

Table S2: Phenotypic characterization of *PpJAZ1* tobacco lines.

Plant ID	Plant height (cm)	largest leaf width (cm)	Petal length (mm)	Pistil length (mm)	Stamen length (mm)	Weight of five fruits (gm)
CI1 D	100	23	50	44	41	1.32
CI1 E	86	19	58	47	48	1.45
CI1 F	117	22	51	42	40	1.5
CI1 H	107	21	56	45	42	1.61
CI1 J	96	20	52	43	44	1.35
CI1 K	86	21	54	44	46	1.1
CI2 E	111	33	49	43	42	0.88
CI2 F	116	24	48	40	41	0.89
CI2 G	120	24	49	44	39	1.02
CI2 H	102	21	49	43	43	0.92
CI2 I	96	22	46	40	37	0.7
CI2 J	92	22	25	19	12	NA
CI2 K	110	19	52	43	43	0.98
CI3 A	95	22	46	40	37	0.67
CI3 B	92	23	48	40	41	0.88
CI3 E	76	21	49	41	40	0.88
CI3 F	77	21	51	43	40	1.1
CI3 G	85	18	52	43	40	1.4
CI3 K	97	21	49	44	40	0.76
CI3 L	93	22	29	23	17	NA
CI3 M	91	20	48	40	41	0.98
CI3 N	94	22	25	20	13	NA
CI3 O	90	23	30	32	13	NA
CI3 P	87	23	53	41	43	1.1
CI3 Q	102	20	32	22	13	NA
WT A	84	21	55	47	47	1.5
WT D	106	22	54	44	47	1.4
WT E	85	18	55	45	46	1.45

ND: fruit set was Not Detected in these lines.

Table S3: Differential gene expression in leaves of transgenic tobacco plants.

Plant ID	<i>PpJAZ1</i> ^a	<i>NtAOC</i> ^b	<i>NtOPR3</i> ^b	<i>NtLOX3</i> ^b	<i>NtARF8</i> ^b	<i>NtMYC2a</i> ^b	<i>NtMYC2b</i> ^b	<i>NtMYB21</i> ^b
C11 D	690.67472*	-1.21373	1.561655	-1.07412	-1.03705	-2.72436*	-3.03098	ND
C11 E	1.00000	1.464122	1.993	2.38633*	1.31600	-1.21232	-1.34624	ND
C11 F	700.74541*	-1.634223	2.869265	15.90337*	-2.75203*	4.32995*	4.16447*	ND
C11 H	1421.05085*	-5.116712*	-1.595973	1.41218	-3.46301	-1.17892	-1.07934	ND
C11 J	0.35556	-1.567531	1.843883	7.37406*	-5.50591*	2.94850*	2.97742*	ND
C11 K	1.40553	1.367676	1.297361	1.95578	-1.01465	-1.15309	1.07187	ND
C12 E	1612.52471*	-3.393874	-1.224891	-1.19282	-3.58821	-1.09711	1.03453	ND
C12 F	3312.24940	-3.68011	-1.691162	-3.96671*	-4.77883*	-2.57424*	-2.42843	ND
C12 G	2808.08552*	-2.73599	1.299783	-1.07670	-5.27574*	1.01557	-1.09244	ND
C12 H	1402.65148*	-3.823546	-1.037462	9.07497*	-1.04004	3.83652*	2.96479*	ND
C12 I	4135.69868*	-2.413135*	1.791097	2.06682*	-1.53184	1.51753	1.17222	ND
C12 J	5316.34593*	-2.826888	-1.192632	2.32422*	-2.76729	2.00377*	1.58628	ND
C12 K	1518.31832*	-2.345719	1.201961	2.45234	-4.44265*	1.50066	1.74547	ND
C13 A	1829.93605*	-1.822224	-1.475208	-2.37871*	-1.05000	-2.77927*	-2.60163	ND
C13 B	1214.51701*	-2.051565	1.658674	1.73589	-6.62515*	1.15547	1.37391	ND
C13 E	1131.32709*	-2.272063	1.36794	1.04847	-10.43240	-1.02560	1.16003	ND
C13 F	1295.32274*	-2.331655*	2.032482*	1.33412	-5.33136*	1.04550	1.25619	ND
C13 G	1509.18026*	-2.071814	-1.341194	1.20589	-1.07158	-1.69369	-1.65922	ND
C13 K	2490.82736*	-2.612904	-1.261909	1.00720	-2.12064*	-1.06094	-1.20557	ND
C13 L	5231.50306*	-2.375213	2.244356*	6.36682*	-5.47342*	1.47523	1.74606	ND
C13 M	671.82082	-3.890696	1.091036	2.52202	-4.58906*	-1.03535	1.47728	ND
C13 N	5326.21415	-2.191635	1.927552	-1.13468	-2.59430	-1.13489	-1.09359	ND
C13 O	5777.04038*	-3.144197*	1.688294	1.19597	-4.52866*	1.21028	1.21495	ND
C13 P	1100.81912*	-2.963885*	1.180272	5.30189*	-4.65681*	3.01308*	2.92596*	ND
C13 Q	6148.07681*	-6.589559*	-1.131397	1.90674	-3.17087*	1.26890	1.22179	ND
WT A	ND	1.244577	1.042466	1.74274	1.02348	-1.31069	-1.59769	ND
WT D	ND	1.626388	1.777516	1.88989	1.11596	1.04742	-1.35804	ND
WT E	ND	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	ND

^aExpression of the gene was calculated relative to that in the C11 E and normalized to the expression of *NtActin* in the same cDNA sample.

^bExpression of the gene was calculated relative to that in wild-type E (WT E) and normalized to the expression of *NtActin* in the same cDNA sample.

* Expression of the gene is significantly up-regulated or down-regulated (minus values) compared to control at $P \leq 0.01$.

ND: The expression of the gene is Not Detected.

Table S4: Differential gene expression in petals of transgenic tobacco plants.

Plant ID	<i>PpJAZ1</i> ^a	<i>NtAOC</i> ^b	<i>NtOPR3</i> ^b	<i>NtLOX3</i> ^b	<i>NtARF8</i> ^b	<i>NtMYC2a</i> ^b	<i>NtMYC2b</i> ^b	<i>NtMYB21</i> ^b
C11 D	599.47983*	-5.22034	-1.04495	-1.19985	-1.95373	-1.03325	-1.57559	1.96488
C11 E	1.00000	1.03966	2.55533	-1.15119	-1.55422	1.93781	-1.85905	1.06842
C11 F	615.80330*	-2.03043	1.04409	-1.53887	-2.51126	1.04740	-2.14643*	1.55885
C11 H	1230.16859*	-6.81727	1.20778	1.39409	-1.93650	1.31495	-1.15117	-3.15013*
C11 J	0.30876	-1.26778	2.22086	-11.08766*	1.07095	-2.88124	-4.03496	1.59113
C11 K	1.21995	-1.31966	2.40599	1.13634	-1.24747	1.83660	-1.37775	1.33955
C12 E	854.91371	1.26421	1.86393	-1.20919	-1.76881	-1.10852	-1.95497	-2.74657*
C12 F	2863.46732*	2.22378	1.97825	-1.61257	-2.21535	-1.03878	-2.52522*	-3.44276*
C12 G	2442.32862*	-1.03355	1.93910	-1.47595	1.86614	-1.48686	-1.58710	-3.68545*
C12 H	1255.58613*	-4.19602	2.22473	-1.03904	-2.81720	-1.03842	-1.39469	1.62703
C12 I	3588.21551*	1.55430	2.66975	-1.15631	-1.56621	-1.09845	-1.73896	-12.03814*
C12 J	4732.61125*	2.00511	2.10318	-1.53569	-2.04577	-1.06733	-2.41828*	-15.81608*
C12 K	808.08845	-2.82351	1.60236	1.26938	-2.83710	1.69944	1.02800	1.27402
C13 A	1588.16966*	2.37078	2.33308	-5.37657*	1.90543	-2.63565	-4.37952*	-13.54573*
C13 B	1066.39716*	2.07681	2.46043	-5.17523*	2.27172	-2.61036	-3.95036*	-12.57171*
C13 E	979.02175*	-3.90144	1.49131	1.64444	-2.23993	1.55724	1.33677	1.60722
C13 F	1119.49588*	-1.93526	2.39136	-1.32984	-3.54435	1.04341	-1.77648	1.34819
C13 G	1348.39229*	-5.38432	1.28014	1.03305	-2.46277	1.31106	-1.54008	-4.04402*
C13 K	1758.17310*	-1.23152	1.88463	-1.56888	1.63106	-1.50880	-1.66759	-4.17453*
C13 L	3636.42800*	8.41848	2.77750	-22.04569*	24.70229*	-10.86203	-11.99998*	ND
C13 M	590.78114*	-1.93488	2.91037	-1.01084	-1.10503	1.00144	-1.01627	1.75106
C13 N	3111.88700	5.73896*	2.21125	-30.54486*	18.20450*	-17.31649	-14.54614*	-802.41034*
C13 O	5013.29303*	7.06130	2.66291	-23.53369*	20.76324*	-10.93409	-12.91132*	ND
C13 P	705.21586*	-2.17828	2.88500	-1.05159	-1.25967	1.01229	-1.08128	1.45539
C13 Q	3683.03502*	4.57435*	2.06570	-35.04265*	15.09266*	-18.07475	-15.79126*	-865.89041*
WT A	ND	-2.65137	1.38170	-24.10477*	-1.00448	-6.82702*	-8.19680*	1.45040
WT D	ND	-5.62415	2.14366	-12.14198*	-1.13360	-2.83655	-4.23817*	1.31867
WT E	ND	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

^aExpression of the gene was calculated relative to that in the C11 E and normalized to the expression of *NtActin* in the same cDNA sample.

^bExpression of the gene was calculated relative to that in wild-type E (WT E) and normalized to the expression of *NtActin* in the same cDNA sample.

* Expression of the gene is significantly up-regulated or down-regulated (minus values) compared to control at $P \leq 0.01$.

ND: The expression of the gene is Not Detected.

Table S5: Sequences of the oligonucleotides described in Methods

Primers for qRT-PCR	
<i>PpLOX3-RT-F</i>	AGCCAGGGTGTCTCGAGAGTT
<i>PpLOX3-RT-R</i>	ACCAGTGGCTGATGAGCTG
<i>PpOPR3-RT-F</i>	GATGCGTCTCATGCCACTT
<i>PpOPR3-RT-R</i>	CAAGGCAGCCTGTCTGATAA
<i>PpActin-RT-F</i>	CATGCCATTCTTCGTCTGG
<i>PpActin-RT-R</i>	TCAGCAGTGGTGGTGAACA
<i>PpJAZ1-RT-F</i>	CTCAACCCATTGTTTGTGAT
<i>PpJAZ1-RT-R</i>	GGTATGGTGCTTTGTTGTT
<i>PpJAZ10-RT-F</i>	TCCTTCTCAACCACCACCA
<i>PpJAZ10-RT-R</i>	TGGGATTTGCTCTGCTTTG
<i>PpJAZ3-RT-F</i>	TCAGGGATGCAGTGGTCAT
<i>PpJAZ3-RT-R</i>	TTCTTGACCCACCTTCTTGG
<i>PpJAZ4-RT-F</i>	CGATAGGCAAGATGGCACT
<i>PpJAZ4-RT-R</i>	TTCACATCATGGGGACGAT
<i>PpJAZ5-RT-F</i>	AACATGCAACCTCCTGAGC
<i>PpJAZ5-RT-R</i>	GGCCGGTCTCCATGTTAGT
<i>PpJAZ11-RT-F</i>	TTCGCTGCAAACTCTGCT
<i>PpJAZ11-RT-R</i>	TGGGAAATTCAGCTTGCAG
<i>PpJAZ7-RT-F</i>	GCGCTCGTGATGTTACAGA
<i>PpJAZ7-RT-R</i>	TCCACTTGGAGTGAATGGAC
<i>PpJAZ8-RT-F</i>	TATGGCAGAAAGGGGGATA
<i>PpJAZ8-RT-R</i>	GACCTCTTCATGGACACACC
<i>PpJAZ9-RT-F</i>	CTGCCGCAAATACCTCAA
<i>PpJAZ9-RT-R</i>	AGCAGAGCCTTGAGGGAAA
<i>NtActin-F</i>	GTTGCTATTCAGGCTGTCCTTT
<i>NtActin-R</i>	CATCACCAGAATCCAACACAA
<i>NtAOC-RT-F</i>	TGATCAAACACGAAGAGGAAA
<i>NtAOC-RT-R</i>	GAACGGCGATGTGACCATAA
<i>NtLOX3-RT-F</i>	GGTTTTCCCACCAGTAAGCAA
<i>NtLOX3-RT-R</i>	GCCATTGAGATGACCAAGAA
<i>NtOPR3-RT-F</i>	GCCAGATGGAACCTCATGCTAT
<i>NtOPR3-RT-R</i>	GCGATAATCTTCAACCCTTGT
<i>NtARF8-RT-F</i>	TCAGCTCCTTCTGGGGATT
<i>NtARF8-RT-R</i>	GCCCAATGTGCATGCTATC
<i>NtMYC2a-RT-F</i>	CAGCTCAAGCCCGATTTGG
<i>NtMYC2a-RT-R</i>	CTGAAGCCCGAAACCTTGG
<i>NtMYC2b-RT-F</i>	GCCTGAGTCTGGCGAAATC
<i>NtMYC2b-RT-R</i>	TTGGCCCGAAAACAAGCTC
<i>NtMYB21-RT-F</i>	TATCTCCGGCCTGATGTCC
<i>NtMYB21-RT-R</i>	GACCACCTGTTTCCCCACT
Primers to generate PpJAZ1-GFP construct	

<i>PpJAZ1.F</i>	GCGGATCCATGTCGAGTTCATCGGAGACT
<i>PpJAZ1.R</i>	ATGGATCCCTTGGGTTGGTTGAGCAGCCAA
Primers for Y2H assays	
<i>PpCOI1-BD-F</i>	ATCCATGGAGATGGAGGATCGAAACGTGCGAA
<i>PpCOI1-BD-R</i>	ATGTCGACGGAGGTAATAAAAGATGCTGGAT
<i>AtCOI1-BD-F</i>	ATCCATGGAGATGGAGGATCCTGATATCAAGA
<i>AtCOI1-BD-R</i>	ATGTCGACTATTGGCTCCTTCAGGACTCTAAC
<i>PpJAZ1-AD-F</i>	ATCATATGATGTCGAGTTCATCGGAGACTCTG
<i>PpJAZ1-AD-R</i>	CCATCGATTGGGTTGGTTGAGCAGCCAAG
<i>AtJAZ1-AC-F</i>	ATCATATGATGTCGAGTTCATGGAATGTTCT
<i>AtJAZ1-AC-R</i>	CCATCGATTATTCAGCTGCTAAACCGAGC

Table S6: Accession numbers for genes used in this study.

<i>Gene ID</i>	<i>Accession #</i>
<i>PpActin</i>	BU046508
<i>PpJAZ1</i>	EMJ03624
<i>PpJAZ3</i>	EMJ10481
<i>PpJAZ4</i>	EMJ24447
<i>PpJAZ5</i>	EMJ17157
<i>PpJAZ7</i>	EMJ13436
<i>PpJAZ8</i>	EMJ18496
<i>PpJAZ9</i>	EMJ23765
<i>PpJAZ10</i>	EMJ25153
<i>PpJAZ11</i>	EMJ03625
<i>PpCOI1</i>	EMJ21634
<i>PpLOX3</i>	EMJ18259
<i>PpOPR3</i>	EMJ05582
<i>NtActin</i>	BAD27408
<i>NtAOC</i>	CAC83765
<i>NtLOX3</i>	AY775034
<i>NtOPR3</i>	HQ891853
<i>NtMYC2a</i>	ADH04269
<i>NtMYC2b</i>	ADH04270