

**Supplementary table 1.** Combined genotypes of *VEGFA* and *KDR* single nucleotide polymorphisms in high grade glioma cases and controls.

<b>Genotypes</b>	<b>Cases (No, %)</b>	<b>Controls (No, %)</b>	<b>p value</b>	<b>OR (95% CI)</b>
<b><i>VEGFA</i> -2578C/A + <i>KDR</i> -604T/C</b>				
CC + TT	23 (21.7)	21 (18.6)	0.52	1.24 (0.63 – 2.46)
CA+AA + TC+CC	83 (78.3)	92 (81.4)		Reference
CC+CA + TT+TC	133 (96.4)	119 (93.7)	0.47	1.53 (0.47 – 4.99)
AA + CC	5 (3.6)	8 (6.3)		Reference
<b><i>VEGFA</i> -2578C/A + <i>KDR</i> -271G/A</b>				
CC + AA	28 (25.5)	20 (17.7)	0.25	1.47 (0.75 – 2.90)
CA+AA + GG+GA	82 (74.5)	93 (82.3)		Reference
CC+CA + GA+AA	139 (97.2)	118 (92.2)	0.13	2.52 (0.75 – 8.41)
AA + GG	4 (2.8)	10 (7.8)		Reference
<b><i>VEGFA</i> -2578C/A + <i>KDR</i> +1192G/A</b>				
CC + GG	75 (72.8)	53 (58.9)	0.09	1.69 (0.91 – 3.14)
CA+AA + GA+AA	28 (27.2)	37 (41.1)		Reference
CC+CA + GG+GA	186 (100.0)	161 (98.8)	NA	NA
AA + AA	0 (0.0)	2 (1.2)		Reference
<b><i>VEGFA</i> -2578C/A + <i>KDR</i> +1719A/T</b>				
CC + TT	68 (63.0)	51 (56.7)	0.41	1.27 (0.71 – 2.28)
CA+AA + AA+AT	40 (37.0)	39 (43.3)		Reference
CC+CA + AT+TT	183 (100.0)	159 (98.1)	NA	NA

AA + AA	0 (0.0)	3 (1.9)		Reference
<b>VEGFA -2489C/T + KDR -604T/C</b>				
TT + TT	4 (2.7)	10 (7.8)	0.12	0.38 (0.11 – 1.29)
CC+CT + TC+CC	144 (97.3)	118 (92.2)		Reference
CT+TT + TT+TC	79 (71.8)	94 (81.7)	0.08	0.56 (0.29 – 1.08)
CC + CC	31 (28.2)	21 (18.3)		Reference
<b>VEGFA -2489C/T + KDR -271G/A</b>				
TT + AA	3 (2.1)	9 (7.0)	0.14	0.36 (0.09 – 1.40)
CC+CT + GG+GA	137 (97.9)	119 (93.0)		Reference
CT+TT + GA+AA	80 (76.2)	94 (79.7)	0.52	0.80 (0.42 – 1.55)
CC + GG	25 (23.8)	24 (20.3)		Reference
<b>VEGFA -2489C/T + KDR +1192G/A</b>				
TT + GG	13 (22.8)	27 (35.1)	0.06	0.40 (0.17 – 0.90)
CC+CT + GA+AA	44 (77.2)	50 (64.9)		Reference
CT+TT + GG+GA	108 (98.2)	125 (96.9)	0.59	1.63 (0.27 – 9.70)
CC + AA	2 (1.8)	4 (3.1)		Reference
<b>VEGFA -2489C/T + KDR +1719A/T</b>				
TT + TT	18 (23.1)	30 (40.0)	0.05	0.36 (0.16 – 0.80)
CT+TT + AA+AT	60 (76.9)	50 (60.0)		Reference
CT+TT + AT+TT	104 (99.0)	122 (96.8)	0.18	4.49 (0.48 – 41.87)
CC + AA	1 (1.0)	4 (3.2)		Reference
<b>VEGFA -1154G/A + KDR -604T/C</b>				

GG + TT	30 (32.3)	26 (26.0)	0.32	1.37 (0.73 – 2.58)
GA+AA + TC+CC	63 (67.7)	74 (74.0)		Reference
GG+GA + TT+TC	0 (0.0)	0 (0.0)	NA	NA
AA + CC	136 (100.0)	132 (100.0)		Reference
<b>VEGFA -1154G/A + KDR -271G/A</b>				
GG + AA	35 (36.1)	22 (23.4)	0.13	1.65 (0.85 – 3.18)
GA+AA + GG+GA	62 (63.9)	72 (76.6)		Reference
GG+GA + GA+AA	140 (97.9)	128 (97.0)	0.79	1.23 (0.26 – 5.78)
AA + GG	3 (2.1)	4 (3.0)		Reference
<b>VEGFA -1154G/A + KDR +1192G/A</b>				
GG + GG	92 (83.6)	70 (69.3)	0.05	1.97 (0.99 – 3.90)
GA+AA + GA+AA	18 (16.4)	31 (30.7)		Reference
GG+GA + GG+GA	188 (100.0)	178 (98.3)	NA	NA
AA + AA	0 (0.0)	3 (1.7)		Reference
<b>VEGFA -1154G/A + KDR +1719A/T</b>				
GG + TT	83 (74.8)	69 (67.0)	0.25	1.42 (0.77 – 2.62)
GA+AA + AA+AT	28 (25.2)	34 (33.0)		Reference
GG+GA + AT+TT	185 (100.0)	172 (100.0)	NA	NA
AA + AA	0 (0.0)	0 (0.0)		Reference
<b>VEGFA -634G/C + KDR -604T/C</b>				
CC + TT	7 (5.2)	5 (3.7)	0.54	1.46 (0.42 – 5.00)
GC+CC + TC+CC	128 (94.8)	129 (96.3)		Reference

CC+GC + TT+TC	97 (84.3)	88 (76.5)	0.14	1.66 (0.83 – 3.29)
GG + CC	18 (15.7)	27 (23.5)		Reference
<b>VEGFA -634G/C + KDR -271G/A</b>				
CC + AA	6 (4.7)	5 (3.7)	0.73	1.25 (0.35 – 4.46)
GG+GC + GG+GA	121 (95.3)	131 (96.3)		Reference
GC+CC + GA+AA	101 (87.1)	82 (77.4)	0.13	1.74 (0.84 – 3.60)
GG + GG	15 (12.9)	24 (22.6)		Reference
<b>VEGFA -634G/C + KDR +1192G/A</b>				
CC + GG	30 (40.5)	20 (26.0)	0.14	1.69 (0.82 – 3.46)
GG+ GC + GA+AA	44 (59.5)	57 (74.0)		Reference
GC+CC + GG+GA	138 (99.3)	113 (96.6)	0.19	4.45 (0.46 – 42.80)
GG + AA	1 (0.7)	4 (3.4)		Reference
<b>VEGFA -634G/C + KDR +1719A/T</b>				
CC + TT	25 (30.1)	17 (22.7)	0.38	1.38 (0.66 – 2.88)
GG+GC + AA+AT	58 (69.9)	58 (77.3)		Reference
GC+CC + AT+TT	136 (98.6)	110 (96.5)	0.40	2.09 (0.37 – 11.86)
GG + AA	2 (1.4)	4 (3.5)		Reference
<b>VEGFA -460C/T + KDR -604T/C</b>				
TT + TT	19 (17.0)	20 (17.2)	0.97	0.99 (0.49 – 2.00)
CC+CT + TC+CC	93 (83.0)	96 (82.8)		Reference
CT+TT + TT+TC	124 (94.7)	116 (90.6)	0.21	1.87 (0.69 – 5.08)

CC + CC	7 (5.3)	12 (9.4)		Reference
<b>VEGFA -460C/T + KDR -271G/A</b>				
TT + AA	21 (19.1)	17 (15.2)	0.63	1.19 (0.57 – 2.49)
CC+CT + GG+GA	89 (80.9)	95 (84.8)		Reference
CT+TT + GA+AA	132 (94.3)	112 (91.1)	0.49	1.40 (0.53 – 3.68)
CC + GG	8 (5.7)	11 (8.9)		Reference
<b>VEGFA -460C/T + KDR +1192G/A</b>				
TT + GG	64 (67.4)	50 (56.2)	0.18	1.50 (0.81 – 2.77)
CC+CT + GA+AA	31 (32.6)	39 (43.8)		Reference
CT+TT + GG+GA	175 (100.0)	154 (98.7)	NA	NA
CC + AA	0 (0.0)	2 (1.3)		Reference
<b>VEGFA -460C/T + KDR +1719A/T</b>				
TT + TT	57 (57.0)	48 (53.9)	0.72	1.11 (0.62 – 1.99)
CC+CT + AA+AT	43 (43.0)	41 (46.1)		Reference
CT+TT + AT+TT	173 (99.4)	152 (98.1)	0.37	2.84 (0.28 – 28.14)
CC + AA	1 (0.6)	3 (1.9)		Reference
<b>KDR -604T/C + -271G/A</b>				
TT + AA	0 (0.0)	3 (3.0)	NA	NA
TC+CC + GG+GA	103 (100.0)	96 (97.0)		Reference
TT+TC + GA+AA	91 (98.9)	92 (97.9)	0.47	2.46 (0.20 – 30.13)
CC + GG	1 (1.1)	2 (2.1)		Reference

**KDR -604T/C + +1192G/A**

TT + GG	43 (48.9)	42 (47.7)	0.85	1.05 (0.58 – 1.93)
TC+CC + GA+AA	45 (51.1)	46 (52.3)		Reference
TT+TC + GG+GA	143 (98.6)	145 (97.3)	0.85	1.18 (0.19 – 7.14)
CC + AA	2 (1.4)	4 (2.7)		Reference

**KDR -604T/C + +1719A/T**

TT + TT	26 (35.6)	38 (45.2)	0.36	0.73 (0.37 – 1.42)
TC+CC + AA+AT	47 (64.4)	46 (54.8)		Reference
TT+TC + AT+TT	139 (99.3)	143 (96.6)	0.16	4.65 (0.52 – 41.45)
CC + AA	1 (0.7)	5 (3.4)		Reference

**KDR -271G/A + +1192G/A**

AA + GG	35 (53.0)	36 (46.2)	0.70	1.14 (0.57 – 2.26)
GG+GA + GA+AA	31 (47.0)	42 (53.8)		Reference
GA+AA + GG+GA	149 (99.3)	140 (98.6)	0.42	2.71 (0.23 – 30.83)
GG + AA	1 (0.7)	2 (1.4)		Reference

**KDR -271G/A + +1719A/T**

AA + TT	39 (41.9)	37 (44.0)	0.72	0.89 (0.48 – 1.64)
GG+GA + AA +AT	54 (58.1)	47 (56.0)		Reference
GA+AA + AT+TT	146 (99.3)	136 (99.3)	0.79	1.48 (0.07 – 27.86)

GG + AA	1 (0.7)	1 (0.7)		Reference
<b>KDR +1192G/A + 1719A/T</b>				
GG + TT	114 (80.3)	110 (78.0)	0.75	1.10 (0.60 – 1.98)
GA+AA + AA+AT	28 (19.7)	31 (22.0)		Reference
GG+GA + AT+TT	197 (99.5)	186 (100.0)	NA	NA
AA + AA	1 (0.5)	0 (0.0)		Reference

No, number, %: percent, OR: odds ratio, CI: confidence interval. Genotypes were analyzed according to the functional role of the alleles, and combined genotypes associated with lower VEGF or KDR production or lower binding efficiency of KDR for VEGFA as references. In cases of *VEGFRA* -634G/C and -460C/T, GG and CC genotypes were taken as references in analyses, respectively, since GC+CC and CT+TT genotypes were associated with increased risks of high grade gliomas in the present study.

**Supplementary table 2.** Genotypes of *VEGFA* and *KDR* single nucleotide polymorphisms in clinicopathological features of high grade glioma cases.

Haplotypes*	Age		p value	Gender		p value	Histological grade*		p value
	≤ 54 (No, %)	> 54 (No, %)		Male (No, %)	Female (No, %)		III (No, %)	IV (No, %)	
<b>VEGFA -2578C/A</b>									
CC	49 (48.5)	48 (46.2)		66 (48.9)	31 (44.3)		17 (47.2)	80 (47.6)	
CA+AA	52 (51.5)	56 (53.8)	0.735	69 (51.1)	39 (55.7)	0.531	19 (52.8)	88 (52.4)	0.965
CC+CA	95 (94.1)	94 (90.4)		124 (91.9)	65 (92.9)		35 (97.2)	153 (91.1)	
AA	6 (5.9)	10 (9.6)	0.437	11 (8.1)	5 (7.1)	1.000	1 (2.8)	15 (8.9)	0.315
<b>VEGFA -2489C/T</b>									
CC	48 (47.5)	48 (46.2)		65 (48.1)	31 (44.3)		17 (47.2)	79 (47.0)	

CT+TT	53 (52.5)	56 (53.8)	0.844	70 (51.9)	39 (55.7)	0.599	19 (52.8)	89 (53.0)	0.983
CC+CT	95 (94.1)	93 (89.4)		123 (91.1)	65 (92.9)		35 (97.2)	152 (90.5)	
TT	6 (5.9)	11 (10.6)	0.312	12 (8.9)	5 (7.1)	0.793	1 (2.8)	16 (9.5)	0.317
<b>VEGFA -1154G/A</b>									
GG	58 (57.4)	66 (63.5)		83 (61.5)	41 (58.6)		20 (55.6)	104 (61.9)	
GA+AA	43 (42.6)	38 (36.5)	0.377	52 (38.5)	29 (41.4)	0.686	16 (44.4)	64 (38.1)	0.479
GG+GA	94 (93.1)	97 (93.3)		128 (94.8)	63 (90.0)		33 (91.7)	157 (93.5)	
AA	7 (6.9)	7 (6.7)	1.000	7 (5.2)	7 (10.0)	0.244	3 (8.3)	11 (6.5)	0.717
<b>VEGFA -634G/C</b>									
GG	29 (28.7)	36 (34.6)		39 (28.9)	26 (37.1)		9 (25.0)	55 (32.7)	
GC+CC	72 (71.3)	68 (65.4)	0.364	96 (71.1)	44 (62.9)	0.228	27 (75.0)	113 (67.3)	0.432
GG+GC	83 (82.2)	86 (82.7)		111 (82.2)	58 (82.9)		30 (83.3)	138 (82.1)	
CC	18 (17.8)	18 (17.3)	0.923	24 (17.8)	12 (17.1)	0.910	6 (16.7)	30 (17.9)	1.000
<b>VEGFA -460C/T</b>									
CC	11 (10.9)	16 (15.4)	0.342	18 (13.3)	9 (12.9)	1.000	1 (2.8)	25 (14.9)	0.054
CT+TT	90 (89.1)	88 (84.6)		117 (86.7)	61 (87.1)		35 (97.2)	143 (85.1)	
CC+CT	60 (59.4)	62 (59.6)	0.976	81 (60.0)	41 (58.6)	0.843	22 (61.1)	99 (58.9)	0.809
TT	41 (40.6)	42 (40.4)		54 (40.0)	29 (41.4)		14 (38.9)	69 (41.1)	
<b>KDR -604T/C</b>									
TT	27 (26.7)	21 (20.2)	0.323	30 (22.2)	18 (25.7)	0.576	12 (33.3)	35 (20.8)	0.106
TC+CC	74 (73.3)	83 (79.8)		105 (77.8)	52 (74.3)		24 (66.7)	133 (79.2)	
TT+TC	72 (71.3)	72 (69.2)	0.747	99 (73.3)	45 (64.3)	0.179	27 (75.0)	116 (69.0)	0.551



CC	29 (28.7)	32 (30.8)		36 (26.7)	25 (35.7)		9 (25.0)	52 (31.0)	
<b>KDR -271G/A</b>									
GG	28 (27.7)	26 (25.0)	0.658	34 (25.2)	20 (28.6)	0.602	13 (36.1)	40 (23.8)	0.127
GA+AA	73 (72.3)	78 (75.0)		101 (74.8)	50 (71.4)		23 (63.9)	128 (76.2)	
GG+GA	78 (77.2)	73 (70.2)	0.253	101 (74.8)	50 (71.4)	0.602	29 (80.6)	121 (72.0)	0.405
AA	23 (22.8)	31 (29.8)		34 (25.2)	20 (28.6)		7 (19.4)	47 (28.0)	
<b>KDR +1192G/A</b>									
GG	75 (74.3)	80 (76.9)		106 (78.5)	49 (70.0)		28 (77.8)	126 (75.0)	
GA+AA	26 (25.7)	24 (23.1)	0.657	29 (21.5)	21 (30.0)	0.178	8 (22.2)	42 (25.0)	0.833
GG+GA	100 (99.0)	102 (98.1)		133 (98.5)	69 (98.6)		35 (97.2)	166 (98.8)	
AA	1 (1.0)	2 (1.9)	1.000	2 (1.5)	1 (1.4)	1.000	1 (2.8)	2 (1.2)	0.443
<b>KDR +1719A/T</b>									
AA	3 (3.0)	3 (2.9)	1.000	5 (3.7)	1 (1.4)	0.666	2 (5.6)	4 (2.4)	0.286
AT+TT	98 (97.0)	101 (97.1)		130 (96.3)	69 (98.6)		34 (94.4)	164 (97.6)	
AA+AT	32 (31.7)	37 (35.6)	0.555	40 (29.6)	29 (41.4)	0.090	13 (36.1)	55 (32.7)	0.697
TT	69 (68.3)	67 (64.4)		95 (70.4)	41 (58.6)		23 (63.9)	113 (67.3)	

No: number; %, percent. \*: histological grade classified according to World Health Organization criteria, where grade III included anaplastic astrocytoma and oligoastrocytoma and grade IV included glioblastoma multiforme; the histological grade was not identified in one patient.

**Supplementary table 3.** Combined genotypes of *VEGFA* and *KDR* single nucleotide polymorphisms in clinicopathological features of high grade gliomas cases.

Genotypes	Age		<i>p</i> value	Gender		<i>p</i> value	Histological grade*		<i>p</i> value
	≤ 54 (No, %)	> 54 (No, %)		Male (No, %)	Female (No, %)		III (No, %)	IV (No, %)	
<b><i>VEGFA</i> 2578C/A + -2489C/T</b>									
CC + TT	0 (0)	0 (0)		0 (0)	0 (0)		0 (0)	0 (0)	
CA+AA + CC+CT	46 (100)	45 (100)	1.00	57 (100)	34 (100)	1.00	18 (100)	72 (100)	1.00
CC+CA + CT+TT	46 (100)	45 (100)		59 (100)	34 (100)		18 (100)	74 (100)	
AA + CC	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b><i>VEGFA</i> -2578C/A + -1154G/A</b>									
CC + GG	45 (53.6)	45 (56.2)		64 (56.1)	26 (52.0)		16 (51.6)	74 (56.1)	
CA+AA + GA+AA	39 (46.4)	35 (43.8)	0.75	50 (43.9)	24 (48.0)	0.73	15 (48.4)	58 (43.9)	0.69
CC+CA + GG+GA	92 (95.8)	91 (95.8)		123 (95.3)	60 (96.8)		33 (97.1)	149 (95.5)	
AA + AA	4 (4.2)	4 (4.2)	1.00	6 (4.7)	2 (3.2)	1.00	1 (2.9)	7 (4.5)	1.00
<b><i>VEGFA</i> -2578C/A + -634G/C</b>									
CC + CC	18 (25.7)	18 (24.3)		24 (25.8)	12 (23.5)		6 (24.0)	30 (25.4)	
CA+AA + GG+GC	52 (74.3)	56 (75.7)	0.85	69 (74.2)	39 (76.5)	0.84	19 (76.0)	88 (74.6)	1.00
CC+CA + GC+CC	72 (92.3)	68 (87.2)		96 (89.7)	44 (89.8)		27 (96.4)	113 (88.3)	
AA + GG	6 (7.7)	10 (12.8)	0.42	11 (10.3)	5 (10.2)	1.00	1 (3.6)	15 (11.7)	0.30
<b><i>VEGFA</i> -2578C/A + -460C/T</b>									

CC + TT	41 (44.1)	42 (42.9)		54 (43.9)	29 (42.6)		14 (42.4)	69 (43.9)	
CA+AA + CC+CT	52 (55.9)	56 (57.1)	0.88	69 (56.1)	39 (57.4)	0.88	19 (57.6)	88 (56.1)	1.00
CC+CA + CT+TT	90 (93.8)	88 (89.8)		117 (91.4)	61 (92.4)		35 (97.2)	143 (90.5)	
AA + CC	6 (6.3)	10 (10.2)	0.43	11 (8.6)	5 (7.6)	1.00	1 (2.8)	15 (9.5)	0.31
<b>VEGFA -2489C/T + -1154G/A</b>									
TT + GG	1 (2.6)	1 (3.4)		2 (4.5)	0 (0)		0 (0)	2 (3.8)	
CC+CT + GA+AA	38 (97.4)	28 (96.6)	1.00	42 (95.5)	24 (100)	0.53	15 (100)	50 (96.2)	1.00
CT+TT + GG+GA	48 (96.0)	52 (94.5)		64 (98.5)	36 (90.0)		17 (94.4)	82 (95.3)	
CC + AA	2 (4.0)	3 (5.5)	1.00	1 (1.5)	4 (10.0)	0.06	1 (5.6)	4 (4.7)	1.00
<b>VEGFA -2489C/T + -634G/C</b>									
TT + CC	0 (0)	0 (0)		0 (0)	0 (0)		0 (0)	0 (0)	
CC+CT + GG+GC	77 (100)	75 (100)	1.00	99 (100)	53 (100)	1.00	29 (100)	122 (100)	1.00
TT+CT + GC+CC	28 (87.5)	23 (88.5)		35 (89.7)	16 (84.2)		11 (91.7)	40 (87.0)	
CC + GG	4 (12.5)	3 (11.5)	1.00	4 (10.3)	3 (15.8)	0.67	1 (8.3)	6 (13.0)	1.00
<b>VEGFA -2489C/T + -460C/T</b>									
TT + TT	0 (0)	0 (0)		0 (0)	0 (0)		0 (0)	0 (0)	
CC+CT + CC+CT	54 (100)	51 (100)	1.00	69 (100)	36 (100)	1.00	21 (100)	83 (100)	1.00
CT+TT + CT+CT	42 (100)	40 (100)		52 (100)	30 (100)		18 (100)	64 (100)	
CC + CC	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -1154G/A + -634G/C</b>									
GG + CC	16 (28.1)	15 (30.0)		23 (31.1)	8 (24.2)		6 (27.3)	25 (29.8)	

GA+AA + GG+GC	41 (71.9)	35 (70.0)	0.83	51 (68.9)	25 (75.8)	0.64	16 (72.7)	59 (70.2)	1.00
GG+GA + GC+CC	69 (94.5)	65 (94.2)		95 (94.1)	39 (95.1)		25 (96.2)	109 (94.0)	
AA + GG	4 (5.5)	4 (5.8)	1.00	6 (5.9)	2 (4.9)	1.00	1 (3.8)	7 (6.0)	1.00
<b>VEGFA -1154G/A + -460C/T</b>									
GG + TT	38 (48.7)	39 (52.7)		53 (51.0)	24 (50.0)		13 (46.4)	64 (52.0)	
GA+AA + CC+CT	40 (51.3)	35 (47.3)	0.63	51 (49.0)	24 (50.0)	1.00	15 (53.6)	59 (48.0)	0.67
GG+GA + CT+TT	87 (95.6)	85 (95.5)		116 (95.1)	56 (96.6)		33 (97.1)	139 (95.2)	
AA + CC	4 (4.4)	4 (4.5)	1.00	6 (4.9)	2 (3.4)	1.00	1 (2.9)	7 (4.8)	1.00
<b>VEGFA 634G/C + -460C/T</b>									
CC + TT	18 (23.1)	18 (22.5)	1.00	24 (22.9)	12 (22.6)	1.00	6 (21.4)	30 (23.3)	1.00
GG+GC + CC+CT	60 (76.9)	62 (77.5)		81 (77.1)	41 (77.4)		22 (78.6)	99 (76.7)	
GC+CC + CT+TT	72 (86.7)	66 (82.5)	0.51	94 (85.5)	44 (83.0)	0.81	27 (96.4)	111 (82.8)	0.08
GG + CC	11 (13.3)	14 (17.5)		16 (14.5)	9 (17.0)		1 (3.6)	23 (17.2)	
<b>VEGFA -2578C/A + KDR -604T/C</b>									
CC + TT	14 (26.4)	9 (17.0)		17 (23.3)	6 (18.2)		7 (33.3)	16 (18.8)	
CA+AA + TC+CC	39 (73.6)	44 (83.0)	0.34	56 (76.7)	27 (81.8)	0.62	14 (66.7)	69 (81.2)	0.23
CC+CA + TT+TC	68 (97.1)	65 (95.6)		90 (97.8)	43 (93.5)		26 (100)	106 (95.5)	
AA + CC	2 (2.9)	3 (4.4)	0.67	2 (2.2)	3 (6.5)	0.33	0 (0)	5 (4.5)	0.58
<b>VEGFA -2578C/A + KDR -271G/A</b>									
CC + AA	12 (22.6)	16 (28.1)		20 (26.7)	8 (22.9)		3 (16.7)	25 (27.5)	
CA+AA + GG+GA	41 (77.4)	41 (71.9)	0.66	55 (73.3)	27 (77.1)	0.81	15 (83.3)	66 (72.5)	0.55
CC+CA + GA+AA	68 (98.6)	71 (95.9)		93 (96.9)	46 (97.9)		23 (95.8)	116 (97.5)	

AA + GG	1 (1.4)	3 (4.1)	0.62	3 (3.1)	1 (2.1)	1.00	1 (4.2)	3 (2.5)	0.52
<b>VEGFA -2578C/A + KDR +1192G/A</b>									
CC + GG	37 (72.5)	38 (73.1)		53 (76.8)	22 (64.7)		14 (73.7)	61 (72.6)	
CA+AA + GA+AA	14 (27.5)	14 (26.9)	1.00	16 (23.2)	12 (35.3)	0.24	5 (26.3)	23 (27.4)	1.00
CC+CA + GG+GA	94 (100)	92 (100)		122 (100)	64 (100)		34 (100)	151 (100)	
AA + AA	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -2578C/A + KDR +1719A/T</b>									
CC + TT	36 (65.5)	32 (60.4)		49 (68.1)	19 (52.8)		13 (59.1)	55 (64.7)	
CA+AA + AA+AT	19 (34.5)	21 (39.6)	0.69	23 (31.9)	17 (47.2)	0.14	9 (40.9)	30 (35.3)	0.62
CC+CA + AT+TT	92 (100)	91 (100)		119 (100)	64 (100)		33 (100)	149 (100)	
AA + AA	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -2489C/T + KDR -604T/C</b>									
TT + TT	1 (1.4)	3 (3.8)		3 (3.0)	1 (2.0)		1 (4.0)	3 (2.4)	
CC+CT + TC+CC	69 (98.6)	75 (96.2)	0.62	96 (97.0)	48 (98.)	1.00	24 (96.0)	120 (97.6)	0.52
CT+TT + TT+TC	39 (72.2)	40 (71.4)		54 (73.0)	25 (69.4)		13 (81.3)	65 (69.9)	
CC + CC	15 (27.8)	16 (28.6)	1.00	20 (27.0)	11 (30.6)	0.82	3 (18.8)	28 (30.1)	0.54
<b>VEGFA -2489C/T + KDR -271G/A</b>									
TT + AA	1 (1.4)	2 (3.0)		1 (1.1)	2 (4.1)		0 (0)	3 (2.7)	
CC+CT + GG+GA	73 (98.6)	64 (97.0)	0.60	90 (98.9)	47 (95.9)	0.28	28 (100)	108 (97.3)	1.00
CT+TT + GA+AA	38 (74.5)	42 (77.8)		54 (75.0)	26 (78.8)		13 (65.0)	67 (78.8)	
CC + GG	13 (25.5)	12 (22.2)	0.81	18 (25.0)	7 (21.2)	0.80	7 (35.0)	18 (21.2)	0.24
<b>VEGFA -2489C/T + KDR +1192G/A</b>									

TT + GG	3 (11.5)	8 (27.6)		9 (25.7)	2 (10.0)		1 (11.1)	10 (21.7)	
CC+CT + GA+AA	23 (88.5)	21 (72.4)	0.18	26 (74.3)	18 (90.0)	0.29	8 (88.9)	36 (78.3)	0.66
CT+TT + GG+GA	53 (98.1)	55 (98.2)		69 (98.6)	39 (97.5)		19 (95.0)	88 (98.9)	
CC + AA	1 (1.9)	1 (1.8)		1 (1.4)	1 (2.5)		1 (5.0)	1 (1.1)	0.33
<b>VEGFA -2489C/T + KDR +1719A/T</b>									
TT + TT	4 (11.8)	9 (20.5)		10 (20.8)	3 (10.0)		0 (0)	13 (20.0)	
CT+TT + AA+AT	30 (88.2)	35 (79.5)	0.37	38 (79.2)	27 (90.0)	0.34	12 (100)	52 (80.0)	0.20
CT+TT + AT+TT	50 (100)	54 (98.2)		66 (98.5)	38 (100)		17 (100)	86 (98.9)	
CC + AA	0 (0)	1 (1.8)		1 (1.5)	0 (0)	1.00	0 (0)	1 (1.1)	1.00
<b>VEGFA -1154G/A + KDR -604T/C</b>									
GG + TT	17 (34.0)	13 (30.2)		20 (32.3)	10 (32.3)		8 (40.0)	22 (30.1)	
GA+AA + TC+CC	33 (66.0)	30 (69.8)	0.82	42 (67.7)	21 (67.7)	1.00	12 (60.0)	51 (69.9)	0.42
GG+GA + TT+TC	69 (100)	67 (100)		94 (100)	42 (100)		26 (100)	109 (100)	
AA + CC	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -1154G/A + KDR -271G/A</b>									
GG + AA	13 (28.3)	22 (43.1)		24 (36.4)	11 (35.5)		3 (20.0)	32 (39.5)	
GA+AA + GG+GA	33 (71.7)	29 (56.9)	0.14	42 (63.6)	20 (64.5)	1.00	12 (80.0)	49 (60.5)	0.24
GG+GA + GA+AA	67 (98.5)	73 (97.3)		96 (98.0)	44 (97.8)		21 (95.5)	119 (98.3)	
AA + GG	1 (1.5)	2 (2.7)	1.00	2 (2.0)	1 (2.2)	1.00	1 (4.5)	2 (1.7)	0.39
<b>VEGFA -1154G/A + KDR +1192G/A</b>									
GG + GG	42 (80.8)	50 (86.2)		65 (85.5)	27 (79.4)		15 (83.3)	77 (83.7)	
GA+AA + GA+AA	10 (19.2)	8 (13.8)	0.45	11 (14.5)	7 (20.6)	0.41	3 (16.7)	15 (16.3)	1.00

GG+GA + GG+GA	93 (100)	95 (100)		126 (100)	62 (100)		32 (100)	155 (100)	
AA + AA	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -1154G/A + KDR +1719A/T</b>									
GG + TT	41 (73.2)	42 (76.4)		60 (77.9)	23 (67.6)		14 (66.7)	69 (77.5)	
GA+AA + AA+AT	15 (26.8)	13 (23.6)	0.82	17 (22.1)	11 (32.4)	0.34	7 (33.3)	20 (22.5)	0.39
GG+GA + AT+TT	91 (100)	94 (100)		123 (100)	62 (100)		31 (100)	153 (100)	
AA + AA	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -634G/C +KDR -604T/C</b>									
CC + TT	4 (6.2)	3 (4.2)		6 (6.5)	1 (2.4)		1 (5.0)	6 (5.2)	
GC+GG + TC+CC	60 (93.8)	68 (95.8)	0.70	87 (93.5)	41 (97.6)	0.43	19 (95.0)	109 (94.8)	1.00
CC+GC + TT+TC	49 (89.1)	48 (80.0)		69 (88.5)	28 (75.7)		19 (95.0)	78 (82.1)	
GG + CC	6 (10.9)	12 (20.0)	0.20	9 (11.5)	9 (24.3)	0.10	1 (5.0)	17 (17.9)	0.19
<b>VEGFA -634G/C + KDR -271G/A</b>									
CC + AA	2 (3.1)	4 (6.3)		4 (4.7)	2 (4.8)		1 (4.0)	5 (5.0)	
GG+GC + GG+GA	62 (96.9)	59 (93.7)	0.44	81 (95.3)	40 (95.2)	1.00	24 (96.0)	96 (95.0)	1.00
GC+CC + GA+AA	52 (86.7)	49 (87.5)		70 (89.7)	31 (81.6)		16 (88.9)	85 (87.6)	
GG + GG	8 (13.3)	7 (12.5)	1.00	8 (10.3)	7 (18.4)	0.24	2 (11.1)	12 (12.4)	1.00
<b>VEGFA -634G/C + KDR +1192G/A</b>									
CC + GG	14 (38.9)	16 (42.1)		22 (44.9)	8 (32.0)		6 (42.9)	24 (40.0)	
GG+ GC + GA+AA	22 (61.1)	22 (57.9)	0.81	27 (55.1)	17 (68.0)	0.32	8 (57.1)	36 (60.0)	1.00
GC+CC + GG+GA	71 (100)	67 (98.5)		95 (99.0)	43 (100)		26 (100)	112 (99.1)	

GG + AA	0 (0)	1 (1.5)	0.48	1 (1.0)	0 (0)	1.00	0 (0)	1 (0.9)	1.00
<b>VEGFA -634G/C +KDR +1719A/T</b>									
CC + TT	13 (32.5)	12 (27.9)		18 (34.6)	7 (22.6)		6 (31.6)	19 (30.2)	
GG+GC + AA+AT	27 (67.5)	31 (72.1)	0.81	34 (65.4)	24 (77.4)	0.32	13 (68.4)	44 (69.8)	1.00
GC+CC + AT+TT	70 (98.6)	66 (98.5)		92 (98.9)	44 (97.8)		26 (96.3)	110 (99.1)	
GG + AA	1 (1.4)	1 (1.5)	1.00	1 (1.1)	1 (2.2)	0.54	1 (3.7)	1 (0.9)	0.35
<b>VEGFA -460C/T + KDR -604T/C</b>									
TT + TT	12 (21.1)	7 (12.7)		13 (16.9)	6 (17.1)		5 (25.0)	14 (15.2)	
CC+CT + TC+CC	45 (78.9)	48 (87.3)	0.31	64 (83.1)	29 (82.9)	1.00	15 (75.0)	78 (84.8)	0.32
CT+TT + TT+TC	63 (96.9)	61 (92.4)		85 (95.5)	39 (92.9)		26 (100)	98 (93.3)	
CC + CC	2 (3.1)	5 (7.6)	0.44	4 (4.5)	3 (7.1)	0.68	0 (0)	7 (6.7)	0.34
<b>VEGFA -460C/T + KDR -271G/A</b>									
TT + AA	8 (15.1)	13 (22.8)		14 (18.7)	7 (20.0)		3 (14.3)	18 (20.5)	
CC+CT + GG+GA	45 (84.9)	44 (77.2)	0.34	61 (81.3)	28 (80.0)	1.00	18 (85.7)	70 (79.5)	0.75
CT+TT + GA+AA	66 (94.3)	66 (94.3)		87 (95.6)	45 (91.8)		23 (95.8)	109 (94.8)	
CC + GG	4 (5.7)	4 (5.7)	1.00	4 (4.4)	4 (8.2)	0.45	1 (4.2)	6 (5.2)	1.00
<b>VEGFA -460C/T + KDR +1192G/A</b>									
TT + GG	32 (65.3)	32 (69.6)		43 (70.5)	21 (61.8)		12 (66.7)	52 (67.5)	
CC+CT + GA+AA	17 (34.7)	14 (30.4)	0.66	18 (29.5)	13 (38.2)	0.49	6 (33.3)	25 (32.5)	1.00
CT+TT + GG+GA	89 (100)	86 (100)		115 (100)	60 (100)		34 (100)	141 (100)	
CC + AA	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
<b>VEGFA -460C/T + KDR +1719A/T</b>									



TT + TT	29 (59.2)	28 (54.9)		39 (60.9)	18 (50.0)		11 (52.4)	46 (59.0)	
CC+CT + AA+AT	20 (40.8)	23 (45.1)	0.69	25 (39.1)	18 (50.0)	0.30	10 (47.6)	32 (41.0)	0.62
CT+TT + AT+TT	87 (100)	86 (98.9)		112 (100)	61 (98.4)		33 (100)	140 (99.3)	
CC + AA	0 (0)	1 (1.1)	1.00	0 (0)	1 (1.6)	0.35	0 (0)	1 (0.7)	1.00
<b>KDR -604T/C + -271G/A</b>									
TT + AA	0 (0)	0 (0)		0 (0)	0 (0)		0 (0)	0 (0)	
TC+CC + GG+GA	51 (100)	52 (100)	1.00	71 (100)	32 (100)	1.00	17 (100)	86 (100)	1.00
TT+TC + GA+AA	44 (100)	47 (97.9)		66 (98.5)	25 (100)		14 (100)	77 (98.7)	
CC + GG	0	1 (2.1)	1.00	1 (1.5)	0	1.00	0	1 (1.3)	1.00
<b>KDR -604T/C + +1192G/A</b>									
TT + GG	25 (51.0)	18 (46.2)		28 (50.9)	15 (45.5)		11 (61.1)	31 (44.9)	
TC+CC + GA+AA	24 (49.0)	21 (53.8)	0.67	27 (49.1)	18 (54.5)	0.66	7 (38.9)	38 (55.1)	0.29
TT+TC + GG+GA	72 (98.6)	71 (98.6)		98 (99.0)	45 (97.8)		27 (96.4)	115 (99.1)	
CC + AA	1 (1.4)	1 (1.4)	1.00	1 (1.0)	1 (2.2)	0.53	1 (3.6)	1 (0.9)	0.35
<b>KDR -604T/C + +1719A/T</b>									
TT + TT	14 (42.4)	12 (30.0)		18 (39.1)	8 (29.6)		7 (46.7)	19 (32.8)	
TC+CC + AA+AT	19 (57.6)	28 (70.0)	0.33	28 (60.9)	19 (70.4)	0.45	8 (53.3)	39 (67.2)	0.37
TT+TC + AT+TT	70 (98.6)	69 (100)		95 (99.0)	44 (100)		1 (3.7)	0 (0)	
CC + AA	1 (1.4)	0 (0)	1.00	1 (1.0)	0 (0)	1.00	26 (96.3)	112 (100)	0.19
<b>KDR -271G/A + +1192G/A</b>									

AA + GG	13 (44.8)	22 (59.5)		25 (55.6)	10 (47.6)		4 (44.4)	31 (54.4)	
GG+GA + GA+AA	16 (55.2)	15 (40.5)	0.32	20 (44.4)	11 (52.4)	0.60	5 (55.6)	26 (45.6)	0.72
GA+AA + GG+GA	72 (100)	77 (98.7)		100 (99.0)	49 (100)		22 (100)	127 (99.2)	
GG + AA	0 (0)	1 (1.3)	1.00	1 (1.0)	0 (0)	1.00	0 (0)	1 (0.8)	1.00
<b>KDR -271G/A + +1719A/T</b>									
AA + TT	18 (40.0)	21 (43.8)		26 (44.8)	13 (37.1)		5 (31.3)	34 (44.7)	
GG+GA + AA+AT	27 (60.0)	27 (56.2)	0.83	32 (55.2)	22 (62.9)	0.52	11 (68.8)	42 (55.3)	0.40
GA+AA + AT+TT	70 (100)	76 (98.7)		97 (99.0)	49 (100)		21 (100)	125 (99.2)	
GG+ AA	0 (0)	1 (1.3)	1.00	1 (1.0)	0 (0)	1.00	0 (0)	1 (0.8)	1.00
<b>KDR +1192G/A + 1719A/T</b>									
GG + TT	56 (81.2)	58 (79.5)		81 (84.4)	33 (71.7)		22 (75.9)	92 (81.4)	
GA+AA + AA+AT	13 (18.8)	15 (20.5)	0.83	15 (15.6)	13 (28.3)	0.11	7 (24.1)	21 (18.6)	0.60
GG+GA + AT+TT	97 (100)	100 (99.0)		129 (99.2)	68 (100)		33 (100)	163 (99.4)	
AA + AA	0 (0)	1 (1.0)		1 (0.8)	0 (0)		0 (0)	1 (0.6)	1.00

No, number; %: percent. \*: histological grade classified according to World Health Organization criteria, where grade III included anaplastic astrocytoma and oligoastrocytoma and grade IV included glioblastoma multiforme; the histological grade was not identified in one patient.