

Figure S1. Transfection effects on target genes in cells used for western blotting, ChIP, wound healing and Transwell assays. mRNA expression levels of JMJD3 in (A) U-251MG or (B) U-87MG ATCC cells which were transfected with pCMV-HA control vector, scRNA control vector, JMJD3 vector or JMJD3 shRNA vector for 48 h. mRNA expression levels of JMJD3 in (C) U-251MG or (D) U-87MG ATCC cells which were transfected with pCMV-HA control vector, pLV-MCS control vector, JMJD3 vector, CXCL12 vector or JMJD3 vector coupled with AMD3100 for 48 h. mRNA expression levels of CXCL12 in (E) U-251MG or (F) U-87MG ATCC cells which transfected with pCMV-HA control vector, pLV-MCS control vector, CXCL12 vector or CXCL12 vector coupled with GSK-J4 for 48 h. \*\*P<0.01. ATCC, American Type Culture Collection; ChIP, chromatin immunoprecipitation; CXCL12, C-X-C motif chemokine ligand 12; JMJD3, Jumonji domain-containing protein 3; n.s., not significant; scRNA, scrambled RNA; shRNA, short hairpin RNA.

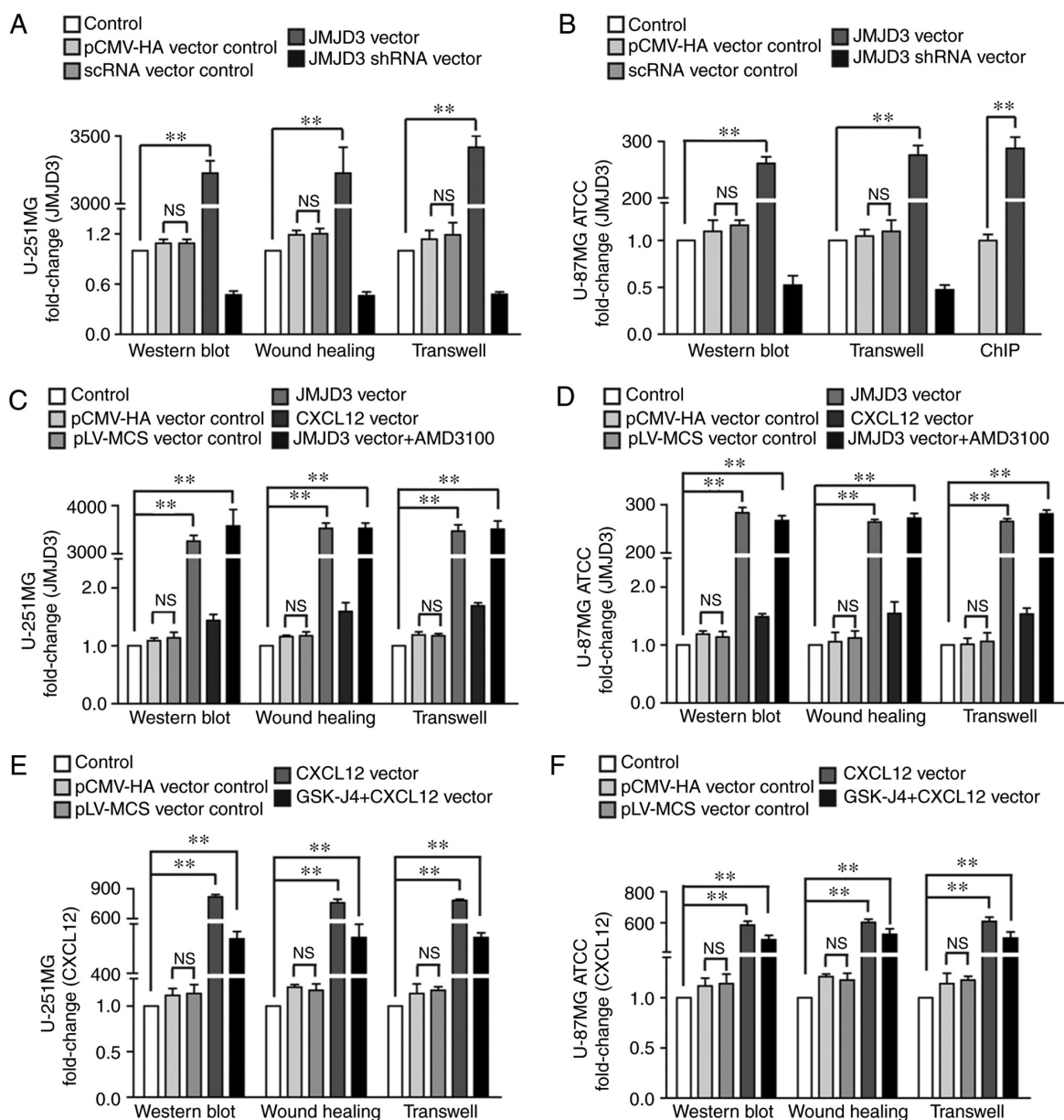


Table S1. Basic information of patients with glioma.

Tissue no.	Histologic type	Neoplastic organ	Sex	Age (years)	Primary organ	Metastasis	Pathological classification	TNM grade
1	Carcinoma	Brain	Female	43	Yes	No	Pilocytic astrocytoma	I
2	Carcinoma	Brain	Male	45	Yes	No	Pilocytic astrocytoma	I
3	Carcinoma	Brain	Female	50	Yes	No	Subependymoma	I-II
4	Carcinoma	Brain	Female	34	Yes	No	Astrocytoma	II
5	Carcinoma	Brain	Female	30	Yes	No	Astrocytoma	II
6	Carcinoma	Brain	Male	39	Yes	No	Astrocytoma	II
7	Carcinoma	Brain	Female	52	Yes	No	Astrocytoma	II
8	Carcinoma	Brain	Female	44	Yes	No	Diffuse astrocytoma	II
9	Carcinoma	Brain	Female	58	Yes	No	Astrocytoma	II
10	Carcinoma	Brain	Male	27	Yes	No	Diffuse astrocytoma	II
11	Carcinoma	Brain	Male	44	Yes	No	Diffuse astrocytoma	II
12	Carcinoma	Brain	Female	43	Yes	No	Diffuse astrocytoma	II
13	Carcinoma	Brain	Female	72	Yes	No	Astrocytoma	II
14	Carcinoma	Brain	Male	56	Yes	No	Astrocytoma	II
15	Carcinoma	Brain	Male	58	Yes	No	Diffuse astrocytoma	II
16	Carcinoma	Brain	Male	65	Yes	No	Diffuse astrocytoma	II
17	Carcinoma	Brain	Female	30	Yes	No	Anaplastic astrocytoma	III
18	Carcinoma	Brain	Male	51	Yes	No	Anaplastic astrocytoma	III
19	Carcinoma	Brain	Female	62	Yes	No	Anaplastic astrocytoma	III
20	Carcinoma	Brain	Female	36	Yes	No	Anaplastic astrocytoma	III
21	Carcinoma	Brain	Male	61	Yes	No	Astrocytoma	III
22	Carcinoma	Brain	Female	57	Yes	No	Anaplastic astrocytoma	III
23	Carcinoma	Brain	Female	73	Yes	No	Anaplastic astrocytoma	III
24	Carcinoma	Brain	Female	50	Yes	No	Anaplastic astrocytoma	III
25	Carcinoma	Brain	Male	60	Yes	No	Anaplastic astrocytoma	III
26	Carcinoma	Brain	Male	65	Yes	No	Anaplastic astrocytoma	III
27	Carcinoma	Brain	Female	63	Yes	No	Anaplastic astrocytoma	III
28	Carcinoma	Brain	Male	31	Yes	No	Anaplastic astrocytoma	III
29	Carcinoma	Brain	Female	64	Yes	No	Anaplastic astrocytoma	III
30	Carcinoma	Brain	Female	64	Yes	No	Anaplastic astrocytoma	III-IV
31	Carcinoma	Brain	Male	56	Yes	No	Anaplastic astrocytoma	III-IV
32	Carcinoma	Brain	Female	49	Yes	No	Astrocytoma	IV
33	Carcinoma	Brain	Male	34	Yes	No	Glioblastoma multiforme	IV
34	Carcinoma	Brain	Male	59	Yes	No	Glioblastoma multiforme	IV
35	Carcinoma	Brain	Male	59	Yes	No	Glioblastoma multiforme	IV
36	Carcinoma	Brain	Male	65	Yes	No	Glioblastoma multiforme	IV
37	Carcinoma	Brain	Female	63	Yes	No	Glioblastoma multiforme	IV
38	Carcinoma	Brain	Female	72	Yes	No	Glioblastoma	IV
39	Carcinoma	Brain	Male	48	Yes	No	Glioblastoma	IV
40	Carcinoma	Brain	Male	54	Yes	No	Glioblastoma	IV
41	Carcinoma	Brain	Female	64	Yes	No	Glioblastoma	IV
42	Carcinoma	Brain	Male	65	Yes	No	Glioblastoma	IV
43	Carcinoma	Brain	Male	58	Yes	No	Glioblastoma	IV
44	Carcinoma	Brain	Female	66	Yes	No	Glioblastoma	IV
45	Carcinoma	Brain	Female	48	Yes	No	Glioblastoma	IV
46	Carcinoma	Brain	Male	56	Yes	No	Glioblastoma	IV
47	Carcinoma	Brain	Female	61	Yes	No	Glioblastoma	IV
48	Carcinoma	Brain	Female	60	Yes	No	Glioblastoma	IV
49	Carcinoma	Brain	Male	56	Yes	No	Glioblastoma	IV
50	Carcinoma	Brain	Female	75	Yes	No	Glioblastoma	IV
51	Carcinoma	Brain	Male	57	Yes	No	Glioblastoma	IV
52	Carcinoma	Brain	Male	35	Yes	No	Glioblastoma	IV
53	Carcinoma	Brain	Male	70	Yes	No	Glioblastoma	IV
54	Carcinoma	Brain	Male	64	Yes	No	Glioblastoma	IV
55	Carcinoma	Brain	Male	63	Yes	No	Glioblastoma	IV

Table SI. Continued.

Tissue no.	Histologic type	Neoplastic organ	Sex	Age (years)	Primary organ	Metastasis	Pathological classification	TNM grade
56	Carcinoma	Brain	Female	53	Yes	No	Glioblastoma	IV
57	Carcinoma	Brain	Female	65	Yes	No	Glioblastoma	IV
58	Carcinoma	Brain	Male	56	Yes	No	Glioblastoma	IV
59	Carcinoma	Brain	Female	63	Yes	No	Glioblastoma	IV
60	Carcinoma	Brain	Male	59	Yes	No	Glioblastoma	IV