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Supplemental Information

Oncogenic ZEB2/miR-637/HMGA1 signaling

axis targeting vimentin promotes

the malignant phenotype of glioma

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-	Ī	1			Ü	ī	Ĩ			Shift Free probe
1	2	3	4	5	6	7	8	9	10	
+	-	-	-	-	+	-	-	-	-	ZEB2 plasmid
-	+	-	-	-	-	+	-	-	-	NC plasmid
-	-	+	-	-	-	-	-	+	-	Site 1 WT
-	-	-	+	-	-	-	+	-	-	Site 1 Mut
+	+	+	+	-	+	+	+	+	-	Extracts
+	+	+	+	+	+	+	+	+	+	DNA probe
	ι	J 251			5		U87			-

Figure S1. EMSA analysis was performed to confirm the ZEB2 binding site 1 in the miR-637 promoter. EMSA analysis was performed with nuclear extraction from U251 and U87 glioma cells after incubation with DIG-ddUTP-labelled oligonucleotide probes (lanes 1–4, 6–9). The free probes of labelled ZEB2-recognized probes were set as a negative control (lane 5&10, compared with lanes 2 and 7). Nuclear extractions from ZEB2 overexpressing glioma cells were set as a positive control (lane 1 and 6, compared with lane 2 and 7). Unlabeled wild-type ZEB2 site 1 probes (lanes 3 and 9, compared with lanes 2 and 7) and unlabeled mutant ZEB2 site 1 probes (lanes 4 and 8, compared with lanes 2 and 7) were used to compete with ZEB2 binding, respectively.

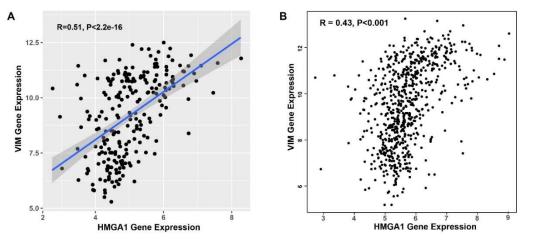


Figure S2. Correlation analysis between expression level of HMGA1 and Vimentin was performed based on CGGA glioma cohort (A) and TCGA glioma cohort(B), respectively.

Gene Name	Sequences	
miR-637	sense	5'- ACTGGGGGGCTTTCGGGGCTCTGCGT -3',
	anti-sense	general primer using miRNA PrimeScript RI
		Enzyme Mix kit (Takara, Japan)
HMGA1	sense	5'- ATGAACTCCGAAGGCCAGCC -3'
	anti-sense	5'- CCTTCCTAGGTCTGCCTCTTGG -3'.
ACTB	sense	5'-CATGTACGTTGCTATCCAGGC-3'
	anti-sense	5'-CTCCTTAATGTCACGCACGAT-3'
ChIP Primer for Site 1	sense	5'-CCTCTCGAAGTGCAAGGAAG-3'
	anti-sense	5'-AGGCTGCAGTGAGCTAGGAC-3'
ChIP Primer for Site 2	sense	5'-TGCTCTTGTTGTCCAGGTTG-3'
	anti-sense	5'-GGTGAAACCCCGTCTCTTCT-3'

Table S1. Primers used for qPCR or PCR

Table S2. Sequences of siRNA

Construct	Sequence		
siZEB2	5'- GGACACAGGUUCUGAAACA-3'		
siHMGA1	5'-CCAUGAACGAGUUUGAGUA-3'		
siVimentin	5'-GCAGGAUGAGAUUCAGAAUAU-3'		