

Table S1. Sequences of *OsOr* transcripts from each callus line harboring *Osor_t3*.

Callus line	Transcript sequences (Fig. S10)	Expected amino acid sequences
WT	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPLSAANLKI
<i>Osor_t3</i> -#1	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPLKCS*
	ATTCCATTCTTGCCTCCCCT-AGTGCAGCTAATCTCAAAATC	IPFLPPLVQLISKSTMLRVSL*
<i>Osor_t3</i> -#8	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPLKCS*
	ATTCCATTCTTGCCTCCCCTGGTAAGTATATATACTTCTACATCCAGCACCATCTCACATG GTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAA TCAGCTCATTACCACTGGATGTTTAAACAATTTATTGTACTTTTCTTGCAGCTGGAAGTTAA (green letters indicate the sequences of 5th exon)	IPFLPPLVSIYTSTSSSTISHGSYLRV YMLLILLVEFEVNPQLITSGCLTIYCT FLAAGT*
	ATTCCATTCTTGCCTCCCCTGGTAAGTATATATACTTCTACATCCAGCACCATCTCACATG GTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAA TCAGCTCATTACTAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLPPLVSIYTSTSSSTISHGSYLRV YMLLILLVEFEVNPQLITSGCLTIYCT FLAAGT*
	ATTCCATTCTTGCCTCCCCTGGTAAGTATATATACTTCTACATCCAGCACCATCTCACATG GTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAA TCAGCTCATTACCTAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLPPLVSIYTSTSSSTISHGSYLRV YMLLILLVEFEVNPQLIT*
	ATTCCATTCTTGCCTCCCCTGGTAAGTATATATACTTCTACATCCAGCACCATCTCACATG GTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAA TAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLPPLVSIYTSTSSSTISHGSYLRV YMLLILLVEFEVNPNGSLALNRVQLIS KSTMLRVSL*
<i>Osor_t3</i> -#21	ATTCCATTCTTGCCTCCCCT-AGTGCAGCTAATCTCAAAATC	IPFLPPLVQLISKSTMLRVSL*
	ATTCCATTCTTGCCTCCCCTGATATATACTTCTACATCCAGCACCATCTCACATGAGTGCAGCTAATCTCAAAATC	IPFLPPLIYTSTSSSTISHECS*
	ATTCCATTCTTGCCTCCCCTGATATATACTTCTACATCCAGCACCATCTCACATGGTTCATATTTAAGAGTGCAGCTAATCTCAAAATC	IPFLPPLIYTSTSSSTISHGSYLRVQLISKSTMLRVSL*
	ATTCCATTCTTGCCTCCCCTGTATATATACTTCTACATCCAGCACCATCTCACATGGTTCAATATTTAAGAGTGCAGCTAATCTCAAAATC	IPFLPPLYIYFYIQHHLTWFIKSAANLKI
	ATTCCATTCTTGCCTCCCCTGAAGTATATATACTTCTACATCCAGCACCATCTCACATGGTTTCATATTTAAGAGTGCAGCTAATCTCAAAATC	IPFLPPLKYIYFYIQHHLTWFIKSAA NLKI
	ATTCCATTCTTGCCTCCCCTGAAGTATATATACTTCTACATCCAGCACCATCTCACATGGTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAATCAGCTCATTACTAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLPPLKYIYFYIQHHLTWFIKECIY AIDITC*
<i>Osor_t3</i> -#23	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPL*
	ATTCCATTCTTGCCTCCC--AGTGCAGCTAATCTCAAAATC	IPFLPP-SAANLKI
<i>Osor_t3</i> -#27	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPLKCS*
	ATTCCATTCTT-----GCACCATCTCACATGGTTTCATATTTAAGAGTGCAGCTAATCTCAAAATC	IPFLHHLTWFIKSAANLKI
	ATTCCATTCTT-----GCACCATCTCACATGGTTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAATCAGCTCATTACTAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLHHLTWFIKECIY AIDITC*
<i>Osor_t3</i> -#43	ATTCCATTCTTGCCTCCCCTGAGTGCAGCTAATCTCAAAATC	IPFLPPLKCS*
	ATTCCATTCTTGCCTCCCCTGA-----CTAATCTCAAAATC	IPFLPPL--TNLKI
	ATTCCATTCTTGCCTCCCCTGAGTATATATACTTCTACATCCAGCACCATCTCACATGAGTGCAGCTAATCTCAAAATC	IPFLPPLSIYTSTSSSTISHECS*
	ATTCCATTCTTGCCTCCCCTGAGTATATATACTTCTACATCCAGCACCATCTCACATGGTTCATATTTAAGAGTGCAGCTAATCTCAAAATC	IPFLPPLSIYTSTSSSTISHGSYLRVQLISKSTMLRVSL*
	ATTCCATTCTTGCCTCCCCTGAGTATATATACTTCTACATCCAGCACCATCTCACATGGTTCATATTTAAGGAGTGTATATATGCTATTGATATTACTTGTGAATTTGAAGTTCCAAATCAGCTCATTACTAATGGTTCTCTTGCTTTAAACAGAGTGCAGCTAATCTCAAAATC	IPFLPPLSIYTSTSSSTISHGSYLRVYMLLILLVEFEVNPQLITNGSLALNRVQLISKSTMLRVSL*

Table S2. List of or orthologs from various plant species

Species	Sequence ID	Species	Sequence ID
<i>Oryza Sativa Japonica</i>	Os02g0651300	<i>Gossypium raimondii</i>	Gorai.001G051800.1
	Os02g0535000		Gorai.003G111300.2
<i>Sorghum bicolor</i>	Sobic.004G298900	<i>Fragaria vesca</i>	mrna21066.1~v1.0-hybrid
	Sobic.004G166900.1	<i>Vitis vinifera</i>	GSVIVT01013859001
<i>Brachypodium distachyon</i>	Bradi3g50330.1		GSVIVT01013852001
	Bradi3g45010.1	<i>Trifolium pratense</i>	Tp57577_TGAC_v2_mRNA15638
<i>Citrus clementina</i>	Ciclev10032174m	<i>Zea mays PH207</i>	Zm00008a022489_T01
	Ciclev10012134m	<i>Mimulus guttatus</i>	Migut.F01209.1
<i>Citrus sinensis</i>	orange1.1g021509m		Migut.F00540.1
	orange1.1g021514m	<i>Musa acuminata</i>	GSMUA_Achr8T14990_001
<i>Arabidopsis thaliana</i>	AT5G61670.1		GSMUA_Achr11T00320_001
	AT5G06130.2	<i>Cucumis sativus</i>	Cucsa.129150.2
<i>Solanum lycopersicum</i>	Solyc03g093830.2.1	<i>Malus domestica</i>	MDP0000300938
	Solyc09g010110.2.1		MDP0000136536
<i>Solanum tuberosum</i>	PGSC0003DMT400022863		MDP0000158020
<i>Zea mays</i>	GRMZM2G039089_T03	<i>Prunus persica</i>	Prupe.2G270800.1
<i>Brassica rapa</i>	Brara.I00670.1	<i>Panicum hallii</i>	Pahal.A02767.1
<i>Brassica oleracea var. botrytis</i>	Boor	<i>Panicum virgatum</i>	Pavir.Ab00376.1
<i>Selaginella moellendorffii</i>	92027		Pavir.Aa01191.1
<i>Physcomitrella patens</i>	Pp3c19_22560V3.2	<i>Setaria italica</i>	Seita.1G255000.1
<i>Amaranthus hypochondriacus</i>	AHYPO_019109-RA	<i>Setaria viridis</i>	Sevir.1G259200.1
		<i>Brachypodium stacei</i>	Brast04G119900.1
<i>Daucus carota</i>	DCAR_020166	<i>Oropetium thomaeum</i>	Oropetium_20150105_02909A
	DCAR_009463	<i>Kalanchoe laxiflora</i>	Kalax.1325s0004.1
<i>Glycine max</i>	Glyma.12G003500.3	<i>Kalanchoe fedtschenkoi</i>	Kaladp0493s0008.1
	Glyma.09G233300.2	<i>Aquilegia coerulea</i>	Aqcoe3G260500.1
	Glyma.02G201600.1	<i>Zostera marina</i>	Zosma116g00200.1
<i>Boechera stricta</i>	Bostr.26833s0067.1	<i>Carica papaya</i>	evm.model.supercontig_13.235
<i>Capsella rubella</i>	Carubv10026827m	<i>Amborella trichopoda</i>	evm_27.model.AmTr_v1.0_scaffold00002.208
<i>Eutrema salsugineum</i>	Thhalv10004649m	<i>Linum usitatissimum</i>	Lus10016713
<i>Theobroma cacao</i>	Thecc1EG014816t1	<i>Spirodela polyrhiza</i>	Spipo5G0052000
<i>Ricinus communis</i>	30147.m014349	<i>Cucumis melo</i>	AIZ95444.1
<i>Phaseolus vulgaris</i>	Phvul.011G004200.1	<i>Chlamydomonas reinhardtii</i>	Cre06.g279500.t1.1
<i>Eucalyptus grandis</i>	Eucgr.A02931.1	<i>Volvox carteri</i>	Vocar.0002s0133.1
<i>Populus trichocarpa</i>	Potri.012G114200.1	<i>Ostreococcus lucimarinus</i>	89440
<i>Manihot esculenta</i>	Manes.06G130100.1	<i>Coccomyxa subellipsoidea C-169</i>	6492
	Manes.14G040800.1	<i>Micromonas</i> sp. RCC299	97450

Table S3. Primers used in this study

List of primers for sgRNA construction	
Primer name	sequences (5' to 3')
<i>Osor</i> target1 F	gttgCCAAATCAGCTCATTACTAA
<i>Osor</i> target1 R	aaacTTAGTAATGAGCTGATTGG
<i>Osor</i> target2 F	gttgTTGATTCCATCAATATCCAG
<i>Osor</i> target2 R	aaacCTGGATATTGATGGAATCAA
<i>Osor</i> target3 F	gttgGAAGTATATATACTTACCAG
<i>Osor</i> target3 R	aaacCTGGTAAGTATATATACTTC
List of primers for HMA genotyping and RT-PCR	
Primer name	sequences (5' to 3')
<i>Osor</i> 3rd exon F	GGATCTCAGTTGATGTGCCTGAAGG
<i>Osor</i> 5th exon R	GGCAAATGGACACTGCGGATGAAG
<i>Osor</i> 1st exon F	GTCGTTCGGCTCTGGTGATG
<i>Osor</i> 8th exon R	TTAATCAAACGGATCAATTCGAGGGTC