

**Selection and validation of reference genes for RT-qPCR analysis in Tibetan medicinal plant
Saussurea laniceps callus under abiotic stresses and hormone treatments**

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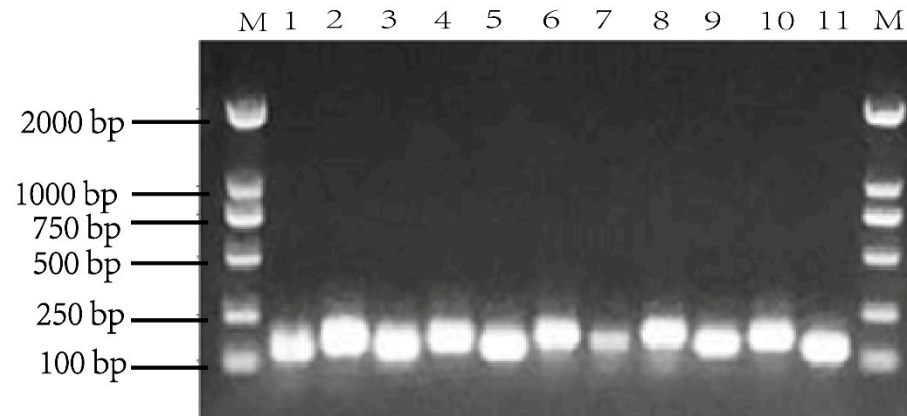


Figure S1. Electrophoresis Detection of RT-qPCR Amplification products of 11 Internal reference genes of *Saussurea laniceps*

(1)*SKIP1*; (2)*UBL5*; (3)*TUB3*; (4)*PP2AA2*; (5)*ELF5A*; (6)*TIF3H1*; (7)*UEV1D*; (8)*UBC36*; (9)*TUA2*; (10)*TUB8*; (11)*TIF3B1*

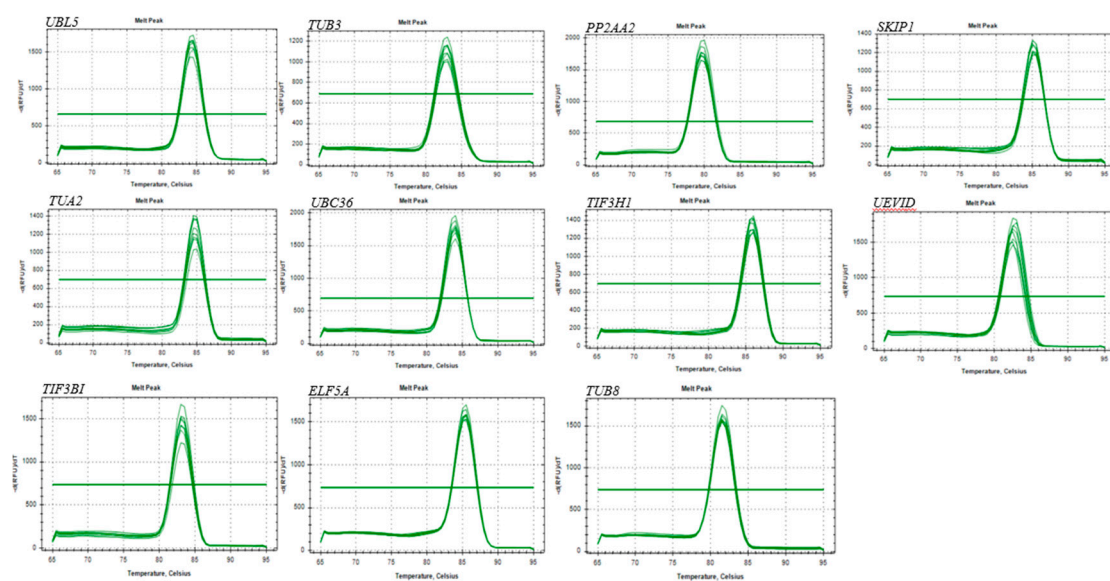


Figure S2. Melting curves for eleven reference genes in *Saussurea Laniceps*

Table S1. Gene expression stability under multiple conditions ranked by Δ CT, BestKeeper, NormFinder, geNorm and RefFinder.

Groups	Ranking	RefFinder		Δ CT		BestKeeper		Normfinder		geNorm	
		Gene	Stability	Gene	Stability	Gene	Stability	Gene	Stability	Genes	Stability
Abiotic stress	1	<i>ELF5A</i>	1.41	<i>ELF5A</i>	1.05	<i>UBC36</i>	0.34	<i>ELF5A</i>	0.10	<i>TIF3B1</i>	0.33
	2	<i>TIF3B1</i>	2.11	<i>TIF3B1</i>	1.11	<i>UBL5</i>	0.57	<i>TIF3B1</i>	0.35	<i>ELF5A</i>	0.33
	3	<i>UBL5</i>	2.71	<i>UBL5</i>	1.12	<i>TIF3HI</i>	0.65	<i>UBL5</i>	0.42	<i>UBL5</i>	0.53
	4	<i>UBC36</i>	2.83	<i>UBC36</i>	1.16	<i>ELF5A</i>	0.70	<i>UBC36</i>	0.51	<i>UBC36</i>	0.61
	5	<i>TIF3HI</i>	4.40	<i>TIF3HI</i>	1.21	<i>TIF3B1</i>	0.85	<i>TIF3HI</i>	0.65	<i>TIF3HI</i>	0.72
	6	<i>TUA2</i>	6.45	<i>TUA2</i>	1.29	<i>PP2AA2</i>	0.94	<i>TUA2</i>	0.75	<i>TUA2</i>	0.82
	7	<i>PP2AA2</i>	6.74	<i>PP2AA2</i>	1.39	<i>UEVID</i>	0.96	<i>PP2AA2</i>	0.99	<i>PP2AA2</i>	0.89
	8	<i>TUB3</i>	8.24	<i>TUB3</i>	1.61	<i>TUA2</i>	1.04	<i>TUB3</i>	1.36	<i>TUB3</i>	1.04
	9	<i>UEVID</i>	8.68	<i>UEVID</i>	1.79	<i>TUB3</i>	1.49	<i>UEVID</i>	1.49	<i>SKIPI</i>	1.16
	10	<i>SKIPI</i>	9.97	<i>SKIPI</i>	1.83	<i>TUB8</i>	1.59	<i>SKIPI</i>	1.66	<i>UEVID</i>	1.28
	11	<i>TUB8</i>	10.74	<i>TUB8</i>	2.05	<i>SKIPI</i>	1.61	<i>TUB8</i>	1.91	<i>TUB8</i>	1.42
Hormone stimuli	1	<i>UBC36</i>	1.00	<i>UBC36</i>	1.17	<i>UBC36</i>	0.53	<i>UBC36</i>	0.25	<i>UBC36</i>	0.50
	2	<i>TIF3HI</i>	1.68	<i>TIF3HI</i>	1.2	<i>TIF3HI</i>	0.56	<i>TIF3HI</i>	0.25	<i>TIF3HI</i>	0.50
	3	<i>PP2AA2</i>	3.94	<i>PP2AA2</i>	1.26	<i>UBL5</i>	0.57	<i>UBL5</i>	0.36	<i>TUB8</i>	0.58
	4	<i>TUB8</i>	3.94	<i>TUB8</i>	1.27	<i>TUB8</i>	0.61	<i>PP2AA2</i>	0.39	<i>PP2AA2</i>	0.63
	5	<i>UBL5</i>	4.24	<i>TIF3B1</i>	1.3	<i>PP2AA2</i>	0.71	<i>TUB8</i>	0.40	<i>TIF3B1</i>	0.66
	6	<i>TIF3B1</i>	5.48	<i>UBL5</i>	1.32	<i>TIF3B1</i>	0.78	<i>TIF3B1</i>	0.47	<i>UBL5</i>	0.69
	7	<i>SKIPI</i>	7.00	<i>SKIPI</i>	1.49	<i>SKIPI</i>	0.87	<i>SKIPI</i>	0.84	<i>SKIPI</i>	0.78
	8	<i>ELF5A</i>	8.00	<i>ELF5A</i>	1.55	<i>ELF5A</i>	0.9	<i>ELF5A</i>	0.93	<i>ELF5A</i>	0.86
	9	<i>TUA2</i>	9.00	<i>TUA2</i>	1.92	<i>TUA2</i>	1.4	<i>TUA2</i>	1.54	<i>TUA2</i>	1.02
	10	<i>TUB3</i>	10.00	<i>TUB3</i>	2.25	<i>TUB3</i>	1.51	<i>TUB3</i>	2.03	<i>TUB3</i>	1.20
	11	<i>UEVID</i>	11.00	<i>UEVID</i>	3.89	<i>UEVID</i>	3.38	<i>UEVID</i>	3.81	<i>UEVID</i>	1.69
All	1	<i>UBC36</i>	1.00	<i>UBC36</i>	1.23	<i>UBC36</i>	0.43	<i>UBC36</i>	0.23	<i>UBC36</i>	0.50
	2	<i>UBL5</i>	2.00	<i>PP2AA2</i>	1.24	<i>UBL5</i>	0.57	<i>UBL5</i>	0.38	<i>UBL5</i>	0.50
	3	<i>PP2AA2</i>	2.91	<i>TIF3B1</i>	1.28	<i>TIF3HI</i>	0.69	<i>PP2AA2</i>	0.39	<i>PP2AA2</i>	0.66
	4	<i>TIF3B1</i>	4.12	<i>UBL5</i>	1.29	<i>PP2AA2</i>	0.78	<i>TIF3B1</i>	0.45	<i>TIF3B1</i>	0.72
	5	<i>TIF3HI</i>	4.40	<i>TIF3HI</i>	1.33	<i>ELF5A</i>	0.81	<i>TIF3HI</i>	0.51	<i>TIF3HI</i>	0.77
	6	<i>ELF5A</i>	5.73	<i>ELF5A</i>	1.41	<i>TIF3B1</i>	0.82	<i>ELF5A</i>	0.75	<i>ELF5A</i>	0.82
	7	<i>TUA2</i>	7.24	<i>TUA2</i>	1.66	<i>TUB8</i>	1.09	<i>TUA2</i>	1.19	<i>TUA2</i>	0.97
	8	<i>SKIPI</i>	8.24	<i>SKIPI</i>	1.76	<i>TUA2</i>	1.22	<i>SKIPI</i>	1.33	<i>SKIPI</i>	1.08
	9	<i>TUB8</i>	8.45	<i>TUB8</i>	1.83	<i>SKIPI</i>	1.25	<i>TUB8</i>	1.41	<i>TUB8</i>	1.20
	10	<i>TUB3</i>	10.00	<i>TUB3</i>	1.98	<i>TUB3</i>	1.31	<i>TUB3</i>	1.71	<i>TUB3</i>	1.31
	11	<i>UEVID</i>	11.00	<i>UEVID</i>	3.25	<i>UEVID</i>	2.44	<i>UEVID</i>	3.12	<i>UEVID</i>	1.66