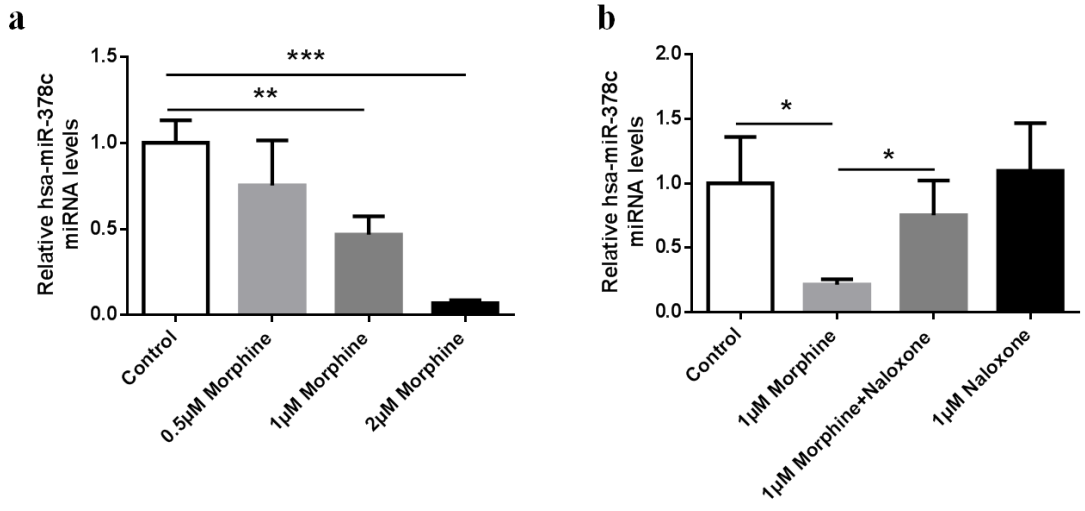

Fig. S3 Morphine altered hsa-miR-378c and DCC mRNA expression, and naloxone reversed the expression changes of hsa-miR-378c. a: The results obtained when hsa-miR-378c was incubated with different concentrations of morphine (0.5–2 μM). b:

The results obtained when hsa-miR-378c was incubated with 1 μM morphine and 1μM naloxone. Data were obtained from three independent experiments. * indicates $P<0.05$, ** indicates $P<0.01$, *** indicates $P<0.001$. a and c were analysed by one-way ANOVA, b and d were analysed by Student's t-test. The data of a-d were presented as the mean ±Standard Deviation (SD).