

Table S1. 40 grape germplasm resources.

Number	Varieties	Type	Genotype name	Location/source
1	Niagara Rosada	Wine grape	VL	America
2	Benizuiho	Table grape	VL	China (Zhengzhou)
3	Vitis × Champion	Wine grape	AM	China (Zhengzhou)
4	Cuihongputao	Wine grape	AM	China (Zhengzhou)
5	Seibel Blanc	Wine grape	VL	China (Zhengzhou)
6	Lot Sand	Wine grape	AM	China (Zhengzhou)
7	Damubo	Wine grape	VL	China (Zhengzhou)
8	Aromatic Rachachi	Table grape	VI	China (Zhengzhou)
9	Pollux grape	Table grape	VL	China (Zhengzhou)
10	Anisky grapes	Wine grape	VL	America
11	Green beads	Table grape	VL	China (Zhengzhou)
12	Augusta	Table grape	VI	Rumania
13	Jifeng	Table grape	VL	China (Zhengzhou)
14	Grand Noir	Wine grape	VI	France
15	Shenmei	Table grape	VL	China (Shanghai)
16	Jiangsu v. azulene	Wine grape	AW	China
17	Shenyue	Table grape	VL	China (Shanghai)
18	Shenhua	Table grape	VI	China (Shanghai)
19	Cabernet Sauvignon	Wine grape	VI	France
20	Fuerjiadun	Wine grape	VI	The Soviet union
21	Baishengbi	Table grape	VI	Europe
22	Xinya	Wine grape	VI	China (Xinjiang)
23	Yongyou NO1	Table grape	VL	China (Beijing)
24	Molixiang	Table grape	VL	China (Liaoning)
25	Yan 74	Table grape	VI	China (Shandong)
26	Shine Muscat	Table grape	VL	Japan
27	Fujiminori	Table grape	VL	Japan
28	Italy grape	Table grape	VI	Hungary
29	SO4	Rootstocks grape	AM	Germany
30	Wuhecuiobao	Table grape	VI	China (Shanxi)
31	Jumeigui	Table grape	VL	China (Liaoning)
32	Kyoho	Table grape	VL	Japan
33	Muscat Hamburg	Table grape	VI	MK
34	Thompson Seedless	Table grape	VI	China (Xinjiang)
35	Shuanghong	Wine grape	AW	China (Beijing)
36	1103P	Rootstocks grape	AM	Italy
37	Shenbao	Table grape	VL	China (Shanghai)
38	Hakuho	Table grape	VL	Japan
39	Beta	Rootstocks grape	AM	America
40	Rui'du'xangyu	Table grape	VI	China (Beijing)

*VL: *V. vinifera* × *V. labrusca*, VI: *V. vinifera* L., VA: *V. vinifera* × *V. amurensis*, AM: American wild grapes, AW: Asian wild grapes,

Table S2 Sequence of primers used for the SSR and expression validation

No.	Marker	Family	Forward (5' to 3')	Reverse (5' to 3')
1	VMIRSSR156c1	Vvi-MIR156c	TGAGTGAACCTGAGGTGC CTGCTA	TGTATGGGAGTTACAAATGGTAA GGAATA
2	VMIRSSR157c2	Vvi-MIR157c	TAAGTGGAAGCCCTAAGG AAGAAGAAAAA	GAAAGAGGAAGGCACTGGTGAT GTTG
3	VMIRSSR159f2	Vvi-MIR159f	CCGCTACATTAGTTGTTAT AATATCGT	CTTCTTGACTTGTAATTTGGTTT GA
4	VMIRSSR160c1	Vvi-MIR160c	AGGCATAAAGGGAAAGA GGATTGGT	GTGGCGTCCGTGGAAACTGATA T
5	VMIRSSR164b1	Vvi-MIR164b	TAAGCCAAACAGAAGCTA CTGTAAGT	TGACCATCTCAACCCAATAATAC TTT
6	VMIRSSR167c3	Vvi-MIR167c	TCTTCCCCTTGATAATTT ATTATGTTG	CATGATCTGATCTTTCCTTGACT TG
7	VMIRSSR169d1	Vvi-MIR169d	AGGTTGATGAGGGTGATG GTGGTTT	CTAGTGAATGATATTAAGTTTAT GCTGGTA
8	VMIRSSR171b1	Vvi-MIR171b	AACCTCCTTCTGCTTATCT TCCCACA	GAGGGAAATCTGCTCATCTCTC AAACTAA
9	VMIRSSR171k1	Vvi-MIR171k	ATTCCCATTCTTCTCACC ACTATC	GAGCCAACATCACAGTAACTATT TCA
10	VMIRSSR398b1	Vvi-MIR398b	AAAGTGGATATGGTACCG AAAAGTGATT	TAGTTCTGAGGGAGAAGCTGGA TGAC
11	VMIRSSR398c3	Vvi-MIR398c	ACGGATGTTCAACATTAA TTTGGAAG	GGCATATTTTGTAGCTTTATATAG GGG
12	VMIRSSR167d1	Vvi-MIR167d	TATCAACCTCTCTCATGTT CTTAGGGTT	ACTAGGTAAGGAGCTTAGGGCA AGG
13	VMIRSSR828a1	Vvi-MIR828a	AATTAACAAGAAAAAAA GGGGGGAAAA	AGAAAGAGTAAGTGAGGGAAA AGGGAGA

Genes	Forward (5' to 3')	Reverse (5' to 3')
pri-miR156c	ACAAACACACACAGAG GGAGAGAGAGA	GTATGGGAGTTACAAATGGTA AGGAATAGG
pri-miR157c	AAAAAAGAATAGAGAG AATAGGGAGGGAT	TAGGGACTACGGAAAGAGGA AGGC
pri-miR159f	AAATTAAAAATAAAATA AAATAAAATAGATGAG G	AAAAGAGTAGAAGGTGTTAC ATCTGCTG
pri-miR160c	CAAAAGGAAGAAGAA GAAGGAAAAA	AAAATAGAGAAGGAAAGAAT GGTGGGTA
pri-miR167c	TCTCTCTCTCTCTCTCT CTCTCTGTGGG	CTAATGAGCAAGGTGGAATA GGGTTT
pri-miR169d	AAATTCACAAAATATTG AGTGCTTACCAAC	AAGAGAATCAAATGTAGCCA AGGACAAC
pri-miR171b	ACCGTGGATTTTTTAAG GCGAGAGATAG	TTTGTGGGAAGATAAGCAGA AGGAGGT
pri-miR171k	CATCACATACCCCTCT TCCTCTTCTCC	TGGCACGGCTCAATCAAAGCT AAAA
pri-miR398b	TACCTCTTGTCTCTGA TTAAAACGGCG	AAGCTGGATGACGAAGCTCT GCTATG
pri-miR398c	TTAGGGAGAAGCTGGA AGAAGAAGCTCT	CGTATCCAAACCATGAACTG AAAAAGT
pri-miR167d	AGTTGACCTAATAATCT TTGTCAAGTTGC	CTTTGAGAATTGAATGATGTT TGGAATT
pri-miR396b	ATGGAGATGAATATTAT GAGATTAGCAA	CAGCAAGCAGAAGTCCTGAA AAG
pri-miR319i	TCTCCTCTCACTATCTT TCTCCTTTTT	ATAGTTTCCAGCCTTGAAAGC CAT
pri-miR168	TTCCAACCTAGAAACC TGAGATCGA	GTATGGTTCTTACGGTGGTCT CTAATTC
pri-miR828a	TCTGATATCCGAAGAA GAAGAAGAAGACC	GAGTAAGTGAGGGAAAAGGG AGAGAAAAAT
actin	CTTGCATCCCTCAGCACCTT	TCCTGTGGACAATGGATGGA

Table S3. Characterization of microsatellites in Pri- and Pre-miRNAs sequences of grape genome.

Parameters	Pri-miRNA	Pre-miRNA
Total number of sequences examined:	192	192
Total size of examined sequences (bp):	209607	18993
Total number of identified SSRs:	391	12
Number of SSR containing sequences:	154	11
Number of sequences containing more than 1 SSR:	107	1
Number of SSRs present in compound formation:	99	1

Table S4 Diversity analysis of grape heat resistance using 13 Pri-miRNA-SSR Markers.

S1.no.	Marker	Family	SSR-type	Size	Start	End
1	VMIRSSR156c1	<i>Vv-MIR156c</i>	P2	40	514	475
2	VMIRSSR157c2	<i>Vv-MIR157c</i>	P4	24	479	502
3	VMIRSSR159f2	<i>Vv-MIR159f</i>	P5	20	479	498
4	VMIRSSR160c1	<i>Vv-MIR160c</i>	P6	12	139	353
5	VMIRSSR164b1	<i>Vv-MIR164b</i>	P4	12	205	216
6	VMIRSSR167c3	<i>Vv-MIR167c</i>	P2	36	449	484
7	VMIRSSR169d1	<i>Vv-MIR169d</i>	P6	12	813	824
8	VMIRSSR171b1	<i>Vv-MIR171b</i>	C	60	678	737
9	VMIRSSR171k1	<i>Vv-MIR171k</i>	C	77	347	423
10	VMIRSSR398b1	<i>Vv-MIR398b</i>	P4	16	419	434
11	VMIRSSR398c3	<i>Vv-MIR398c</i>	P4	12	728	739
12	VMIRSSR167d1	<i>Vv-MIR167d</i>	P6	12	67	78
13	VMIRSSR828a1	<i>Vv-MIR828a</i>	P3	15	477	491

Table S5. 8 grape germplasm resources.

NO.	Varieties	Type	Location/source
1	Vitis × Champion	Wine grape	China
2	Shenmei	Table grape	China
3	Xinya	Wine grape	China
4	Shuanghong	Wine grape	China
5	Beta	Rootstocks grape	America
6	Niagara Rosada	Wine grape	China
7	Cabernet Sauvignon	Wine grape	France
8	Thompson Seedless	Table grape	China