Supplemantary Tables

Title of the manuscript: Association between taste receptor (TAS) genes and the perception of wine characteristics

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Supplementary table S1. Association of all the SNPs with PROP sensitivity

Variabile indipendente	Livello (se 0 unico livello)	Coef.	P>|z|	[95% Conf Interval]
CA6_rs2274333	Mm Vs MM	-0.020	0.923	(-0,4269009; 0,3868488)
CA6_rs2274333	mm Vs MM	-0.195	0.557	(-0,8453703; 0,4553909)
GNAT3_rs7792845	Mm Vs MM	0.166	0.346	(-0,179418; 0,5114185)
GNAT3_rs7792845	mm Vs MM	-0.246	0.309	(-0,7209397; 0,2283362)
TAS1R2_rs35874116	Mm Vs MM	-0.043	0.799	(-0,3736597; 0,2879028)
TAS1R2_rs35874116	mm Vs MM	0.304	0.279	(-0,246117; 0,8540741)
TAS1R2_rs4920566	Mm Vs MM	0.155	0.466	(-0,2613635; 0,5704173)
TAS1R2_rs4920566	mm Vs MM	0.334	0.139	(-0,1083795; 0,7765003)
TAS1R3_rs35744813	Mm Vs MM	0.070	0.249	(-0,416956; 0,5576089)
TAS2R1_rs2234233	Mm Vs MM	-0.065	0.723	(-0,4260983; 0,2956269)
TAS2R1_rs2234233	mm Vs MM	-0.200	0.646	(-1,051481; 0,651834)
TAS2R1_rs41467	Mm Vs MM	-0.027	0.874	(-0,363959; 0,3094399)
TAS2R1_rs41467	mm Vs MM	0.124	0.601	(-0,3415453; 0,5901937)
TAS2R14_rs11610105	Mm Vs MM	0.067	0.687	(-0,2579887; 0,3912677)
TAS2R14_rs11610105	mm Vs MM	0.246	0.454	(-0,398221; 0,8907656)
TAS2R16_rs6466849	Mm Vs MM	-0.102	0.567	(-0,4529785; 0,248324)
TAS2R16_rs6466849	mm Vs MM	0.561	0.326	(-0,5591528; 1,681884)
TAS2R16_rs860170	Mm Vs MM	-0.176	0.294	(-0,5050025; 0,1526425)
TAS2R16_rs860170	mm Vs MM	-0.002	0.993	(-0,5431011; 0,5382848)
TAS2R16_rs978739	Mm Vs MM	-0.300	0.076	(-0,6316194; 0,0317195)
TAS2R16_rs978739	mm Vs MM	-0.058	0.832	(-0,5901395; 0,4746832)
TAS2R19_rs12313469	Mm Vs MM	0.263	0.186	(-0,1269921; 0,6537945)
TAS2R19_rs12313469	mm Vs MM	0.241	0.302	(-0,2168097; 0,6995747)
TAS2R20_rs10772408	Mm Vs MM	-0.048	0.785	(-0,3908963; 0,2955698)
TAS2R20_rs10772408	mm Vs MM	-0.059	0.810	(-0,5375968; 0,4199933)
TAS2R30_rs2599404	Mm Vs MM	0.039	0.849	(-0,3617732; 0,4398025)
TAS2R30_rs2599404	mm Vs MM	0.044	0.851	(-0,4158175; 0,5041729)
TAS2R31_rs10845296	Mm Vs MM	-0.035	0.847	(-0,3933804; 0,3226584)
TAS2R31_rs10845296	mm Vs MM	0.393	0.405	(-0,532909; 1,319214)
TAS2R38_rs10246939	Mm Vs MM	0.368	0.053	(-0,0039964; 0,7390507)
TAS2R38_rs10246939	mm Vs MM	1.710	0.000	(1,296952; 2,124031)
TAS2R38_rs1726866	Mm Vs MM	0.366	0.054	(-0,005835; 0,7371022)
TAS2R38_rs1726866	mm Vs MM	1.720	0.000	(1,306599; 2,134023)
TAS2R38_rs713598	Mm Vs MM	0.358	0.079	(-0,0408327; 0,7560625)
TAS2R38_rs713598	mm Vs MM	1.633	0.000	(1,210333; 2,055768)
TAS2R39_rs4726600	Mm Vs MM	-0.189	0.288	(-0,5363169; 0,1592148)
TAS2R39_rs4726600	mm Vs MM	0.145	0.684	(-0,5518018; 0,8411787)
TAS2R40_rs534126	Mm Vs MM	-0.122	0.462	(-0,448158; 0,2037637)
TAS2R40_rs534126	mm Vs MM	0.075	0.785	(-0,4615715; 0,6107118)
TAS2R41_rs10278721	Mm Vs MM	-0.091	0.593	(-0,4246336; 0,2425518)
TAS2R41_rs10278721	mm Vs MM	-0.465	0.103	(-1,023853; 0,0934816)
TAS2R42_rs5020531	Mm Vs MM	-0.004	0.983	(-0,3424817; 0,3351725)

TAS2R42_rs5020531	mm Vs MM	0.096	0.708	(-0,4041749; 0,5955355)
TAS2R46_rs2708381	Mm Vs MM	0.331	0.065	(-0,0208535; 0,6820387)
TAS2R46_rs2708381	mm Vs MM	-0.127	0.757	(-0,9317792; 0,6775085)
TAS2R5_rs2227264	Mm Vs MM	-0.635	0.001	(-1,021399; -0,2476244)
TAS2R5_rs2227264	mm Vs MM	-0.931	0.000	(-1,363882; -0,4971271)
TAS2R50_rs1376251	Mm Vs MM	-0.039	0.824	(-0,3876064; 0,3087661)
TAS2R50_rs1376251	mm Vs MM	0.010	0.996	(-0,545409; 0,5427206)
TAS2R50_rs7136962	Mm Vs MM	0.203	0.228	(-0,1271773; 0,5340109)
TAS2R50_rs7136962	mm Vs MM	-0.060	0.875	(-0,8096406; 0,6894947)
TAS2R60_rs4595035	Mm Vs MM	0.046	0.788	(-0,2891064; 0,3811795)
TAS2R60_rs4595035	mm Vs MM	-0.059	0.814	(-0,552465; 0,4340965)
TAS2R7_rs2588350	Mm Vs MM	0.207	0.259	(-0,1524614; 0,5659731)
TAS2R7_rs2588350	mm Vs MM	0.355	0.221	(-0,2140503; 0,9247068)
TAS2R9_rs3741845	Mm Vs MM	0.116	0.524	(-0,2409942; 0,4732343)
TAS2R9_rs3741845	mm Vs MM	0.038	0.883	(-0,4726842; 0,5491657)

Mn Vs MM defines the analysis of heterozygous versus common homozygous

mm Vs MM defines the analysis of rare homozygous versus common homozygous

Supplementary table S2. Associations between the selected polymorphic variants and wine bitterness.

Chr.	Gene	SNP	Model	Czech Republic			Italy			Czech Republic and Italy		
				Coef.	95% CI	P-value	Coef.	95% CI	P-value	Coef.	95% CI	P-value
Chr.1												
	TAS1R3	rs35744813	T/C vs C/C	-0.29	(-1.31 ; 0.74)	0.52	-0.72	(-1.96 ; 0.51)	0.63	-0.43	(-1.23 ; 0.36)	0.41
	CA6	rs2274333	G/A vs A/A	0.07	(-0.75 ; 0.89)	0.86	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
			G/G vs /A/A	-0.53	(-1.74 ; 0.68)	0.39	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	TAS1R2	rs4920566	G/A vs G/G	0.40	(-0.40 ; 1.21)	0.33	n.a.	n.a.	n.a.	n.a.	n.a.)	n.a.
			A/A vs G/G	-0.66	(-1.55 ; 0.22)	0.14	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		rs35874116	G/A vs A/A	0.11	(-0.60 ; 0.82)	0.76	0.41	(-0.42 ; 1.23)	0.34	0.19	(-0.35 ; 0.73)	0.50
			G/G vs A/A	-0.18	(-1.41 ; 1.06)	0.78	-0.45	(-1.75 ; 0.84)	0.49	-0.32	(-1.22 ; 0.58)	0.49
Chr.5												
	TAS1R1	rs41467	T/G vs G/G	-0.03	(-0.76 0.71)	0.94	-0.21	(-1.00 ; 0.58)	0.60	-0.17	(-0.70 ; 0.37)	0.55
			T/T vs G/G	-0.25	(-1.22 ; 0.73)	0.62	-0.50	(-1.63 ; 0.64)	0.39	-0.38	(-1.12 ; 0.36)	0.31
Chr.7												
	GNAT3	rs7792845	G/A vs G/G	0.22	(-0.49 ; 0.94)	0.54	-0.08	(-0.94 ; 0.77)	0.85	0.16	(-0.40 ; 0.71)	0.58
			A/A vs G/G	1.19	(-0.03 ; 2.40)	0.06	-0.87	(-1.88 ; 0.13)	0.09	-0.14	(-0.90 ; 0.63)	0.73
	TAS2R16	rs6466849	A/G vs G/G	0.33	(-0.40 ; 1.05)	0.38	-0.51	(-1.35 ; 0.33)	0.23	-0.05	(-0.61 ; 0.50)	0.85
			A/A vs G/G	-0.01	(-1.88 ; 1.86)	0.99	-3.81	(-9.22 ; 1.61)	0.17	-0.53	(-2.30 ; 1.24)	0.56
		rs860170	G/A vs /A/A	-0.34	(-1.06 ; 0.39)	0.36	0.39	(-0.39 ; 1.17)	0.33	0.06	(-0.47 ; 0.6)	0.82
			G/G vs A/A	0.06	(-0.98 ; 1.10)	0.91	0.81	(-0.72 ; 2.34)	0.30	0.38	(-0.49 ; 1.24)	0.40
		rs978739	G/A vs A/A	0.11	(-0.60 ; 0.82)	0.76	-0.13	(-0.92 ; 0.65)	0.74	-0.04	(-0.57 ; 0.48)	0.87
			G/G vs A/A	0.42	(-0.64 ; 1.48)	0.44	0.24	(-1.17 ; 1.64)	0.74	0.38	(-0.46 ; 1.22)	0.38
	TAS2R5	rs2227264	T/G vs G/G	-0.53	(-1.36 ; 0.30)	0.21	0.89	(-0.03 ; 1.82)	0.06	0.10	(-0.53 ; 0.73)	0.75
			T/T vs G/G	-0.08	(-1.00 ; 0.83)	0.86	0.46	(-0.59 ; 1.52)	0.39	0.21	(-0.49 ; 0.91)	0.56
	TAS2R38	rs10246939	C/T vs C/C	-0.90	(-1.78 ; -0.01)	0.05	-0.06	(-0.96 ; 0.84)	0.90	-0.54	(-1.17 ; 0.09)	0.10
			T/T vs C/C	-1.12	(-2.11 ; -0.14)	0.03	-0.97	(-1.96 ; 0.02)	0.06	-1.08	(-1.78 ; -0.38)	**0.003**
		rs1726866	T/C vs C/C	-1.06	(-1.94 ; -0.19)	0.02	-0.07	(-0.97 ; 0.83)	0.89	-0.63	(-1.27 ; -0.001)	0.05
			T/C vs C/C	-1.16	(-2.13 ; -0.18)	0.02	-0.94	(-1.94 ; 0.05)	0.06	-1.10	(-1.80 ; -0.40)	**0.002**
		rs713598	G/C vs C/C	-0.71	(-1.67 ; 0.26)	0.15	0.08	(-0.87 ; 1.03)	0.87	-0.34	(-1.02 ; 0.34)	0.33
			G/G vs C/C	-0.91	(-1.93 ; 0.10)	0.08	-0.51	(-1.51 ; 0.50)	0.32	-0.75	(-1.46 ; -0.03)	0.04
	TAS2R39	rs4726600	G/A vs G/G	-0.08	(-0.78 ; 0.62)	0.82	0.14	(-0.75 ; 1.03)	0.76	0.00	(-0.56 ; 0.55)	0.99
			A/A vs G/G	-0.87	(-2.30 ; 0.56)	0.23	-0.64	(-2.36 ; 1.08)	0.47	-0.66	(-1.76 ; 0.45)	0.24
	TAS2R40	rs534126	T/C vs C/C	-0.54	(-1.23 ; 0.14)	0.12	-0.31	(-1.09 ; 0.48)	0.45	-0.46	(-0.98 ; 0.06)	0.08
			T/T vs C/C	0.51	(-0.74 ; 1.75)	0.43	-0.32	(-1.50 ; 0.85)	0.59	0.04	(-0.81 ; 0.90)	0.92
	TAS2R60	rs4595035	T/C vs C/C	-0.06	(-0.77 ; 0.65)	0.88	-0.16	(-0.95 ; 0.63)	0.69	-0.05	(-0.59 ; 0.48)	0.84
			T/T vs C/C	-0.41	(-1.49 ; 0.66)	0.45	-0.50	(-1.65 ; 0.65)	0.39	-0.42	(-1.21 ; 0.37)	0.30

	TAS2R41	rs10278721	T/C vs C/C	0.33	(-0.36 ; 1.03)	0.34	-0.07	(-0.89 ; 0.75)	0.87	0.16	(-0.38 ; 0.69)	0.56
			T/T vs C/C	-0.13	(-1.45 ; 1.18)	0.84	0.39	(-0.80 ; 1.58)	0.52	0.15	(-0.74 ; 1.03)	0.75
Chr.12												
	TAS2R7	rs2588350	G/A vs G/G	0.32	(-0.38 ; 1.02)	0.38	0.89	(-0.11 ; 1.89)	0.08	0.54	(-0.04 ; 1.12)	0.07
			A/A vs G/G	0.30	(-1.15 ; 1.76)	0.68	0.55	(-0.66 ; 1.75)	0.38	0.43	(-0.48 ; 1.35)	0.35
	TAS2R9	rs3741845	T/C vs C/C	-0.13	(-0.87 ; 0.60)	0.72	0.45	(-0.42 ; 1.31)	0.31	0.12	(-0.45 ; 0.68)	0.69
			T/T vs C/C	0.05	(-0.91 ; 1.02)	0.92	0.30	(-1.16 ; 1.77)	0.69	0.10	(-0.71 ; 0.91)	0.81
	TAS2R14	rs11610105	G/A vs G/G	0.49	(-0.20 ; 1.17)	0.16	-0.56	(-1.35 ; 0.22)	0.16	0.06	(-0.46 ; 0.58)	0.82
			A/A vs G/G	0.01	(-1.38 ; 1.41)	0.99	0.15	(-1.33 ; 1.64)	0.84	-0.05	(-1.07 ; 0.98)	0.93
	TAS2R50	rs1376251	T/C vs C/C	0.74	(0.05 ; 1.42)	0.04	0.47	(-0.42 ; 1.36)	0.30	0.69	(0.15 ; 1.24)	0.01
			T/T vs C/C	-0.74	(-1.96 ; 0.48)	0.23	0.89	(-0.30 ; 2.08)	0.14	0.16	(-0.69 ; 1.01)	0.71
		rs7136962	T/C vs T/T	0.40	(-0.29 ; 1.09)	0.26	-0.13	(-0.94 ; 0.67)	0.74	0.17	(-0.36 ; 0.70)	0.53
			C/C vs T/T	0.04	(-1.42 ; 1.50)	0.96	0.57	(-1.43 ; 2.56)	0.58	0.14	(-1.05 ; 1.33)	0.82
	TAS2R20	rs10772408	G/A vs G/G	-0.28	(-1.02 ; 0.46)	0.45	-0.57	(-1.36 ; 0.21)	0.15	-0.44	(-0.98 ; 0.10)	0.11
			A/A vs G/G	-0.33	(-1.35 ; 0.68)	0.52	-0.62	(-1.77 ; 0.54)	0.30	-0.47	(-1.24 ; 0.29)	0.23
	TAS2R19	rs12313469	G/A vs G/G	0.65	(-0.26 ; 1.57)	0.16	-1.13	(-1.97 ; -0.29)	0.01	-0.30	(-0.93 ; 0.32)	0.35
			A/A vs G/G	0.14	(-0.89 ; 1.17)	0.79	-0.98	(-2.04 ; 0.08)	0.07	-0.62	(-1.36 ; 0.11)	0.10
	TAS2R31	rs10845296	T/C vs T/T	0.07	(-0.69 ; 0.82)	0.86	0.30	(-0.58 ; 1.18)	0.50	0.19	(-0.38 ; 0.77)	0.51
			C/C vs T/T	-1.20	(-3.92 ; 1.52)	0.39	0.36	(-1.50 ; 2.22)	0.71	-0.03	(-1.56 ; 1.49)	0.97
	TAS2R46	rs2708381	G/A vs G/G	0.45	(-0.31 ; 1.22)	0.25	-0.01	(-0.81 ; 0.79)	0.98	0.23	(-0.33 ; 0.78)	0.42
			A/A vs G/G	-0.15	(-1.77 ; 1.47)	0.86	-0.09	(-2.08 ; 1.90)	0.93	-0.22	(-1.48 ; 1.04)	0.74
	TAS2R30	rs2599404	T/G vs T/T	0.70	(-0.19 ; 1.59)	0.12	-0.67	(-1.58 ; 0.25)	0.16	0.04	(-0.60 ; 0.67)	0.91
			G/G vs T/T	0.30	(-0.70 ; 1.30)	0.55	-0.77	(-1.86 ; 0.33)	0.17	-0.32	(-1.05 ; 0.42)	0.40
	TAS2R42	rs5020531	T/C vs C/C	0.08	(-0.66 ; 0.81)	0.84	0.00	(-0.81 ; 0.81)	1.00	0.12	(-0.42 ; 0.67)	0.66
			T/C vs C/C	-0.21	(-1.21 ; 0.80)	0.69	0.05	(-1.27 ; 1.36)	0.94	-0.14	(-0.94 ; 0.66)	0.73

Supplementary table S3. Associations between the selected polymorphic variants and wine sourness.

Chr.	Gene	SNP	Model	Czech Republic			Italy			Czech Republic and Italy		
				Coef.	95% CI	P-value	Coef.	95% CI	P-value	Coef.	95% CI	P-value
Chr.1												
	TAS1R3	rs357448	T/C vs C/C	0.31	(-0.70 ; 1.31)	0.51	-0.41	(-1.50 ; 0.68)	0.56	0.00	(0.73 ; 0.74)	0.38
	CA6	rs227433	G/A vs A/A	0.48	(-0.34 ; 1.30)	0.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
			G/G vs /A/A	-0.20	(-1.44 ; 1.03)	0.75	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	TAS1R2	rs492056	G/A vs G/G	0.17	(-0.63 ; 0.98)	0.68	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
			A/A vs G/G	-0.27	(-1.16 ; 0.61)	0.55	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		rs358741	G/A vs A/A	-0.28	(-0.97 ; 0.42)	0.44	-0.44	(-1.16 ; 0.28)	0.23	-0.37	(-0.87 ; 0.13)	0.15
			G/G vs A/A	0.73	(-0.48 ; 1.93)	0.24	-0.85	(-1.97 ; 0.28)	0.14	-0.04	(-0.87 ; 0.78)	0.92
Chr.5												
	TAS1R1	rs41467	T/G vs G/G	-0.27	(-0.99 ; 0.46)	0.47	-0.23	(-0.93 ; 0.48)	0.53	-0.26	(-0.77 ; 0.24)	0.30
			T/T vs G/G	-0.81	(-1.76 ; 0.15)	0.10	0.05	(-0.97 ; 1.06)	0.93	-0.46	(-1.16 ; 0.23)	0.19
Chr.7												
	GNAT3	rs779284	G/A vs G/G	0.29	(-0.42 ; 0.99)	0.42	-0.43	(-1.20 ; 0.34)	0.28	0.02	(-0.50 ; 0.54)	0.95
			A/A vs G/G	0.64	(-0.56 ; 1.84)	0.30	-0.47	(-1.38 ; 0.43)	0.30	0.02	(-0.69 ; 0.73)	0.95
	TAS2R16	rs646684	A/G vs G/G	1.20	(0.50 ; 1.91)	0.001	0.61	(-0.14 ; 1.35)	0.11	0.94	(0.43 ; 1.46)	0.0003
			A/A vs G/G	-0.75	(-2.56 ; 1.05)	0.41	-5.11	(-9.93 ; 0.28)	0.04	-1.30	(-2.94 ; 0.34)	0.12
		rs860170	G/A vs /A/A	0.10	(-0.61 ; 0.82)	0.78	0.07	(-0.61 ; 0.75)	0.84	0.10	(-0.39 ; 0.60)	0.68
			G/G vs A/A	0.24	(-0.80 ; 1.27)	0.65	0.25	(-1.08 ; 1.58)	0.71	0.24	(-0.56 ; 1.05)	0.55
		rs978739	G/A vs A/A	0.29	(-0.41 ; 0.99)	0.42	0.59	(-0.12 ; 1.29)	0.10	0.40	(-0.09 ; 0.90)	0.11
			G/G vs A/A	0.46	(-0.59 ; 1.50)	0.39	0.17	(-1.09 ; 1.42)	0.80	0.40	(-0.39 ; 1.19)	0.33
	TAS2R5	rs222726	T/G vs G/G	-0.52	(-1.35 ; 0.32)	0.22	0.28	(-0.56 ; 1.11)	0.52	-0.17	(-0.76 ; 0.43)	0.58
			T/T vs G/G	-0.90	(-1.82 ; 0.02)	0.06	-0.04	(-0.99 ; 0.91)	0.93	-0.49	(-1.15 ; 0.17)	0.15
	TAS2R38	rs102469	C/T vs C/C	0.49	(-0.39 ; 1.37)	0.27	0.60	(-0.21 ; 1.40)	0.15	0.50	(-0.10 ; 1.10)	0.10
			T/T vs C/C	0.64	(-0.34 ; 1.62)	0.20	-0.02	(-0.91 ; 0.87)	0.96	0.30	(-0.36 ; 0.96)	0.37
		rs172686	T/C vs C/C	0.42	(-0.46 ; 1.31)	0.35	0.59	(-0.21 ; 1.40)	0.15	0.46	(-0.14 ; 1.06)	0.13
			T/C vs C/C	0.59	(-0.39 ; 1.58)	0.24	-0.03	(-0.92 ; 0.86)	0.94	0.27	(-0.40 ; 0.93)	0.43
		rs713598	G/C vs C/C	-0.08	(-1.03 ; 0.87)	0.87	0.13	(-0.72 ; 0.98)	0.76	-0.02	(-0.66 ; 0.62)	0.95
			G/G vs C/C	0.56	(-0.45 ; 1.57)	0.28	-0.07	(-0.97 ; 0.82)	0.87	0.24	(-0.44 ; 0.91)	0.49
	TAS2R39	rs472660	G/A vs G/G	0.17	(-0.52 ; 0.86)	0.64	-0.21	(-0.99 ; 0.58)	0.60	0.03	(-0.49 ; 0.54)	0.92
			A/A vs G/G	-0.57	(-1.98 ; 0.84)	0.43	0.06	(-1.46 ; 1.57)	0.94	-0.28	(-1.31 ; 0.75)	0.59
	TAS2R40	rs534126	T/C vs C/C	0.35	(-0.32 ; 1.02)	0.31	-0.36	(-1.06 ; 0.34)	0.31	0.04	(-0.45 ; 0.52)	0.88
			T/T vs C/C	1.44	(0.19 ; 2.68)	0.02	0.06	(-0.98 ; 1.11)	0.91	0.73	(-0.08 ; 1.54)	0.08
	TAS2R60	rs459503	T/C vs C/C	-0.46	(-1.16 ; 0.23)	0.19	0.12	(-0.59 ; 0.82)	0.74	-0.19	(-0.69 ; 0.31)	0.45
			T/T vs C/C	-0.30	(-1.36 ; 0.76)	0.58	0.31	(-0.71 ; 1.33)	0.56	-0.02	(-0.75 ; 0.72)	0.97

	TAS2R41	rs102787	T/C vs C/C	-0.14	(-0.81 ; 0.54)	0.70	-0.13	(-0.86 ; 0.61)	0.73	-0.14	(-0.64 ; 0.36)	0.58
			T/T vs C/C	0.59	(-0.69 ; 1.88)	0.37	-0.05	(-1.11 ; 1.01)	0.93	0.22	(-0.60 ; 1.05)	0.60
Chr.12												
	TAS2R7	rs258835	G/A vs G/G	0.16	(-0.53 ; 0.85)	0.65	0.45	(-0.44 ; 1.34)	0.32	0.28	(-0.26 ; 0.83)	0.31
			A/A vs G/G	1.45	(0.02 ; 2.89)	0.05	0.33	(-0.74 ; 1.39)	0.55	0.70	(-0.15 ; 1.56)	0.11
	TAS2R9	rs374184	T/C vs C/C	0.35	(-0.37 ; 1.07)	0.33	-0.24	(-1.03 ; 0.55)	0.55	0.12	(-0.42 ; 0.65)	0.67
			T/T vs C/C	0.78	(-0.17 ; 1.72)	0.11	-1.30	(-2.63 ; 0.04)	0.06	0.15	(-0.62 ; 0.91)	0.71
	TAS2R14	rs116101	G/A vs G/G	0.21	(-0.47 ; 0.88)	0.55	-0.27	(-0.97 ; 0.43)	0.45	0.00	(-0.48 ; 0.49)	0.99
			A/A vs G/G	0.28	(-1.09 ; 1.66)	0.69	-0.66	(-1.98 ; 0.67)	0.33	-0.20	(-1.16 ; 0.76)	0.68
	TAS2R50	rs137625	T/C vs C/C	0.29	(-0.39 ; 0.97)	0.41	0.25	(-0.54 ; 1.04)	0.54	0.30	(-0.21 ; 0.81)	0.25
			T/T vs C/C	-0.28	(-1.51 ; 0.96)	0.66	0.59	(-0.47 ; 1.65)	0.28	0.20	(-0.61 ; 1.01)	0.62
		rs713696	T/C vs T/T	0.28	(-0.40 ; 0.97)	0.42	-0.07	(-0.79 ; 0.65)	0.85	0.13	(-0.37 ; 0.62)	0.61
			C/C vs T/T	0.25	(-1.20 ; 1.71)	0.73	-0.55	(-2.33 ; 1.23)	0.54	-0.07	(-1.19 ; 1.04)	0.90
	TAS2R20	rs107724	G/A vs G/G	0.02	(-0.71 ; 0.75)	0.96	-0.45	(-1.16 ; 0.25)	0.21	-0.20	(-0.71 ; 0.30)	0.43
			A/A vs G/G	-0.58	(-1.57 ; 0.41)	0.25	-0.25	(-1.28 ; 0.78)	0.63	-0.46	(-1.18 ; 0.25)	0.20
	TAS2R19	rs123134	G/A vs G/G	1.04	(0.14 ; 1.94)	0.02	-0.47	(-1.23 ; 0.28)	0.22	0.23	(-0.36 ; 0.81)	0.45
			A/A vs G/G	-0.02	(-1.03 ; 0.99)	0.97	-0.81	(-1.76 ; 0.15)	0.10	-0.58	(-1.26 ; 0.11)	0.10
	TAS2R31	rs108452	T/C vs T/T	0.44	(-0.31 ; 1.18)	0.25	0.06	(-0.72 ; 0.84)	0.89	0.28	(-0.26 ; 0.82)	0.31
			C/C vs T/T	0.91	(-1.79 ; 3.61)	0.51	0.07	(-1.59 ; 1.72)	0.94	0.40	(-1.03 ; 1.83)	0.58
	TAS2R46	rs270838	G/A vs G/G	0.49	(-0.28 ; 1.25)	0.21	-0.34	(-1.05 ; 0.38)	0.36	0.09	(-0.44 ; 0.61)	0.74
			A/A vs G/G	0.01	(-1.61 ; 1.62)	0.99	0.45	(-1.34 ; 2.23)	0.63	0.10	(-1.09 ; 1.29)	0.87
	TAS2R30	rs259940	T/G vs T/T	0.68	(-0.19 ; 1.56)	0.13	-0.52	(-1.34 ; 0.29)	0.21	0.09	(-0.51 ; 0.69)	0.76
			G/G vs T/T	-0.35	(-1.33 ; 0.64)	0.49	-1.24	(-2.22 ; 0.27)	0.01	-0.85	(-1.54 ; 0.15)	0.02
	TAS2R42	rs502053	T/C vs C/C	0.19	(-0.53 ; 0.91)	0.60	-0.26	(-0.97 ; 0.46)	0.48	0.01	(-0.49 ; 0.52)	0.96
			T/C vs C/C	0.82	(-0.17 ; 1.8)	0.10	0.41	(-0.75 ; 1.57)	0.49	0.63	(-0.11 ; 1.38)	0.10

Supplementary table S4. Associations between the selected polymorphic variants and e astringency.

Chr.	Gene	SNP	Model	Czech Republic			Italy			Czech Republic and Italy		
				Coef.	95% CI	P-value	Coef.	95% CI	P-value	Coef.	95% CI	P-value
Chr.1												
	TAS1R3	rs3574481	T/C vs C/C	-0.22	(-1.09 ; 0.66)	0.45	-0.19	(-1.33 ; 0.95)	0.58	-0.14	(-0.84 ; 0.57)	0.36
	CA6	rs2274333	G/A vs A/A	0.12	(-0.57 ; 0.80)	0.74	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
			G/G vs /A/A	-0.59	(-1.6 ; 0.430)	0.26	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	TAS1R2	rs4920566	G/A vs G/G	0.29	(-0.38 ; 0.96)	0.40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
			A/A vs G/G	-1.24	(-1.97 ; -0.50)	**0.001**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		rs3587411	G/A vs A/A	-0.31	(-0.91 ; 0.30)	0.32	-0.08	(-0.83 ; 0.66)	0.83	-0.24	(-0.71 ; 0.24)	0.33
			G/G vs A/A	-0.08	(-1.14 ; 0.98)	0.88	0.80	(-0.37 ; 1.96)	0.18	0.39	(-0.40 ; 1.17)	0.34
Chr.5												
	TAS1R1	rs41467	T/G vs G/G	-0.20	(-0.82 ; 0.42)	0.53	0.37	(-0.36 ; 1.10)	0.32	0.04	(-0.43 ; 0.52)	0.86
			T/T vs G/G	0.34	(-0.49 ; 1.16)	0.42	0.14	(-0.91 ; 1.19)	0.79	0.25	(-0.41 ; 0.91)	0.46
Chr.7												
	GNAT3	rs7792845	G/A vs G/G	-0.17	(-0.77 ; 0.44)	0.59	0.16	(-0.63 ; 0.96)	0.69	0.03	(-0.46 ; 0.52)	0.90
			A/A vs G/G	-0.19	(-1.22 ; 0.85)	0.72	-0.26	(-1.18 ; 0.67)	0.59	-0.25	(-0.92 ; 0.42)	0.47
	TAS2R16	rs6466849	A/G vs G/G	0.44	(-0.17 ; 1.06)	0.16	0.55	(-0.23 ; 1.33)	0.17	0.49	(0.002 ; 0.97)	0.05
			A/A vs G/G	0.00	(-1.58 ; 1.59)	1.00	-2.57	(-7.60 ; 2.46)	0.32	-0.15	(-1.71 ; 1.41)	0.85
		rs860170	G/A vs /A/A	-0.22	(-0.83 ; 0.40)	0.49	0.60	(-0.11 ; 1.31)	0.10	0.19	(-0.28 ; 0.66)	0.43
			G/G vs A/A	-0.58	(-1.46 ; 0.31)	0.20	-0.63	(-2.02 ; 0.76)	0.38	-0.51	(-1.27 ; 0.25)	0.19
		rs978739	G/A vs A/A	0.52	(-0.08 ; 1.12)	0.09	0.33	(-0.41 ; 1.06)	0.39	0.41	(-0.06 ; 0.88)	0.09
			G/G vs A/A	0.74	(-0.16 ; 1.64)	0.11	-0.40	(-1.72 ; 0.92)	0.55	0.44	(-0.31 ; 1.19)	0.25
	TAS2R5	rs2227264	T/G vs G/G	-0.44	(-1.16 ; 0.27)	0.23	0.58	(-0.27 ; 1.44)	0.18	0.03	(-0.53 ; 0.59)	0.92
			T/T vs G/G	0.05	(-0.74 ; 0.84)	0.90	0.14	(-0.84 ; 1.12)	0.78	0.17	(-0.45 ; 0.80)	0.59
	TAS2R38	rs1024693	C/T vs C/C	-0.51	(-1.27 ; 0.25)	0.19	-0.18	(-1.01 ; 0.66)	0.68	-0.39	(-0.96 ; 0.17)	0.18
			T/T vs C/C	-0.19	(-1.04 ; 0.65)	0.65	-0.72	(-1.64 ; 0.20)	0.13	-0.47	(-1.10 ; 0.15)	0.14
		rs1726866	T/C vs C/C	-0.57	(-1.33 ; 0.19)	0.14	-0.16	(-0.99 ; 0.67)	0.70	-0.41	(-0.98 ; 0.15)	0.15
			T/C vs C/C	-0.27	(-1.11 ; 0.58)	0.54	-0.68	(-1.60 ; 0.24)	0.15	-0.50	(-1.13 ; 0.13)	0.12
		rs713598	G/C vs C/C	-0.18	(-1.01 ; 0.64)	0.66	-0.14	(-1.02 ; 0.74)	0.75	-0.19	(-0.79 ; 0.42)	0.54
			G/G vs C/C	0.06	(-0.81 ; 0.94)	0.89	-0.38	(-1.30 ; 0.55)	0.43	-0.18	(-0.81 ; 0.46)	0.59
	TAS2R39	rs4726600	G/A vs G/G	0.40	(-0.19 ; 0.99)	0.19	-0.27	(-1.07 ; 0.54)	0.51	0.13	(-0.36 ; 0.62)	0.60
			A/A vs G/G	0.57	(-0.65 ; 1.78)	0.36	-0.55	(-2.11 ; 1.01)	0.49	0.21	(-0.76 ; 1.18)	0.67
	TAS2R40	rs534126	T/C vs C/C	-0.41	(-0.99 ; 0.17)	0.16	0.13	(-0.59 ; 0.85)	0.73	-0.20	(-0.66 ; 0.25)	0.38
			T/T vs C/C	0.56	(-0.50 ; 1.62)	0.30	0.38	(-0.70 ; 1.46)	0.49	0.46	(-0.29 ; 1.22)	0.23
	TAS2R60	rs4595035	T/C vs C/C	-0.46	(-1.06 ; 0.14)	0.13	0.37	(-0.35 ; 1.09)	0.31	-0.06	(-0.53 ; 0.41)	0.80
			T/T vs C/C	-0.13	(-1.04 ; 0.78)	0.78	0.37	(-0.67 ; 1.41)	0.49	0.10	(-0.59 ; 0.79)	0.78
	TAS2R41	rs1027872	T/C vs C/C	-0.05	(-0.64 ; 0.54)	0.86	-0.31	(-1.07 ; 0.45)	0.43	-0.19	(-0.67 ; 0.28)	0.42

			T/T vs C/C	-0.35	(-1.47 ; 0.77)	0.54	0.11	(-0.99 ; 1.22)	0.84	-0.10	(-0.89 ; 0.69)	0.81
Chr.12												
	TAS2R7	rs2588350	G/A vs G/G	0.62	(0.03 ; 1.20)	0.04	0.70	(-0.20 ; 1.60)	0.13	0.68	(0.18 ; 1.18)	0.01
			A/A vs G/G	1.40	(0.18 ; 2.62)	0.02	0.75	(-0.34 ; 1.84)	0.18	0.99	(0.20 ; 1.78)	0.01
	TAS2R9	rs3741845	T/C vs C/C	0.39	(-0.23 ; 1.01)	0.22	-0.05	(-0.87 ; 0.77)	0.91	0.23	(-0.28 ; 0.73)	0.38
			T/T vs C/C	0.35	(-0.47 ; 1.17)	0.40	-0.19	(-1.57 ; 1.19)	0.79	0.13	(-0.59 ; 0.84)	0.73
	TAS2R14	rs1161010	G/A vs G/G	0.29	(-0.29 ; 0.87)	0.33	0.07	(-0.65 ; 0.79)	0.85	0.24	(-0.22 ; 0.69)	0.31
			A/A vs G/G	-0.53	(-1.71 ; 0.66)	0.38	0.00	(-1.37 ; 1.37)	1.00	-0.33	(-1.24 ; 0.57)	0.47
	TAS2R50	rs1376251	T/C vs C/C	-0.05	(-0.64 ; 0.54)	0.87	0.39	(-0.42 ; 1.20)	0.35	0.14	(-0.34 ; 0.62)	0.56
			T/T vs C/C	-0.93	(-1.97 ; 0.12)	0.08	0.08	(-1.01 ; 1.17)	0.88	-0.46	(-1.21 ; 0.29)	0.23
		rs7136962	T/C vs T/T	0.20	(-0.39 ; 0.79)	0.51	-0.18	(-0.91 ; 0.56)	0.64	0.06	(-0.41 ; 0.53)	0.80
			C/C vs T/T	-0.53	(-1.78 ; 0.72)	0.41	0.29	(-1.55 ; 2.12)	0.76	-0.26	(-1.31 ; 0.8)	0.63
	TAS2R20	rs1077240	G/A vs G/G	-0.12	(-0.75 ; 0.50)	0.70	-0.32	(-1.04 ; 0.41)	0.39	-0.23	(-0.71 ; 0.25)	0.35
			A/A vs G/G	0.73	(-0.12 ; 1.58)	0.09	0.45	(-0.61 ; 1.51)	0.41	0.58	(-0.09 ; 1.25)	0.09
	TAS2R19	rs1231346	G/A vs G/G	0.56	(-0.22 ; 1.34)	0.16	-0.27	(-1.05 ; 0.50)	0.49	0.11	(-0.44 ; 0.66)	0.69
			A/A vs G/G	-0.03	(-0.90 ; 0.85)	0.95	-0.92	(-1.90 ; 0.05)	0.06	-0.52	(-1.17 ; 0.12)	0.11
	TAS2R31	rs1084529	T/C vs T/T	0.53	(-0.11 ; 1.18)	0.10	0.26	(-0.53 ; 1.05)	0.52	0.40	(-0.10 ; 0.91)	0.12
			C/C vs T/T	1.50	(-0.83 ; 3.83)	0.21	0.44	(-1.23 ; 2.12)	0.61	0.87	(-0.47 ; 2.21)	0.20
	TAS2R46	rs2708381	G/A vs G/G	0.34	(-0.31 ; 0.98)	0.31	-0.20	(-0.93 ; 0.54)	0.60	0.10	(-0.39 ; 0.59)	0.68
			A/A vs G/G	-0.75	(-2.12 ; 0.62)	0.29	0.05	(-1.78 ; 1.87)	0.96	-0.47	(-1.58 ; 0.65)	0.41
	TAS2R30	rs2599404	T/G vs T/T	0.61	(-0.15 ; 1.36)	0.12	-0.08	(-0.92 ; 0.76)	0.86	0.26	(-0.30 ; 0.82)	0.36
			G/G vs T/T	0.08	(-0.77 ; 0.93)	0.86	-0.88	(-1.89 ; 0.12)	0.08	-0.40	(-1.05 ; 0.24)	0.22
	TAS2R42	rs5020531	T/C vs C/C	0.36	(-0.26 ; 0.98)	0.26	0.67	(-0.05 ; 1.40)	0.07	0.57	(0.09 ; 1.05)	0.018
			T/C vs C/C	0.31	(-0.54 ; 1.16)	0.48	0.44	(-0.74 ; 1.62)	0.46	0.40	(-0.30 ; 1.09)	0.27

Supplementary table S5. Genes and SNPs selected in the study

Chr.	Gene	SNPs	Alleles	Most common annotation
Chr. 1				
	TAS1R3	rs35744813	T/C	nearGene-5
	CA6	rs2274333	G/A	missense
	TAS1R2	rs4920566	G/A	intron region
	TAS1R2	rs35874116	G/A	missense
Chr. 5				
	TAS2R1	rs41467	T/G	non-coding
	TAS2R1	rs2234233	T/C	missense R206W
Chr. 7				
	GNAT3	rs7792845	G/A	closer to gene
	TAS2R16	rs6466849	A/G	non-coding
	TAS2R16	rs860170	G/A	missense H222R
	TAS2R16	rs978739	G/A	non-coding
	TAS2R5	rs2227264	T/G	missense S26I
	TAS2R38	rs10246939	C/T	missense I296V
	TAS2R38	rs1726866	T/C	missense V262A
	TAS2R38	rs713598	G/C	missense A49P
	TAS2R39	rs4726600	G/A	non-coding
	TAS2R40	rs534126	T/C	non-coding
	TAS2R60	rs4595035	T/C	synonymous R310R
	TAS2R41	rs10278721	T/C	missense P127L
Chr.12				
	TAS2R7	*rs2588350*	G/A	non-coding
	TAS2R9	rs3741845	T/C	missense V187A
	TAS2R14	rs11610105	G/A	non-coding
	TAS2R50	rs1376251	T/C	missense C203Y
	TAS2R50	rs7136962	T/C	nearGene-5
	TAS2R20	rs10772408	G/A	non-coding
	TAS2R19	rs12313469	G/A	cds-synon
	TAS2R31	rs10845296	T/C	non-coding
	TAS2R46	rs2708381	G/A	nonsense
	TAS2R30	rs2599404	T/G	missense F252L
	TAS2R42	rs5020531	T/C	missense F196S