























Supplementary materials

Table S1 Descriptions of the colony morphologies for *S. cerevisiae* strains on WL medium

(28 °C, 5 d)

Morphologies		Descriptions	Strains codes	Samples
Obverse	Reverse			
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	F5-1~4, 6, 7, 9~11, 13~21; F6-3, 4, 6, 7~14 22~24; F7-1~12、14、15、17、20~23, F8-1~9, 11~23; F9-1~24; F10-2~11, 17, 18, 20~23	Must
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	F4-2, 7, 15, 18, 23; F5-5, 8; F6-1, 2, 5 F7-13, 16, 18, 19	Must
		Cream with light green, raised, rough, opaque, ridged rim, white on reverse	F4-13 F8-10, F10-1, 12	Must
		Central cream with green edge, raised, smooth, opaque, neat edge, central cream and green edge on reverse	F4-14, 17, 19~22, 24 F10-13, 14, 19	Must
		Cream center, raised, rough, opaque, ridged rim. Cream center and green rim on the reverse	F10-16	Must
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	QLY-21	QX
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	MLY-3, 15, 21 MXY-1, 4, 6, 17, 19, 21, 23	YM
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	ZLY-4 ZXY-6, 17, 23	ZH
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	XLY-1, 4, 10, 16 XXY-2, 6, 8	XXW
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	BXY-14, 15, 20, 21 BT-2, 4, 5, 9	LSYH
		Cream with slight green, raised, smooth, opaque, neat rim, white on reverse	HXY-15, 16, HX-13 HT-3, 8~10, 13, 15, 19	HH



Cream with slight green, raised, SXY-4, 17
smooth, opaque, neat rim, white DT-1~6, 17
on reverse

LL



Cream with slight green, raised, CXY-2, 4, 9, 16
smooth, opaque, neat rim, white LT-4, 8, 14, 19
on reverse

LS

Notes: **YM:** Yuma vineyard; **HH:** Huahao vineyard, **QX:** Qinxue vineyard, **ZH:** Zhihuiyuanshi vineyard, **LS:** Liushi vineyard, **LSYH:** Lanshanyunhao vineyard, **XXW:** Xixiawang vineyard, **LL:** Lilan vineyard, **LSD:** Luoshan vineyard.

Table S2 Sequencing results of the 26S rDNA D1/D2 domain apart of the isolated *S. cerevisiae* strains

Sources	Strains	Sizes (bp)	Matching nucleotides	The closest relative	Identity	Gene bank accession
QX	QLY-21	593	581/581	<i>Saccharomyces cerevisiae</i>	100%	HQ443692.1
YM	MXY-1	581	576/576	<i>Saccharomyces cerevisiae</i>	100%	HQ443690.1
YM	MLY-5	583	573/573	<i>Saccharomyces cerevisiae</i>	100%	JQ771732.1
YM	MLY-13	586	575/576	<i>Saccharomyces cerevisiae</i>	99.80%	JQ686916.1
YM	MLY-3	600	572/580	<i>Saccharomyces cerevisiae</i>	98.60%	JQ771732.1
ZH	ZXY-6	593	581/583	<i>Saccharomyces cerevisiae</i>	99.70%	HQ443692.1
XXW	XLY-1	587	581/581	<i>Saccharomyces cerevisiae</i>	100%	HQ443692.1
XXW	XXY-2	588	582/586	<i>Saccharomyces cerevisiae</i>	99.30%	JQ686916.1
LSYH	BXY-14	581	571/571	<i>Saccharomyces cerevisiae</i>	100%	JQ771732.1
LSYH	BT-2	578	569/570	<i>Saccharomyces cerevisiae</i>	99.80%	HQ443685.1
HH	HT-3	584	575/576	<i>Saccharomyces cerevisiae</i>	99.80%	KM655848.1
HH	HT-13	591	581/584	<i>Saccharomyces cerevisiae</i>	99.50%	GU182374.1
LL	SXY-4	600	561/569	<i>Saccharomyces cerevisiae</i>	98.60%	HQ443686.1
LL	DT-1	591	578/581	<i>Saccharomyces cerevisiae</i>	99.50%	KY109314.1
LS	LT-4	594	583/585	<i>Saccharomyces cerevisiae</i>	99.70%	KM589480.1
Must	F4-2	591	576/576	<i>Saccharomyces cerevisiae</i>	100%	EU386722.1
Must	F4-13	581	573/573	<i>Saccharomyces cerevisiae</i>	100%	JQ686916.1
Must	F4-17	593	585/586	<i>Saccharomyces cerevisiae</i>	99.80%	HQ443685.1
Must	F8-6	598	584/585	<i>Saccharomyces cerevisiae</i>	99.80%	HQ443685.1
Must	F8-10	597	583/585	<i>Saccharomyces cerevisiae</i>	99.70%	KT933338.1
Must	F10-13	582	575/575	<i>Saccharomyces cerevisiae</i>	100%	JQ686916.1
Must	F10-16	578	567/567	<i>Saccharomyces cerevisiae</i>	100%	KF141641.1

Note: **YM:** Yuma vineyard; **HH:** Huahao vineyard, **QX:** Qinxue vineyard, **ZH:** Zhihuiyuanshi vineyard, **LS:** Liushi vineyard, **LSYH:** Lanshanyunhao vineyard, **XXW:** Xixiawang vineyard, **LL:** Lilan vineyard, **LSD:** Luoshan vineyard.

Table S3 Tolerance analysis of the selected *S. cerevisiae* strains

Sources	Strains	Sugar (g/L)		SO ₂ (mg/L)			Ethanol (% v/v)		
		250	RG (%)	0	100	IR (%)	0	12	IR (%)
Control	FSC	1.56±0.02	100.00	1.44±0.01	0.87±0.03	39.46	1.64±0.00	0.89±0.06	45.85
Must	F4-13	1.50±0.02	96.40	1.52±0.03	1.48±0.03	2.24	1.45±0.01	1.16±0.02	20.23
Must	F5-7	1.38±0.04	88.69	1.40±0.07	0.80±0.00	42.46	1.51±0.01	0.82±0.03	45.67
Must	F5-9	1.48±0.03	94.97	1.38±0.01	1.36±0.09	1.75	1.52±0.02	1.14±0.20	24.95
Must	F5-12	1.42±0.04	90.94	1.44±0.01	1.37±0.07	4.78	1.54±0.02	1.17±0.05	24.13
Must	F5-18	1.48±0.06	94.87	1.37±0.01	1.19±0.04	13.21	1.52±0.03	1.18±0.14	22.17
Must	F5-19	1.41±0.03	90.41	1.32±0.03	1.32±0.00	0.37	1.49±0.01	1.12±0.17	24.94
Must	F5-21	1.38±0.01	88.47	1.45±0.12	0.98±0.05	32.50	1.34±0.00	1.05±0.04	21.67
Must	F6-8	1.45±0.08	93.06	1.53±0.01	1.52±0.00	0.43	1.42±0.00	1.29±0.06	9.15
Must	F6-23	1.57±0.01	100.95	1.50±0.03	1.51±0.06	-0.44	1.42±0.03	0.89±0.01	37.48
Must	F9-23	1.47±0.02	94.13	1.53±0.03	1.07±0.01	30.26	1.37±0.01	0.87±0.04	36.88
LL	SXY-4	1.31±0.10	84.18	1.39±0.03	1.04±0.01	25.15	1.16±0.05	0.71±0.09	39.45
HH	HT-10	1.40±0.00	89.70	1.24±0.27	1.23±0.10	0.77	1.14±0.17	0.61±0.06	46.63
ZH	ZXY-17	1.17±0.02	74.95	1.13±0.13	0.81±0.10	28.21	1.49±0.04	1.26±0.03	15.23
YM	MXY-19	1.22±0.01	78.53	1.38±0.00	0.69±0.14	49.84	1.06±0.03	0.94±0.05	11.39

Notes: Growths of *S. cerevisiae* strains under different stress conditions were expressed as the absorbance value at OD_{600nm}. **RG:** Relative growth rate of selected *S. cerevisiae* strains; **IR:** Inhibition rate of selected *S. cerevisiae* strains. **LL:** Lilan vineyard, **HH:** Huahao vineyard, **ZH:** Zhihuiyuanshi vineyard, **YM:** Yuma vineyard.