

Table S1. *A. gossypii* strains used in this study.

<i>Strain</i>	<i>Genotype</i>	<i>Phenotype</i>	<i>Source</i>
WT	wild type (ATCC 10895)	WT	our lab stock
<i>pox1</i> Δ	<i>pox1::loxP-KanMX4-loxP</i>	G418 ^R	this work
<i>fox2</i> Δ	<i>fox2::loxP-NatMX-loxP</i>	cloNAT ^R	this work
<i>pox1</i> Δ, <i>fox2</i> Δ	<i>pox1::loxP-KanMX4-loxP, fox2::loxP-NatMX-loxP</i>	G418 ^R , cloNAT ^R	this work
<i>ACL1</i>	<i>leu2::loxP-KanMX4-loxP-pGPD1-ACL1</i>	leu ⁻ , G418 ^R	this work
<i>ACL2</i>	<i>ste12::loxP-KanMX4-loxP-pGPD1-ACL2</i>	G418 ^R	this work
<i>ACL1, ACL2</i>	<i>leu2::loxP-pGPD1-ACL1, ste12::loxP-KanMX4-loxP-pGPD1-ACL2</i>	leu ⁻ , G418 ^R	this work
<i>pox1</i> Δ, <i>ACL1</i>	<i>pox1::loxP, leu2::loxP-KanMX4-loxP-pGPD1-ACL1</i>	leu ⁻ , G418 ^R	this work
<i>pox1</i> Δ, <i>ACL2</i>	<i>pox1::loxP, ste12::loxP-KanMX4-loxP-pGPD1-ACL2</i>	G418 ^R	this work
<i>pox1</i> Δ, <i>ACL1, ACL2</i>	<i>pox1::loxP, leu2::loxP-pGPD1-ACL1, ste12::loxP-KanMX4-loxP-pGPD1-ACL2</i>	leu ⁻ , G418 ^R	this work

Table S2. List of primers used in this study.

<i>Primer</i>	<i>Sequence</i>	<i>Purpose</i>
AgPOX1-del5	5'-GGCAGCTAGCGGTGGCTATAAAGAGCGGGAAAAAGCAGAGCGTAGCAGCAGCCAAGG ATCGACAAGATGCGGATCCCCGGGTTAATTAA-3'	deletion
AgPOX1-del3	5'-GTAATATCAGCGAGCAGAGATAGACTCAACTACTTGCCCAAGGTTCTTGAAGGAGGTCTCG CTGATGTTTCTGAGATTCGAGCTCGTTTAAAC-3'	deletion
AgFOX2-del5	5'-AGCAATCTAGAACAGGGTGGTGAGGCTAGCGCAAAAAGTTTCGAGCTTACACACTCAG CTACAGGCTACATCCAGCAGGTAACCAACGCAGTATATATGCGGATCCCCGGGTTAATTAA-3'	deletion
AgFOX2-del3	5'-TCGACAAAATGTAAGTAACTGAAAACATTTACTGCGTAGCTAGTACGTATTAATCTAACTGCATA TAATCCTACCGGCTGGAAAAGTACCATAGAAGCCTCAGAATTCGAGCTCGTTTAAAC-3'	deletion
FWD_Nde_YIACL1	5'-GCATATGTCTGCCAACGAGAATC-3'	ACL1 cloning
REV_Bam_YIACL1	5'-CGGATCCTATGATCGAGTCTTGGCC-3'	ACL1 cloning
ACL1-RTfw	5'-GAGGCCGACCCCAAGTGTA-3'	ACL1 qPCR
ACL1-RTrv	5'-TCCTGGGCCCAAGAGTAGTCA-3'	ACL1 qPCR
GATG-ACL2-fw	5'-AAGGTCTCAGATGTCAGCGAAATCCATTACAG-3'	ACL2 cloning
TAGT-ACL2-rv	5'-AAGGTCTCAACTAACTCCGAGAGGAGTGGAAG-3'	ACL2 cloning
ACL2-RTfw	5'-GGGCGACTGGATCCTCTTCTACC-3'	ACL2 qPCR
ACL2-RTrv	5'-TGGGGCCGCACTCAAACCTCT-3'	ACL2 qPCR
(GGTC)-GPDp-fw	5'-TTTGGTCTCCGGTCGTCTGGGTGCACGACACCTG-3'	ACL2 overex. ¹
(GATG)-GPDp-rv	5'-TTTGGTCTCACATCTGTGCGGTGTGTATGTGTGGACTGAATTAATCAAACCTCCTGGTCGC TCCACCAGAGTCTCCCGTTG-3'	ACL2 overex. ¹
(ATCA)-loxPKS-fw	5'-TTTGGTCTCAATCACGGATCCCCGGGTTAATTAA-3'	ACL2 overex. ¹
(CGTC)-loxPKS-rv	5'-TTTGGTCTCAGACCGAATTCGAGCTCGTTTAAAC-3'	ACL2 overex. ¹
(ACAC)-ADR304L-fw	5'-TTTGGTCTCAACACAGTCCAAAACAGGGGAGCAG	ACL2 overex. ¹
(ATCA)-ADR304L-rv	5'-TTTGGTCTCATGATCCACATGCTGTACGACCTGA-3'	ACL2 overex. ¹
(TAGT)-PGK1t-fw	5'-TTTGGTCTCATAGTATGCGTCCGCGCGCCTGCCG-3'	ACL2 overex. ¹
(ACGC)-PGK1t-rv	5'-TTTGGTCTCTGCGTTAGTTTCTCAACTTCCATTACGTGCG-3'	ACL2 overex. ¹
(ACGC)-ADR304R-fw	5'-TTTGGTCTCAACGCACACTGATGACGATCCCAGC-3'	ACL2 overex. ¹
(CTTG)-ADR304R-rv	5'-TTTGGTCTACAAGGATGCAGCCGCATTTTGGAGT-3'	ACL2 overex. ¹

¹ ACL2 overex. refers to the construction of the ACL2 overexpression module