

Table S1. Mutant and transgenic plants in jasmonates biosynthesis and signaling in rice

Gene name	Name of mutant/transgenic lines	RAP ID	Function	Reference
<i>OsHI-LOX</i>	<i>oshiloxRNAi</i>	Os08g0508800	JA biosynthesis Increases susceptibility to chewing herbivores, but enhances resistance to a phloem feeder when silenced.	[62]
<i>OsAOS1</i>	<i>pre/cpm1</i> (<i>precocious/coleoptile morphogenesis 1</i>)	Os03g0767000	JA biosynthesis The <i>pre/cpm1</i> plant has long leaves and elongated coleoptiles and mesocotyls, flowers approximately 5 days earlier with the flowers remaining open after flowering, and is partially sterile.	[32,33]
<i>OsAOC</i>	<i>cpm2/hebibia</i> (<i>coleoptile morphogenesis 2</i>)	Os03g0438100	JA biosynthesis The mutation in the <i>OsAOC</i> gene produces abnormalities in the spikelet architecture with elongated palea, sterile lemmas, additional bract-like organs, additional anthers and pistils, an early heading time, and elongated coleoptiles and mesocotyls. Increases susceptibility to <i>Magnaporthe grisea</i> , the root-knot nematode <i>Meiloidogyne graminicola</i> , the parasitic plant <i>Striga hermonthica</i> , and the generalist cucumber beetle <i>Diabrotica balteata</i> Enhances drought and salt tolerance.	[29,30,60,70,76]
<i>OsOPR7</i>	<i>og1/ucgl</i> (<i>open glume 1/unclose glume</i>)	Os08g0459600	JA biosynthesis The mutation in <i>OsOPR7</i> results in the lemma and palea not being able to fully close during anthesis and malformed, shriveled, and mildewed seeds within open glumes.	[34,35]
<i>OsJAR1</i>	<i>osjar1</i>	Os05g0586200	Catalyzes the conjugation of JA and an amino acid Loss of function of <i>OsJAR1</i> and defects in husk closure and anther dehiscence.	[36]
<i>OsCYP94C2b</i>	<i>CYP94C2b_OE</i>	<i>Os12g0150200</i>	Catalyzes the conversion of JA-Ile into 12-OH-JA-Ile and 12-COOH-JA-Ile Increases salt tolerance and increases internode length and plant height under normal conditions when overexpressed.	[106,107]
<i>OsJAZ1</i>	<i>eg2</i> (<i>extra glume 2</i>)	Os04g0653000	Repressor in JA signaling Increases floret number, culm length, and grain weight; reduces heading time and spikelet fertility; and enhances root growth when overexpressed. Produces extra glume-like structures, alters floral organ numbers and identities, and increases root length when mutated.	[31,45,46]

<i>OsJAZ3</i>	<i>OsJAZ3_OE</i>	Os08g0428400	Repressor in JA signaling Increased number of organs in florets, aberrant patterns of organ formation, and repetitious organ production in spikelets when overexpressed in the dominant negative form.	[44]
<i>OsJAZ5</i>	<i>OsJAZ5_OE</i>	Os04g0395800	Repressor in JA signaling Increased floret number, culm length, and grain weight and reduced heading time and spikelet fertility when overexpressed.	[45]
<i>OsJAZ6</i>	<i>OsJAZ6_OE</i>	Os03g0402800	Repressor in JA signaling Increased floret number, culm length, and grain weight and reduced heading time and spikelet fertility when overexpressed. Increased number of organs in florets, aberrant patterns of organ formation, and repetitious organ production in spikelets when overexpressed in the dominant negative form.	[44,45]
<i>OsJAZ7</i>	<i>OsJAZ7_OE</i>	Os07g0615200	Repressor in JA signaling Increased floret number, culm length, grain weight, and heading time when overexpressed. Increased number of organs in florets, aberrant patterns of organ formation, and repetitious organ production in spikelets when overexpressed in the dominant negative form.	[44,45]
<i>OsJAZ8</i>	<i>OsJAZ8_OE</i> <i>OsJAZ8AC</i>	Os09g0439200	Repressor in JA signaling Increased floret number and culm length; reduced heading time, spikelet fertility, and grain weight when overexpressed. Insensitive to JA treatment and loses JA-induced resistance to <i>Xanthomonas oryzae</i> pv <i>oryzae</i> when overexpressed in the dominant negative form.	[45,57]
<i>OsJAZ9</i>	<i>OsJAZ9_OE</i> <i>osjaz9</i>	Os03g0180800	Repressor in JA signaling Increased floret number, culm length, and grain weight; reduced heading time and spikelet fertility and increased salt tolerance when overexpressed. Increases susceptibility to salt stress when mutated.	[10,45,102]
<i>OsJAZ10</i>	<i>OsJAZ10_OE</i>	Os03g0181100	Repressor in JA signaling Increased floret number, culm length, and grain weight; reduced heading time and spikelet fertility when overexpressed.	[45]
<i>OsJAZ11</i>	<i>OsJAZ11_OE</i>	Os03g0180900	Repressor in JA signaling Increased floret number, culm length, and grain weight; a reduced number of days to flowering and spikelet fertility when overexpressed.	[44,45]

			Increased number of organs in florets, aberrant patterns of organ formation, and repetitious organ production in spikelets when overexpressed in the dominant negative form.	
<i>OsJAZ12</i>	<i>OsJAZ12_OE</i>	Os10g0392400	Repressor in JA signaling Increased floret number, culm length, and grain weight; reduced number of days to flowering and spikelet fertility when overexpressed.	[45]
<i>OsJAZ13</i>	<i>OsJAZ13_OE</i>	Os10g0391400	Repressor in JA signaling Increased floret number; reduced number of days to flowering, grain weight, culm length, and spikelet fertility when overexpressed.	[45]
<i>OsCO11a</i>	<i>oscoi1aRNAi</i>	Os01g0853400	Receptor of JA-Ile Increased plant height and grain length and increased susceptibility to the rice leaf folder (LF) <i>Cnaphalocrocis medinalis</i> and the Rice black streaked dwarf virus (RBSDV) when silenced.	[39,63,75–41]
<i>OsCO11b</i>	<i>oscoi1b</i>	Os05g0449500	Receptor of JA-Ile Delays leaf senescence and reduces fertility and grain filling rate when mutated. Increases plant height and grain length and increases susceptibility to the Rice black streaked dwarf virus (RBSDV) when silenced.	[39,40,75]
<i>OsNINJA1</i>	<i>OsNINJA1_OE</i>	Os05g0558800	Component of a corepressor complex and connects JAZ and NINJA proteins in JA signaling Increases susceptibility to the bacterial blight disease caused by <i>Xanthomonas oryzae</i> pv <i>oryzae</i> , and delays leaf senescence when overexpressed.	[47]
<i>OsMYC2</i>	<i>OsMYC2_OE</i> <i>osmyc2RNAi</i>	Os10g0575000	Activator of a transcription factor in JA signaling Regulates senescence-associated genes, inhibits seedling growth, and increases resistance to <i>Xanthomonas oryzae</i> pv <i>oryzae</i> when overexpressed. Reduces expression of JA-responsive genes when silenced.	[48, 53]
<i>OsRSS3</i>	<i>rss3 (rice salt sensitive 3)</i>	Os11g0446000	<i>RSS3</i> 's function is required for root cell elongation and the control of root growth under salinity conditions. A loss of function of <i>RSS3</i> moderately inhibits cell elongation under normal conditions, but it provokes spontaneous root cell swelling, accompanied by severe root growth inhibition, under saline conditions.	[1056]