

Figure S1 Differentially expressed miRNAs (DEMiRs) and differentially expressed genes (DEGs) in the process of glycoprotein-induced vascular endothelial cell injury. A, Number of differentially expressed miRNAs (DEMiRs) and differentially expressed mRNA (DEGs). B, Heat map showing time-course fold changes of DEMiRs in glycoprotein-induced vascular endothelial cell injury. A red block indicates up-regulated genes and a green block indicates down-regulated genes.

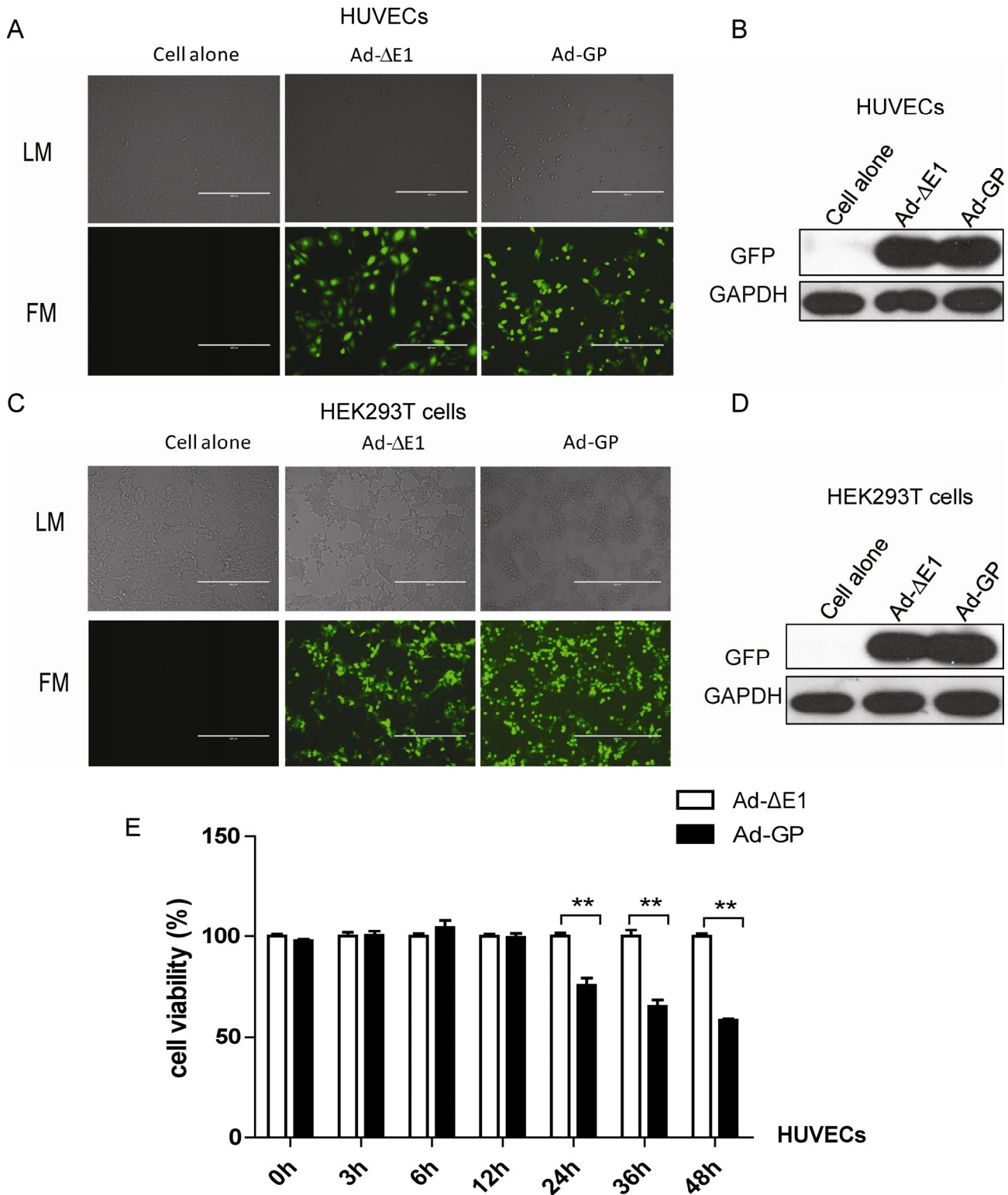


Figure S2 Ebola virus GP expression induced cell rounding and death. Adenovirus vectors expressing EboZ GP or mock were used to transduce primary HUVECs (MOI, 500) (A) and 293T cells (MOI, 1) (C). The cells were monitored at regular intervals for evidence of cell rounding, and representative photographs were taken at 48 h post-transduction. B and D, Western blotting analysis of the expression level of green fluorescent protein (GFP protein). E, MTS assay results for HUVECs transduced with Ad-GP or Ad- Δ E1 (MOI, 500) for 3, 6, 12, 24, 36, and 48 h. **, $P < 0.01$, Ad-GP vs. Ad- Δ E1.

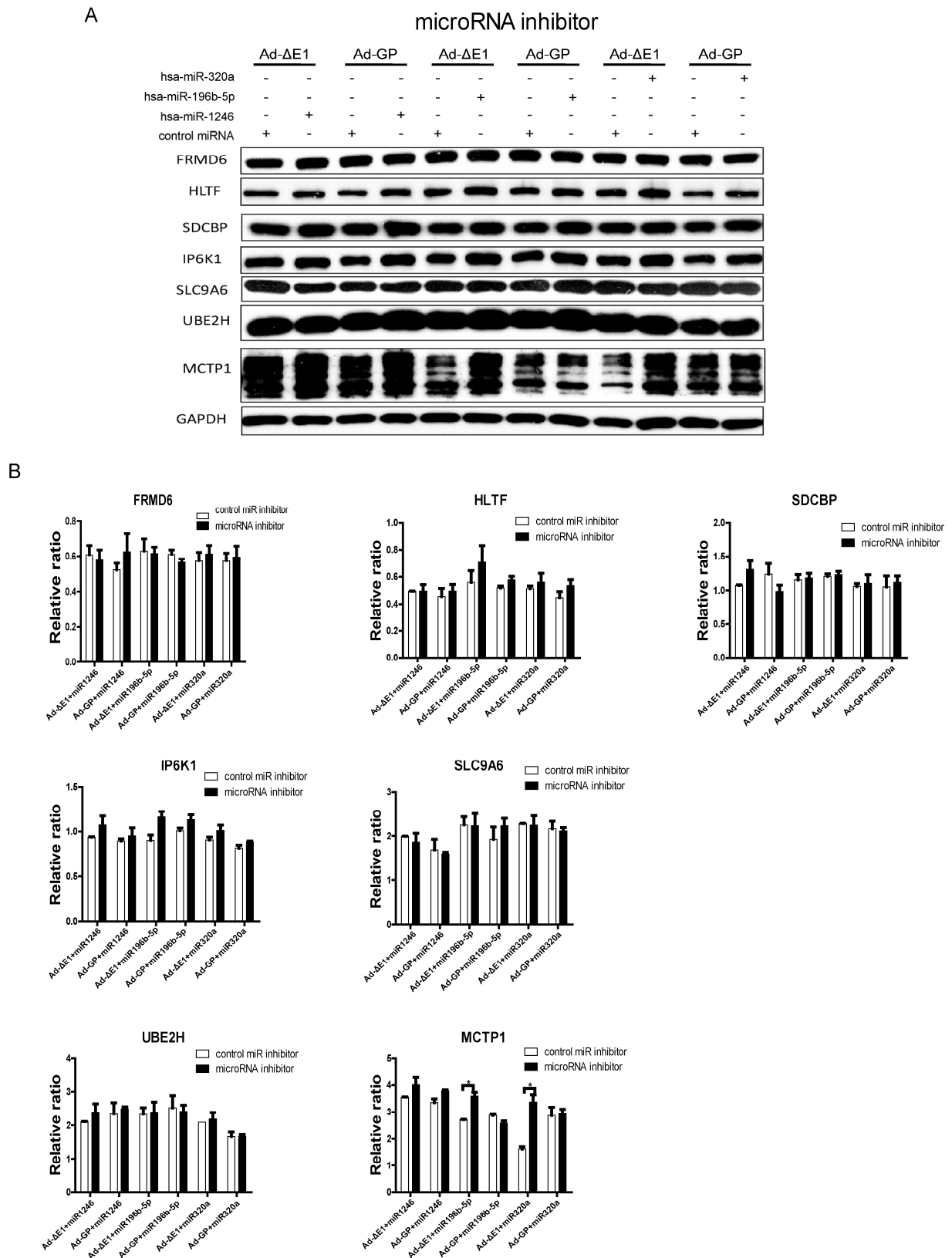


Figure S3 Analysis of target genes of miRNAs by Western blot. A, Hsa-miR1246, hsa-miR320a and hsa-miR196b-5p inhibitors (final concentration, 100 nmol L⁻¹) were transfected into HUVECs 24 h before the cells were exposed to Ad-GP and Ad-ΔE1 (MOI, 500). Target gene expression was analyzed at 24 h post-transduction by Western blot. The blots were analyzed with antibodies against the indicated proteins. B, The bar graph shows the FRMD6/GAPDH, HLTF/GAPDH, SDCBP/GAPDH, IP6K1/GAPDH, SLC9A6/GAPDH, UBE2H/GAPDH and MCTP1/GAPDH relative ratios from three experiments. *, *P*<0.05.

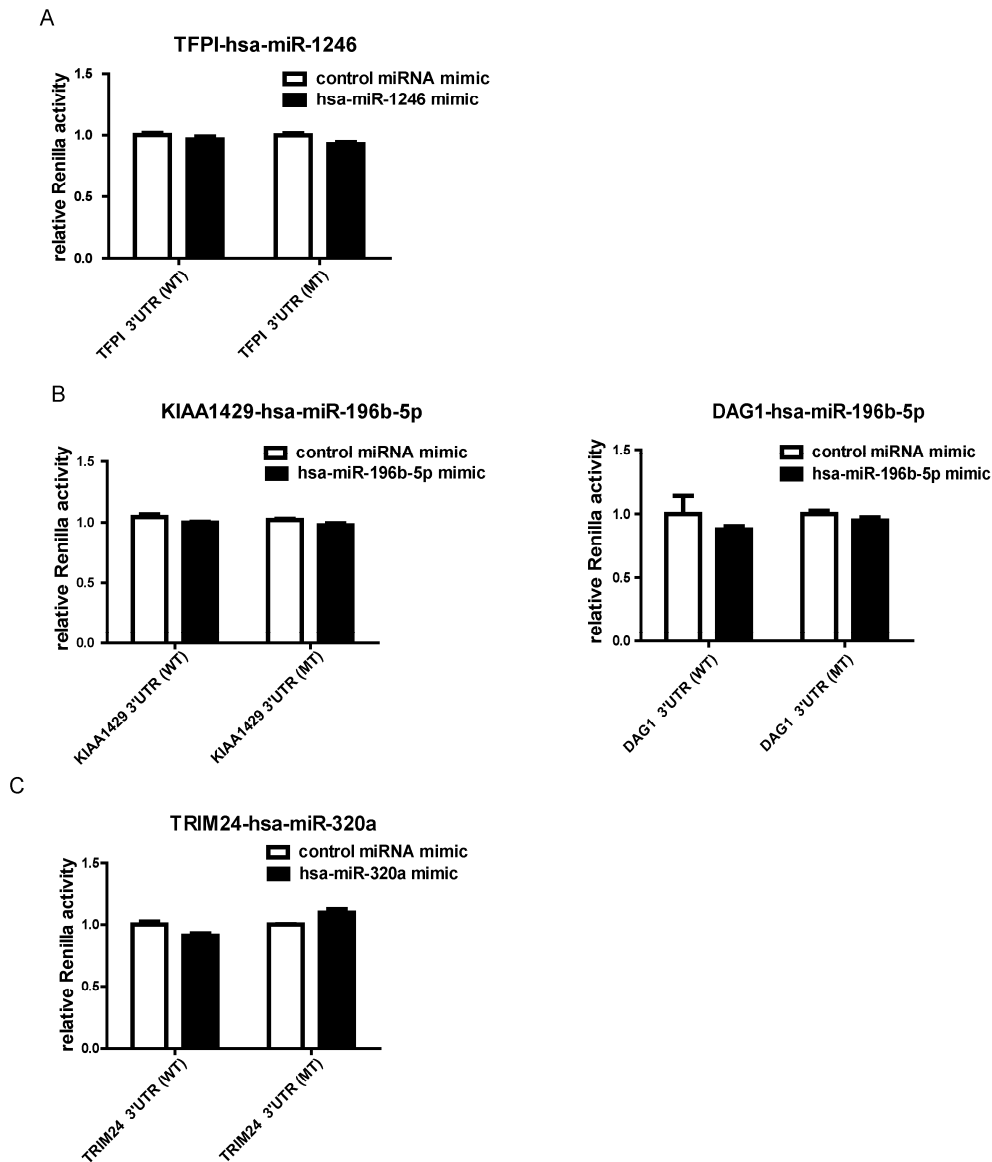


Figure S4 Analysis of miRNA target genes by luciferase. A, Relative luciferase activity assays of Renilla luciferase reporters with *TFPI* wild-type or mutant 3' UTRs were performed in HEK293T cells after transfection with control mimic or hsa-miR-1246 mimic. Luciferase activity was determined 48 h after transfection and was normalized to the firefly luciferase activity. The values represent the mean \pm SEM of three experiments from three independent assays. B, Relative luciferase activity assays of Renilla luciferase reporters with *KIAA1429* or *DAG1* wild-type or mutant 3' UTRs were performed in HEK293T cells after transfection with mimic control or mimic hsa-miR-196b-5p. Luciferase activity was determined 48 h after transfection and was normalized to the firefly luciferase activity. The values represent the mean \pm SEM of three experiments from three independent assays. C, Relative luciferase activity assays of Renilla luciferase reporters with *TRIM24* wild-type or mutant 3' UTRs were performed in HEK293T cells after transfection with control mimic or hsa-miR-320a mimic. Luciferase activity was determined 48 h after transfection and was normalized to the firefly luciferase activity. The values represent the mean \pm SEM of three experiments from three independent assays.

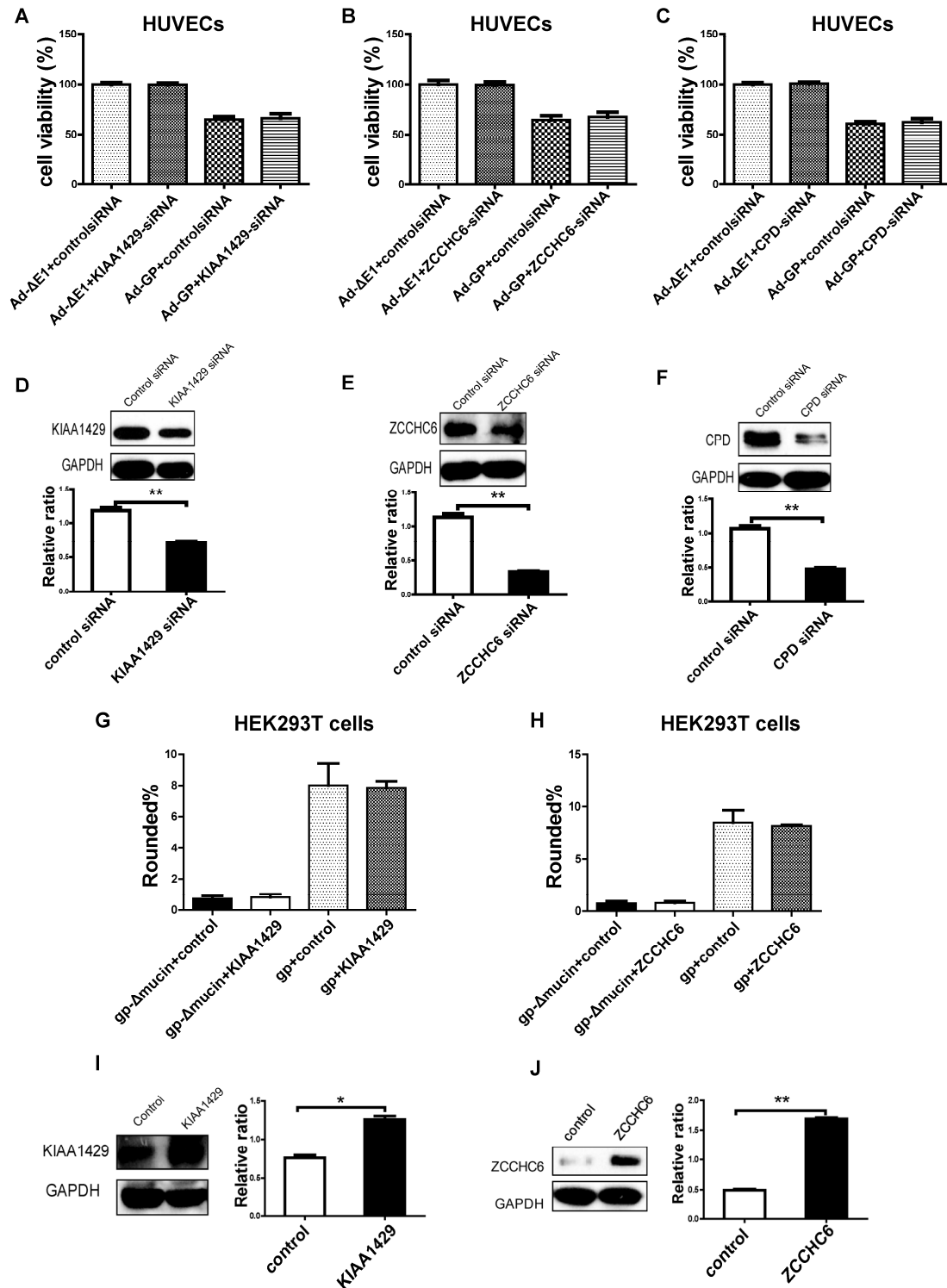


Figure S5 KIAA1429, ZCCHC6 and CPD could not ameliorate Ebola virus GP-induced cytotoxicity. Control siRNA or KIAA1429-specific siRNA (A)/ZCCHC6-specific siRNA (B)/CPD-specific siRNA (C) were transfected into HUVECs 24 h before the cells were exposed to Ad-GP and Ad-ΔE1 (MOI, 500), cell viability was assayed by MTS at 48 h after transduction. The data are from three experiments. Western blotting analysis of the effectiveness of KIAA1429 (D), ZCCHC6 (E) or CPD (F) knockdown in HUVECs. The bar graph indicates KIAA1429/GAPDH, ZCCHC6/GAPDH and CPD/GAPDH relative ratios. The data are shown as the mean±SEM of three experiments. **, $P<0.01$. HEK293T cells were cotransfected with 0.5 μg of EboZ GP or EboZ GPΔmucin and 0.5 μg of control plasmid/Peak13-KIAA1429 (G)/Peak13-ZCCHC6 (H). The cells were incubated for 48 h, and both floating and adherent cells were counted to calculate percent rounding. The data are from three experiments. Western blotting analysis of the effectiveness of overexpression of KIAA1429 (I) or ZCCHC6 (J) in HEK293T cells. The bar graph indicates the KIAA1429/GAPDH and ZCCHC6/GAPDH relative ratios. The data are shown as the mean±SEM of three experiments. *, $P<0.05$; **, $P<0.01$.

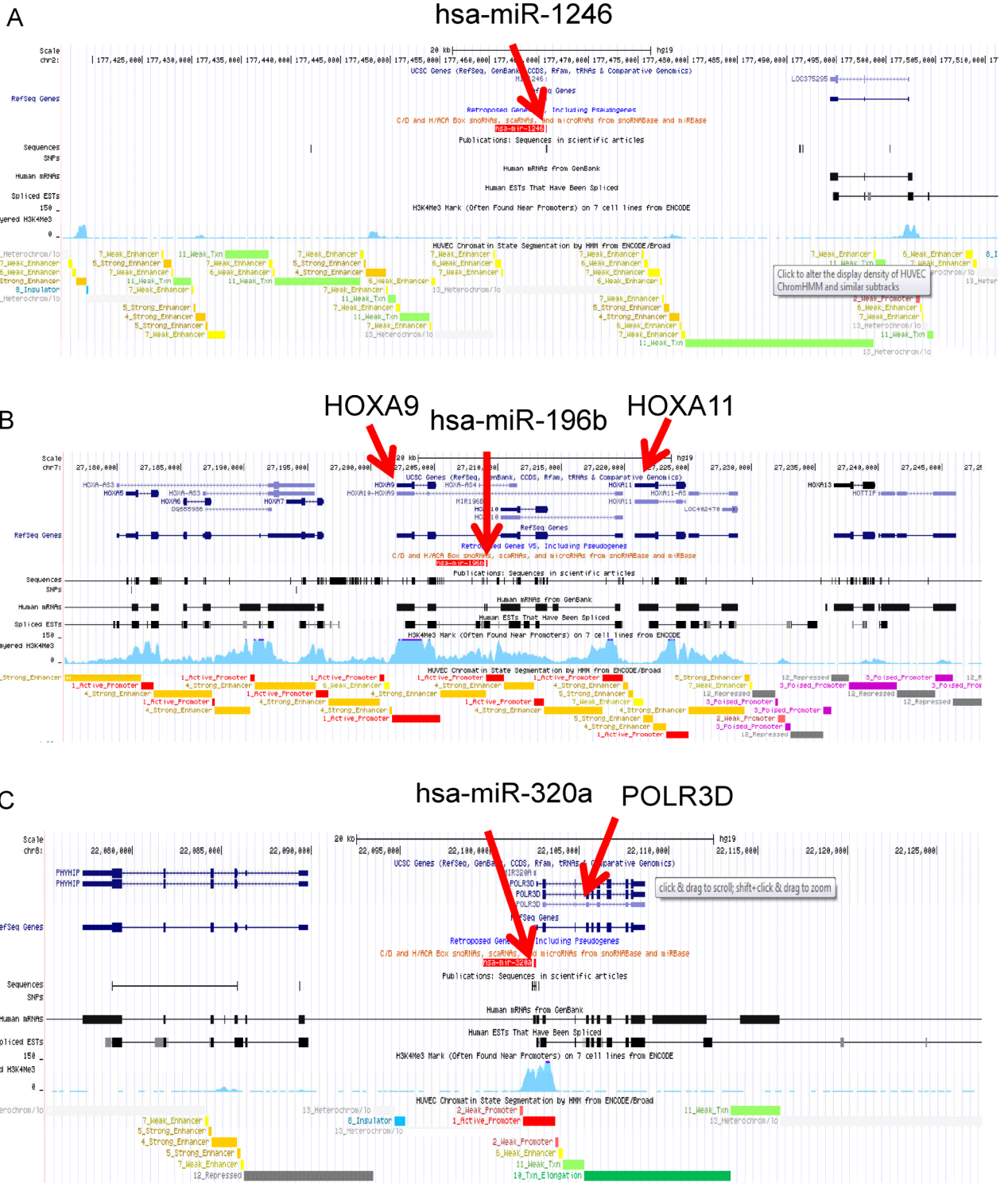


Figure S6 Genomic locations of microRNAs hsa-miR-1246, hsa-miR-196b-5p and hsa-miR-320a. Different genomic locations of microRNAs hsa-miR-1246, hsa-miR-196b-5p and hsa-miR-320a were analyzed by the UCSC data base (<http://genome.ucsc.edu/cgi-bin/hgGateway>).

Table S1 Primer sequences

GP Δ mucin (AA1-311)	CATGCTAGCCATGGGCGTTACAGGA	GTCCTGGTGGTGGGTGTTGACCACGGTGAAGCTCAG
GP Δ mucin(AA463-676)	CTGAGCTTACCCTGGTCAACACCCACCACCAGGAC	CCTGCGGCCGCCTATTAGAACACGAACTTGCA
TFPI	CATGCTAGCCATGATTTACACAATGAAGAAAGTAC	CGCGCGCCGCTTACTTGTTCATCGTCGTCC TTGTAGTCCATATTTTTAACAAAATTTTC
DAG1	CATGCTAGCCATGAGGATGTCTGTGGGCCT	CGCGCGCCGCTTACTTGTTCATCGTCGTCC TTGTAGTCAGGTGGGACATAGGGAGGAG
CFLAR	CATGCTAGCCATGTCTGCTGAAGTCATCCATCAGG	CGCGCGCCGCTTACTTGTTCATCGTCGTCC TTGTAGTCTGTGTAGGAGAGGATAAG
KIAA1429	ATA GCTAGC ATGGCGGTG GACTCGGCGA	TATGCGGCCGCTTAAAAAGTGTACTGCAGTCATTT
ZCCHC6	ATA GCTAGC ATGGGAGATA CAGCAAAA	TATGCGGCCGCTCATGATTCTCTGCTGGGT

Table S2 Primary antibodies

Product name	Company, code	Dilution
anti-TFPI rabbit monoclonal antibody	Epitomics, RabMAb5853-1	1/1000
anti-DAG1 rabbit polyclonal antibody	Abcam, ab105504	1/1000
anti-CFLAR rabbit monoclonal antibody	cst, 8510	1/500
anti-ZCCHC6 mouse polyclonal antibody	Abcam, ab76901	1/200
anti-CPD rabbit polyclonal antibody	Abcam, ab153874	1/500
anti-TRIM24 rabbit polyclonal antibody	Abcam, ab70560	1/1000
anti-KIAA1429 rabbit polyclonal antibody	Abcam, ab11011	1/1000
anti-FRMD6 rabbit polyclonal antibody	Abcam, ab121133	1/500
anti-HLTF rabbit polyclonal antibody	Abcam, ab155031	1/500
anti-SDCBP rabbit monoclonal antibody	Epitomics, RabMAb 5913-1	1/2000
anti-IP6K1 rabbit polyclonal antibody	Abcam, ab96210	1/500
anti-SLC9A6 mouse monoclonal antibody	Abcam, ab77110	1/200
anti-UBE2H mouse monoclonal antibody	Abcam, ab58261	1/1000
anti-MCTP1 rabbit polyclonal antibody	Abcam, ab83673	1/500
anti-GAPDH rabbit monoclonal antibody	Epitomic, RabMAb 5632-1	1/2000
anti flag-tag mouse mAb	Multisciences, LK-ab002-100	1/5000

Table S3 Expression fold change of 18 miRNAs which were found to be significantly differentially expressed in the GP-induced HUVECs

No.	miRNA	3 h	6 h	12 h	24 h	36 h	48 h	Order of oligonucleotides
1	hsa-miR-151a-5p	1.269094	1.147848	1.662109	1.293469	0.974547	1.110217	inhibitor
2	hsa-miR-152	0.532175	0.52408	1.425069	1.167242	1.016099	0.778609	inhibitor
3	hsa-miR-22-3p	-0.05163	0.984645	1.364907	1.054959	0.05183	0.886469	inhibitor
4	hsa-miR-196b-5p	0.395463	1.028573	1.152811	1.206606	0.400748	-0.04454	inhibitor
5	hsa-miR-424-5p	0.195012	-0.44247	1.304861	1.030804	-0.46495	1.008352	inhibitor
6	hsa-miR-374a-5p	1.14883	-1.17302	1.207216	0.259833	-0.03382	0.845957	both
7	hsa-miR-24-3p	0.880868	1.111113	0.761909	0.401233	0.207918	0.998961	inhibitor
8	hsa-miR-744-5p	0.998487	1.339037	0.881082	0.594796	-0.05134	0.599302	inhibitor
9	hsa-miR-222-3p	1.497371	1.559117	0.405156	0.129881	0.382795	1.230315	inhibitor
10	hsa-miR-4521	0.956015	1.138905	-0.08723	-0.8054	-0.33448	1.147574	both
11	hsa-miR-34a-5p	1.262469	0.897093	0.005463	0.158376	-1.07796	0.41306	inhibitor
12	hsa-miR-1246	2.541367	2.950668	-0.64206	-0.24144	0.248045	-0.24214	both
13	hsa-miR-93-5p	0.361414	1.102215	-0.39996	-0.15847	-0.12624	-0.23836	both
14	hsa-miR-193a-5p	0.543579	1.261469	-0.93546	-0.61432	-0.62781	-0.19474	both
15	hsa-miR-320a	0.067418	1.107549	-0.9758	-0.6253	-0.584	-0.44248	both
16	hsa-miR-15b-5p	0.599424	-0.61668	-0.36254	-1.02625	-1.75719	0.400898	mimic
17	hsa-miR-29a-3p	-0.6986	-0.22843	-1.56439	-1.0775	-0.69906	-0.29281	mimic
18	hsa-miR-29c-3p	-0.47883	-0.45975	-1.78741	-1.26871	-1.35619	-0.31176	mimic